

| external_gene_name | baseMean | log2FoldChange | lfcSE | stat | pvalue | padj |
|--------------------|-------------|----------------|-----------|-----------|----------|----------|
| slc35a5 | 110.7843772 | -0.089832458 | 0.1935898 | -0.464035 | 0.642623 | 0.959994 |
| ccdc80 | 238.4015724 | -0.099075092 | 0.1637249 | -0.605131 | 0.545092 | 0.945463 |
| nrf1 | 1098.943144 | 0.024786055 | 0.0906902 | 0.2733047 | 0.784619 | 0.97627 |
| ube2h | 2872.066754 | 0.036277141 | 0.0694333 | 0.5224745 | 0.60134 | 0.956045 |
| slc9a3r1a | 578.595402 | -0.284462678 | 0.1065059 | -2.670864 | 0.007566 | 0.138393 |
| dap | 1360.164668 | -0.293162476 | 0.0823357 | -3.560574 | 0.00037 | 0.013938 |
| itsn1 | 774.8533231 | -0.095268376 | 0.1074052 | -0.887 | 0.375079 | 0.894316 |
| myh10 | 3307.760608 | 0.068453167 | 0.0781422 | 0.8760074 | 0.381026 | 0.895192 |
| tmem267 | 81.46602461 | 0.131059734 | 0.2149771 | 0.609645 | 0.542097 | 0.944974 |
| thraa | 88.48352469 | 0.140161917 | 0.2225947 | 0.6296731 | 0.528908 | 0.942109 |
| itsn2a | 366.4213905 | 0.397075794 | 0.1190188 | 3.3362436 | 0.000849 | 0.027171 |
| hoxb2a | 140.2560912 | -0.049079599 | 0.1803371 | -0.272155 | 0.785503 | 0.97627 |
| ptpn4b | 802.4027832 | 0.106561404 | 0.095044 | 1.1211801 | 0.262211 | 0.830166 |
| sema6e | 739.9901406 | 0.100717075 | 0.092404 | 1.0899644 | 0.275729 | 0.839541 |
| krt97 | 2059.823256 | -0.676745372 | 0.0924589 | -7.319415 | 2.49E-13 | 9.66E-11 |
| usp49 | 401.5704819 | -0.029108567 | 0.1175779 | -0.247568 | 0.804468 | 0.979705 |
| slc40a1 | 1183.376349 | 0.128762988 | 0.0818194 | 1.5737467 | 0.115546 | 0.637206 |
| dcaf8 | 401.6524669 | 0.057448599 | 0.118443 | 0.4850316 | 0.627654 | 0.957354 |
| cfap300 | 7.784043597 | -0.218924592 | 0.7252682 | -0.301853 | 0.762764 | NA |
| prkag3b | 96.12103045 | 0.526670851 | 0.2249433 | 2.3413495 | 0.019214 | 0.259523 |
| triob | 864.0831659 | -0.019338327 | 0.1038091 | -0.186287 | 0.852219 | 0.985174 |
| pde6a | 353.3519912 | 0.278874884 | 0.1547859 | 1.801681 | 0.071596 | 0.523122 |
| matr311.1 | 1376.713683 | -0.084307277 | 0.0841554 | -1.001805 | 0.316438 | 0.867129 |
| si:ch73-314g15.3 | 93.7200388 | -0.132475597 | 0.2153881 | -0.615055 | 0.538518 | 0.943336 |
| slc39a13 | 328.5883075 | 0.003580145 | 0.1194459 | 0.0299729 | 0.976089 | 0.996762 |
| nitr2b | 1.006818213 | 1.048314579 | 1.9690503 | 0.532396 | 0.594452 | NA |
| cntn2 | 296.1828382 | -0.188920677 | 0.1313701 | -1.43808 | 0.150411 | 0.698669 |
| tnnila | 4.397434008 | 0.02757987 | 0.9176952 | 0.0300534 | 0.976024 | NA |
| pms1 | 104.97284 | -0.108703159 | 0.1977083 | -0.549816 | 0.582446 | 0.952117 |
| upf3b | 465.065988 | -0.043735922 | 0.1140997 | -0.383313 | 0.701487 | 0.968134 |
| stx1b | 8003.781798 | 0.064561879 | 0.074053 | 0.8718337 | 0.383299 | 0.895192 |
| ankar | 12.86079713 | 0.219441444 | 0.5263733 | 0.4168932 | 0.676757 | 0.965257 |
| ofd1 | 174.4339804 | 0.013153708 | 0.1532147 | 0.0858515 | 0.931584 | 0.992702 |
| asdurf | 300.490504 | 0.115808834 | 0.1326246 | 0.8732077 | 0.38255 | 0.895192 |
| gtf2el | 376.6806551 | 0.056242916 | 0.1150516 | 0.4888495 | 0.624948 | 0.957354 |
| slcla4 | 1746.627161 | -0.09240065 | 0.0770089 | -1.19987 | 0.23019 | 0.797857 |
| ttn.1 | 13346.33684 | 0.304783266 | 0.0762461 | 3.9973647 | 6.41E-05 | 0.003387 |
| znf281a | 746.6925073 | -0.068077337 | 0.0922662 | -0.737836 | 0.460614 | 0.921978 |
| ell | 598.5937215 | 0.100333733 | 0.0966998 | 1.0375795 | 0.299466 | 0.855609 |
| grasp | 107.0856978 | 0.021736325 | 0.1909394 | 0.1138389 | 0.909366 | 0.990702 |
| dnah6 | 78.07753066 | 0.057905481 | 0.2589872 | 0.2235844 | 0.823081 | 0.982189 |
| ptpn4a | 913.5432219 | 0.031042228 | 0.0889276 | 0.3490731 | 0.727034 | 0.970402 |
| opnlmw4 | 0.474778155 | 0.852397662 | 2.898154 | 0.2941175 | 0.768668 | NA |
| osgepl1 | 22.65022457 | -0.608842854 | 0.4360455 | -1.396283 | 0.162629 | 0.7175 |
| psmb9a | 5.887001654 | 0.632335053 | 0.7932828 | 0.7971117 | 0.425386 | NA |
| creg2 | 481.9932817 | -0.024179885 | 0.1126938 | -0.214563 | 0.830108 | 0.982908 |
| sypl2b | 175.092547 | 0.218191829 | 0.1614916 | 1.351103 | 0.176662 | 0.737285 |
| daxx | 319.5469013 | 0.135330847 | 0.122562 | 1.1041824 | 0.269514 | 0.834705 |
| slc6a22.1 | 266.5483062 | 0.022588176 | 0.1311058 | 0.1722896 | 0.86321 | 0.985841 |
| lcmt2 | 43.40201887 | -0.063908538 | 0.2872047 | -0.222519 | 0.82391 | 0.982196 |
| znf511 | 41.61059353 | -0.001113897 | 0.3007513 | -0.003704 | 0.997045 | 0.99906 |
| spilb | 29.56747846 | 0.372973101 | 0.3584987 | 1.040375 | 0.298166 | 0.85401 |
| scfd1 | 936.7749391 | 0.089621814 | 0.0921628 | 0.9724296 | 0.330837 | 0.87417 |

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|------------------|-------------|--------------|-----------|-----------|----------|----------|
| nr4a1 | 401.3114029 | 0.372618462 | 0.1230352 | 3.0285509 | 0.002457 | 0.062216 |
| rassf6 | 128.4309205 | -0.345900203 | 0.1789822 | -1.932596 | 0.053286 | 0.452416 |
| telo2 | 232.5201317 | 0.041032495 | 0.1438114 | 0.2853215 | 0.775398 | 0.975687 |
| snx9a | 270.3385627 | 0.092605209 | 0.1398326 | 0.6622577 | 0.507806 | 0.935734 |
| dstyk | 852.8509651 | 0.006084669 | 0.0985729 | 0.0617276 | 0.95078 | 0.99381 |
| mapk14a | 749.986437 | 0.073814286 | 0.0969076 | 0.7616973 | 0.446241 | 0.917154 |
| scrib | 2573.037459 | 0.043702037 | 0.0767198 | 0.5696317 | 0.568928 | 0.948983 |
| zgc:56699 | 72.93390087 | -0.230119246 | 0.2300728 | -1.000202 | 0.317213 | 0.867335 |
| skap2 | 42.43366628 | 0.057118343 | 0.3152409 | 0.1811895 | 0.856219 | 0.985384 |
| unk | 114.8647547 | -0.060953196 | 0.1875968 | -0.324916 | 0.745245 | 0.974094 |
| dzip1 | 370.3432914 | -0.236951074 | 0.1286091 | -1.842412 | 0.065415 | 0.500198 |
| ncor2 | 2700.208108 | -0.052613342 | 0.0716074 | -0.734747 | 0.462494 | 0.922698 |
| myh9b | 3039.369443 | -0.101014677 | 0.1083356 | -0.932423 | 0.351118 | 0.880473 |
| znf3841 | 555.6286181 | 0.005529337 | 0.1024366 | 0.0539781 | 0.956953 | 0.994543 |
| bysl | 562.3259108 | -0.050627637 | 0.1054751 | -0.479996 | 0.63123 | 0.957356 |
| slc17a6a | 44.3201432 | 0.572425611 | 0.2986549 | 1.9166794 | 0.055279 | 0.46072 |
| dicer1 | 1075.463057 | 0.07079635 | 0.0994577 | 0.7118236 | 0.476574 | 0.926716 |
| rimbp2 | 157.1394167 | 0.191772474 | 0.1770207 | 1.0833336 | 0.27866 | 0.842672 |
| matr311.1 | 694.6645765 | 0.00265084 | 0.1109899 | 0.0238836 | 0.980945 | 0.996944 |
| hsd17b8 | 124.4266191 | -0.123737808 | 0.1810732 | -0.683358 | 0.494381 | 0.931926 |
| arll4ep | 391.9395496 | -0.124131401 | 0.1150469 | -1.078963 | 0.280604 | 0.84355 |
| mycbp2 | 3230.525754 | 0.051198056 | 0.0747081 | 0.6853081 | 0.49315 | 0.931926 |
| map4k2 | 210.3395507 | 0.2078427 | 0.1466596 | 1.4171777 | 0.156431 | 0.706639 |
| puf60b | 2228.094294 | -0.01130198 | 0.0725392 | -0.155805 | 0.876187 | 0.987881 |
| srrml | 3340.460728 | -0.078067371 | 0.0942018 | -0.828725 | 0.40726 | 0.901305 |
| pcgfl | 66.98506237 | -0.182920997 | 0.2507305 | -0.729552 | 0.465664 | 0.923865 |
| gas2a | 29.25283633 | 0.484811658 | 0.3797375 | 1.2767022 | 0.201707 | 0.767736 |
| psmb8a | 1.138501641 | -0.373253155 | 1.7712222 | -0.210732 | 0.833096 | NA |
| g2e3 | 318.9474736 | -0.043687197 | 0.1345315 | -0.324736 | 0.745381 | 0.974094 |
| slc6a22.2 | 97.74071568 | 0.528032817 | 0.2203896 | 2.3959065 | 0.016579 | 0.237453 |
| mctp2a | 102.4931772 | -0.000720927 | 0.2074903 | -0.003475 | 0.997228 | 0.999097 |
| actn3b | 6620.348673 | 0.26517875 | 0.0906117 | 2.9265402 | 0.003428 | 0.078354 |
| slc2a1a | 111.8786856 | 0.858882861 | 0.1969089 | 4.3618276 | 1.29E-05 | 0.000886 |
| inpp1b | 100.2505867 | -0.014328779 | 0.2035146 | -0.070407 | 0.94387 | 0.993364 |
| mier1b | 281.3105896 | 0.043000165 | 0.1430582 | 0.3005782 | 0.763736 | 0.975374 |
| adam8a | 131.5394087 | -0.077055193 | 0.1830362 | -0.420983 | 0.673767 | 0.965257 |
| tdh2 | 1318.217197 | 0.007618699 | 0.0813355 | 0.09367 | 0.925371 | 0.992676 |
| mhclzea | 166.8526748 | 0.032496824 | 0.1771458 | 0.1834468 | 0.854447 | 0.985174 |
| skap1 | 13.92563701 | 1.165861264 | 0.5225563 | 2.2310732 | 0.025676 | 0.310555 |
| sp3a | 138.4706356 | 0.070632835 | 0.1748377 | 0.4039908 | 0.686219 | 0.966376 |
| tomm34 | 313.2013299 | 0.196752836 | 0.1285525 | 1.5305257 | 0.125887 | 0.654803 |
| kifcl | 897.5802833 | -0.110729979 | 0.0930311 | -1.190247 | 0.233949 | 0.802633 |
| csmd2 | 64.30211894 | 0.292496897 | 0.2597656 | 1.1260032 | 0.260164 | 0.828288 |
| prfl.3 | 0.481032184 | -2.398473301 | 2.80721 | -0.854398 | 0.392885 | NA |
| echsl | 1062.157946 | -0.044472418 | 0.0837103 | -0.531265 | 0.595235 | 0.954434 |
| nfyal | 230.7591545 | -0.251967145 | 0.156409 | -1.61095 | 0.107191 | 0.617056 |
| kirrella | 840.4616487 | 0.089798797 | 0.0907743 | 0.9892536 | 0.322539 | 0.870226 |
| psmb13a | 1.178070337 | 0.530310831 | 1.9330889 | 0.2743334 | 0.783828 | NA |
| gpm6bb | 702.7035254 | 0.077508857 | 0.1022011 | 0.7583957 | 0.448214 | 0.917683 |
| ucklla | 75.72106679 | 0.39071551 | 0.2345785 | 1.6656068 | 0.095792 | 0.589171 |
| flotla | 3112.543381 | 0.012694734 | 0.0694421 | 0.1828104 | 0.854947 | 0.985174 |
| si:ch211-247n2.1 | 45.5287406 | 0.168263293 | 0.3035107 | 0.5543899 | 0.579312 | 0.951257 |
| oc90 | 12.87319814 | -0.006099792 | 0.541003 | -0.011275 | 0.991004 | 0.997679 |
| strn3 | 1639.417939 | 0.064096901 | 0.0743046 | 0.8626237 | 0.388344 | 0.896271 |

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|------------------|-------------|--------------|-----------|-----------|----------|----------|
| gulpla | 322.5623346 | 0.057499911 | 0.1270261 | 0.4526622 | 0.650792 | 0.960708 |
| fkbp8 | 593.8735953 | 0.033605942 | 0.1001333 | 0.3356121 | 0.737163 | 0.972535 |
| noc2l | 701.9320025 | -0.031924336 | 0.0990223 | -0.322395 | 0.747153 | 0.97419 |
| tnxba | 1208.657835 | 0.112284508 | 0.0946382 | 1.1864606 | 0.23544 | 0.804771 |
| slc29a2 | 429.1365493 | -0.193175891 | 0.1143131 | -1.689885 | 0.09105 | 0.578171 |
| ptpra | 309.578729 | -0.133863824 | 0.1317783 | -1.015826 | 0.309712 | 0.86172 |
| otolla | 19.94280981 | 0.332589742 | 0.427698 | 0.7776276 | 0.436789 | 0.914408 |
| stim2b | 53.43132692 | 0.223681436 | 0.271798 | 0.8229694 | 0.410525 | 0.903084 |
| nup155 | 660.2582362 | -0.087951272 | 0.1158794 | -0.75899 | 0.447859 | 0.917154 |
| tspan1l | 81.80578632 | 0.034733467 | 0.2212723 | 0.1569716 | 0.875267 | 0.987881 |
| prkacba | 75.4426244 | 0.058756927 | 0.260303 | 0.2257252 | 0.821415 | 0.981845 |
| irx2a | 456.9776852 | -0.084886437 | 0.1054259 | -0.805177 | 0.420718 | 0.90651 |
| atp5po | 6711.565159 | 0.043561318 | 0.1009107 | 0.4316818 | 0.665973 | 0.964736 |
| kcnh6a | 157.0960653 | -0.035822677 | 0.1637748 | -0.218731 | 0.826859 | 0.982473 |
| zgc:112148 | 117.1952421 | -0.600638039 | 0.1923566 | -3.122524 | 0.001793 | 0.049451 |
| tnfrsf2l | 603.0250382 | 0.110467637 | 0.1120818 | 0.9855983 | 0.32433 | 0.870928 |
| zmp:0000000521 | 7.880354907 | 0.446028997 | 0.6840558 | 0.652036 | 0.514378 | NA |
| c3b.2 | 535.5350531 | 0.426381207 | 0.1269911 | 3.3575677 | 0.000786 | 0.025573 |
| cfap43 | 23.10187312 | 0.081256691 | 0.4054669 | 0.2004028 | 0.841166 | 0.985174 |
| zgc:112982 | 1009.947658 | 0.000181499 | 0.1046737 | 0.0017339 | 0.998617 | 0.999375 |
| nalcn | 871.2356201 | 0.029413267 | 0.0959383 | 0.3065854 | 0.759159 | 0.975374 |
| aff4 | 194.8252949 | 0.170056088 | 0.1545107 | 1.1006104 | 0.271066 | 0.835943 |
| dbx1b | 125.3027712 | -0.266110243 | 0.1957281 | -1.359591 | 0.173959 | 0.733946 |
| atplala.4 | 6658.899427 | -0.490698912 | 0.0719285 | -6.822042 | 8.98E-12 | 2.57E-09 |
| phgdh | 1272.428888 | -0.154074796 | 0.0801818 | -1.921568 | 0.05466 | 0.457793 |
| nav2b | 702.5894408 | -0.253753208 | 0.0964969 | -2.629652 | 0.008547 | 0.151445 |
| stx3a | 436.9570086 | 0.0311626 | 0.1138416 | 0.2737365 | 0.784287 | 0.97627 |
| cacnb3a | 9.499928775 | 0.154693372 | 0.6081313 | 0.2543749 | 0.799206 | NA |
| kbtbd12 | 414.6719128 | 0.149594339 | 0.1164038 | 1.285133 | 0.198746 | 0.763848 |
| ppmlba | 235.6937074 | 0.131959229 | 0.1352246 | 0.975852 | 0.329138 | 0.873436 |
| tubala | 8391.637863 | -0.046282812 | 0.0849219 | -0.545005 | 0.58575 | 0.952847 |
| stt3b | 2093.974105 | 0.081464951 | 0.0784557 | 1.0383564 | 0.299104 | 0.855189 |
| sytl4b | 73.77316123 | 0.417221299 | 0.2298062 | 1.8155357 | 0.069442 | 0.514708 |
| man2b1 | 634.1833849 | -0.096394051 | 0.1055204 | -0.913511 | 0.360974 | 0.885686 |
| manea | 169.2225577 | 0.150434685 | 0.1668129 | 0.9018167 | 0.367154 | 0.887458 |
| si:dkey-247m2l.3 | 17.01402108 | 0.209429984 | 0.4682502 | 0.4472608 | 0.654687 | 0.961305 |
| vill | 221.2488874 | -0.148748579 | 0.1429153 | -1.040816 | 0.297961 | 0.85401 |
| rorab | 2521.960065 | 0.029034909 | 0.0800176 | 0.3628567 | 0.716712 | 0.96909 |
| drd4-rs | 151.4235636 | -0.103245251 | 0.1673606 | -0.616903 | 0.537299 | 0.943336 |
| palmda | 249.661805 | 0.239988861 | 0.1368216 | 1.754027 | 0.079426 | 0.547489 |
| pinkl | 304.1548956 | 0.030298401 | 0.1307498 | 0.2317281 | 0.816749 | 0.981594 |
| klhl15 | 494.3340476 | -0.02742287 | 0.1035045 | -0.264944 | 0.791053 | 0.977461 |
| prkag2b | 73.70025362 | 0.072237787 | 0.2366857 | 0.3052055 | 0.76021 | 0.975374 |
| L0018422.1 | 68.61364514 | 0.311377706 | 0.2607254 | 1.1942747 | 0.232371 | 0.800644 |
| b3gat3 | 387.2573296 | 0.139940178 | 0.1128497 | 1.2400579 | 0.214954 | 0.782493 |
| dnajc1 | 673.6495071 | 0.048365918 | 0.0980931 | 0.4930614 | 0.621969 | 0.957354 |
| akl | 5244.840595 | 0.101522408 | 0.0959135 | 1.0584784 | 0.289837 | 0.846246 |
| pfkfb3 | 1285.663133 | -0.109564169 | 0.1102522 | -0.99376 | 0.32034 | 0.868202 |
| dock5 | 20.02823285 | -0.2723532 | 0.4401023 | -0.618841 | 0.536021 | 0.943336 |
| txlmg | 351.3955109 | -0.164980654 | 0.1243535 | -1.326707 | 0.184605 | 0.747376 |
| cthrclb | 65.34068245 | 0.264514301 | 0.2487136 | 1.0635296 | 0.287542 | 0.845979 |
| hsd11b2 | 604.6605456 | -0.03497882 | 0.1049863 | -0.333175 | 0.739002 | 0.972722 |
| fkbp16 | 265.7850726 | 0.060745051 | 0.1354927 | 0.4483272 | 0.653917 | 0.961214 |
| myhb | 3476.077612 | 0.017573703 | 0.0793651 | 0.2214285 | 0.824759 | 0.982196 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| stxbpla | 9751.213735 | 0.059911238 | 0.0726769 | 0.8243505 | 0.40974 | 0.902351 |
| adamts18 | 393.700987 | 0.010424844 | 0.1180589 | 0.0883021 | 0.929637 | 0.992702 |
| lmc1 | 58.6058179 | 0.28975283 | 0.2630477 | 1.101522 | 0.27067 | 0.835351 |
| rxrbb | 505.8873758 | 0.058813212 | 0.1216342 | 0.4835253 | 0.628723 | 0.957354 |
| grb10a | 119.6711323 | 0.083731998 | 0.194154 | 0.4312658 | 0.666275 | 0.964736 |
| ppil2 | 392.9230751 | -0.069148022 | 0.1164876 | -0.593609 | 0.552774 | 0.947265 |
| riCTORb | 402.5313488 | -0.034990059 | 0.113506 | -0.308266 | 0.75788 | 0.975374 |
| pygb | 739.0591287 | -0.04235201 | 0.0919165 | -0.460766 | 0.644966 | 0.96029 |
| qkib | 31.5323724 | 0.089733113 | 0.34574 | 0.2595393 | 0.795219 | 0.978466 |
| tox4a | 413.536087 | 0.144023341 | 0.1098621 | 1.3109462 | 0.189876 | 0.754269 |
| pfkfb2b | 168.3001269 | 0.118425923 | 0.1646392 | 0.7193059 | 0.471952 | 0.924838 |
| brf2 | 22.59060022 | 0.687222807 | 0.4071399 | 1.687928 | 0.091425 | 0.57849 |
| adss | 227.4476459 | 0.497757166 | 0.1421352 | 3.5019974 | 0.000462 | 0.016755 |
| mnat1 | 117.4331271 | 0.109721498 | 0.2016929 | 0.5440027 | 0.58644 | 0.953319 |
| csnk2a1 | 2699.372842 | -0.04060286 | 0.0705964 | -0.575141 | 0.565196 | 0.948739 |
| lamb2 | 1779.841567 | 0.232368213 | 0.0874378 | 2.6575245 | 0.007872 | 0.142411 |
| si:dkeyp-52c3.7 | 1.675486141 | 2.010499125 | 1.6659854 | 1.2067928 | 0.227512 | NA |
| stam | 1421.810152 | 0.11794035 | 0.0793892 | 1.4855962 | 0.137386 | 0.674358 |
| cwf1911 | 354.0023131 | -0.116694557 | 0.1193731 | -0.977561 | 0.328291 | 0.872883 |
| celf2 | 175.9815985 | -0.169360301 | 0.1598208 | -1.059689 | 0.289286 | 0.845979 |
| psme1 | 80.87599158 | -0.258307887 | 0.2211363 | -1.168094 | 0.242769 | 0.811583 |
| cacnb1 | 214.4521868 | 0.246846956 | 0.1492957 | 1.6534097 | 0.098248 | 0.597502 |
| tra2b | 790.0884397 | -0.017341314 | 0.09383 | -0.184816 | 0.853373 | 0.985174 |
| aplra | 203.934979 | -0.15324565 | 0.1466719 | -1.044819 | 0.296107 | 0.853273 |
| itfg2 | 134.2786044 | -0.286720732 | 0.1749659 | -1.638724 | 0.101271 | 0.604628 |
| igbpl | 531.9667527 | -0.143400604 | 0.1120476 | -1.279819 | 0.200609 | 0.766801 |
| chmp2bb | 1082.678112 | -0.037782849 | 0.0968949 | -0.389936 | 0.696584 | 0.96736 |
| aspn | 490.8816744 | 0.395264233 | 0.1133169 | 3.4881307 | 0.000486 | 0.01747 |
| rho | 14675.76992 | 0.336027253 | 0.2025155 | 1.6592667 | 0.097062 | 0.593844 |
| rhd | 23.845769 | 0.447160754 | 0.3893198 | 1.1485692 | 0.250734 | 0.820469 |
| bach1b | 626.2581394 | 0.056490147 | 0.1059024 | 0.5334171 | 0.593745 | 0.954434 |
| pygl | 1557.845007 | 0.379684415 | 0.0788617 | 4.8145634 | 1.48E-06 | 0.000139 |
| hspb11 | 150.1213509 | -0.351011432 | 0.1766199 | -1.987383 | 0.04688 | 0.425112 |
| stk25a | 324.3293996 | -0.157247744 | 0.1298146 | -1.211326 | 0.22577 | 0.793245 |
| invs | 58.47573931 | -0.057765724 | 0.2674147 | -0.216016 | 0.828976 | 0.982721 |
| rtca | 487.4794605 | -0.072171739 | 0.1086332 | -0.664361 | 0.506459 | 0.935724 |
| tbx3a | 633.3176694 | -0.071106603 | 0.1014614 | -0.700824 | 0.483413 | 0.929461 |
| scocb | 1339.808851 | 0.046090598 | 0.0817283 | 0.5639492 | 0.572789 | 0.949717 |
| si:dkey-103j14.5 | 37.81463232 | -1.066487374 | 0.3282915 | -3.248599 | 0.00116 | 0.034642 |
| zgc:103692 | 232.8413972 | 0.007645912 | 0.1466374 | 0.0521416 | 0.958416 | 0.994893 |
| syb | 4911.215393 | 0.102810473 | 0.08131 | 1.2644259 | 0.206077 | 0.773826 |
| plpp2a | 18.72329438 | 0.076417033 | 0.4542098 | 0.1682417 | 0.866393 | 0.986673 |
| mmp14a | 1333.127059 | 0.13684144 | 0.0841642 | 1.6258865 | 0.103974 | 0.610807 |
| psmb6 | 1122.008042 | -0.163428044 | 0.106559 | -1.533686 | 0.125107 | 0.654648 |
| kcna2a | 8.309041893 | 0.239449177 | 0.6544951 | 0.3658533 | 0.714475 | NA |
| tbxas1 | 246.2379656 | -0.134852069 | 0.1482079 | -0.909885 | 0.362883 | 0.885944 |
| epb4113a | 1375.359136 | 0.078582266 | 0.0925788 | 0.8488152 | 0.395984 | 0.899505 |
| cal5c | 22.04917881 | 1.301128248 | 0.4605642 | 2.8250744 | 0.004727 | 0.099016 |
| mrpl41 | 369.5774427 | 0.168863883 | 0.1247829 | 1.3532609 | 0.175972 | 0.736505 |
| dcaf13 | 566.2713902 | -0.036776475 | 0.0980409 | -0.375114 | 0.707576 | 0.968664 |
| zfang5b | 1729.01347 | -0.09155009 | 0.093864 | -0.975348 | 0.329388 | 0.873436 |
| mcnl1a | 418.5047083 | -0.064049927 | 0.110742 | -0.578371 | 0.563014 | 0.948728 |
| si:ch211-197g15.6 | 33.48565203 | 0.52517006 | 0.3670214 | 1.4308975 | 0.15246 | 0.70162 |
| si:dkey-21p1.3 | 20.99644497 | 0.486381365 | 0.4313679 | 1.1275325 | 0.259517 | 0.827693 |

| | | | | | | |
|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| ankrd22 | 82.18190749 | 0.410916848 | 0.2562719 | 1.6034412 | 0.108837 | 0.621829 |
| arsh | 59.37291573 | 0.394324264 | 0.2649485 | 1.4883052 | 0.13667 | 0.673303 |
| p2rx2 | 72.10378835 | -0.343210636 | 0.2294253 | -1.495958 | 0.134664 | 0.670689 |
| gins2 | 118.3259788 | 0.110825399 | 0.2002915 | 0.5533204 | 0.580044 | 0.951257 |
| me3 | 1927.457073 | 0.096426386 | 0.0790379 | 1.2200015 | 0.222464 | 0.788748 |
| fabp11b | 161.5706302 | -0.779254154 | 0.1698882 | -4.586864 | 4.50E-06 | 0.000369 |
| lhx8a | 115.1059038 | 0.041975945 | 0.1914187 | 0.2192887 | 0.826425 | 0.982196 |
| frmd6 | 373.1063361 | -0.022707706 | 0.1167502 | -0.194498 | 0.845786 | 0.985174 |
| fam102bb | 140.1249383 | -0.207042871 | 0.1731005 | -1.196085 | 0.231663 | 0.799752 |
| dlc | 859.9822345 | -0.054326405 | 0.0912774 | -0.595179 | 0.551724 | 0.947156 |
| sgf29 | 239.8234937 | -0.212340086 | 0.1485159 | -1.429747 | 0.15279 | 0.701776 |
| tubb4b | 19425.59572 | -0.019210827 | 0.1075057 | -0.178696 | 0.858177 | 0.985773 |
| cypl1a1 | 5.562617533 | -0.233442977 | 0.8435458 | -0.27674 | 0.78198 | NA |
| tagapa | 38.43241389 | 0.066445869 | 0.3255899 | 0.2040784 | 0.838292 | 0.984797 |
| shpk | 20.49459969 | -0.333108854 | 0.4230367 | -0.787423 | 0.431034 | 0.91234 |
| ubald1a | 758.2223526 | -0.068008729 | 0.0932818 | -0.729068 | 0.46596 | 0.923865 |
| cers5 | 602.0443148 | -0.375873039 | 0.1088547 | -3.45298 | 0.000554 | 0.019228 |
| UBB | 2964.169296 | 0.144897558 | 0.0770756 | 1.8799404 | 0.060116 | 0.478687 |
| mief2 | 313.7822661 | 0.029187709 | 0.1257489 | 0.2321111 | 0.816452 | 0.981594 |
| atm | 257.6160605 | -0.128380925 | 0.1357313 | -0.945846 | 0.344227 | 0.878434 |
| tlcd1 | 137.2218255 | -0.053429018 | 0.1748785 | -0.305521 | 0.75997 | 0.975374 |
| ugt5d1 | 94.7968435 | -0.418032956 | 0.2044797 | -2.044374 | 0.040917 | 0.394957 |
| cry-dash | 865.022848 | 0.16191616 | 0.0968732 | 1.6714243 | 0.094638 | 0.585169 |
| gale | 454.1667052 | -0.185245529 | 0.1067882 | -1.7347 | 0.082794 | 0.554784 |
| ercc3 | 440.8344852 | -0.058638635 | 0.1121712 | -0.52276 | 0.601141 | 0.956045 |
| nusap1 | 664.3622683 | -0.06179984 | 0.100275 | -0.616304 | 0.537694 | 0.943336 |
| si:ch211-225b11.1 | 474.6080237 | 0.033431302 | 0.1403776 | 0.2381528 | 0.811763 | 0.981081 |
| zmynd10 | 27.97061365 | 0.106170334 | 0.3851015 | 0.2756944 | 0.782783 | 0.97627 |
| pde4cb | 45.3205063 | -0.196580309 | 0.2916169 | -0.674105 | 0.500245 | 0.934224 |
| prdmla | 328.657408 | -0.266817807 | 0.1231235 | -2.167075 | 0.030229 | 0.336193 |
| arhgef37 | 124.4772892 | 0.104977587 | 0.2142141 | 0.4900592 | 0.624092 | 0.957354 |
| rdh14b | 300.1577982 | 0.011113456 | 0.1273867 | 0.0872419 | 0.930479 | 0.992702 |
| ercc61 | 270.3157055 | -0.094632922 | 0.132556 | -0.713909 | 0.475283 | 0.925754 |
| wnt7ab | 3.000751058 | 1.03490228 | 1.1903426 | 0.8694155 | 0.38462 | NA |
| noc3l | 444.3874664 | 0.056910013 | 0.1128844 | 0.5041443 | 0.61416 | 0.95688 |
| itgb6 | 315.2464051 | -0.110945833 | 0.1273723 | -0.871036 | 0.383735 | 0.895192 |
| zgc:92818 | 492.6289311 | 0.038144265 | 0.1138746 | 0.3349672 | 0.73765 | 0.972535 |
| itgal0 | 401.1101831 | -0.075175727 | 0.1199624 | -0.626661 | 0.530882 | 0.942209 |
| ankrd33ab | 10.83254859 | 0.50741217 | 0.5955521 | 0.852003 | 0.394212 | NA |
| zgc:153911 | 38.25335488 | -0.155663195 | 0.3926668 | -0.396426 | 0.691791 | 0.967305 |
| dmbx1b | 45.48537184 | -0.116447934 | 0.2831828 | -0.411211 | 0.680918 | 0.965476 |
| hsl12 | 1934.177222 | -0.026571638 | 0.0791912 | -0.335538 | 0.737219 | 0.972535 |
| adora2b | 12.80861116 | 0.196006934 | 0.5253285 | 0.3731131 | 0.709064 | 0.968664 |
| tm9sf4 | 1130.78324 | 0.042604726 | 0.0834269 | 0.5106834 | 0.609573 | 0.956718 |
| smula | 941.5954464 | -0.071307352 | 0.085839 | -0.83071 | 0.406138 | 0.901305 |
| rundc3ab | 1171.922262 | -0.073866278 | 0.0814094 | -0.907344 | 0.364225 | 0.886494 |
| eif3eb | 252.023594 | -0.000276353 | 0.1447635 | -0.001909 | 0.998477 | 0.999364 |
| mapkapk2a | 878.3955815 | 0.054553918 | 0.0996104 | 0.5476727 | 0.583917 | 0.952214 |
| syng1a | 575.6177334 | 0.065085143 | 0.1021078 | 0.6374162 | 0.523854 | 0.939336 |
| tmod2 | 43.80321449 | 0.250330994 | 0.2933289 | 0.853414 | 0.39343 | 0.898076 |
| cabp5a | 101.3826759 | 0.483775033 | 0.2040469 | 2.3709015 | 0.017745 | 0.246928 |
| tbx15 | 304.2748962 | 0.126338077 | 0.1338716 | 0.9437255 | 0.34531 | 0.878434 |
| dpysl3 | 5245.135785 | 0.03983175 | 0.0671757 | 0.5929486 | 0.553216 | 0.947265 |
| mylplib | 15592.24733 | 0.29530827 | 0.0846403 | 3.4889808 | 0.000485 | 0.017464 |

| | | | | | | |
|-----------------|-------------|--------------|-----------|-----------|----------|----------|
| ruvbl1 | 1043.362705 | -0.068041975 | 0.0875747 | -0.776959 | 0.437183 | 0.914408 |
| slc45a2 | 353.6672933 | -0.377432194 | 0.145228 | -2.598895 | 0.009352 | 0.162082 |
| pabpc11 | 0.341366344 | 1.891903201 | 3.2128156 | 0.5888614 | 0.555954 | NA |
| pskl | 26.28032607 | 0.228676326 | 0.3853649 | 0.5934021 | 0.552912 | 0.947265 |
| irx7 | 155.7978676 | -0.238464846 | 0.171785 | -1.388159 | 0.165089 | 0.721223 |
| unm_sal1614 | 126.319167 | -0.033394282 | 0.1751148 | -0.190699 | 0.848761 | 0.985174 |
| rnfl145a | 328.1550519 | 0.193539499 | 0.1278439 | 1.5138733 | 0.130058 | 0.662656 |
| rpa3 | 230.7344448 | -0.074376092 | 0.1541814 | -0.482394 | 0.629526 | 0.957354 |
| anx11b | 2180.879495 | -0.018344884 | 0.0718095 | -0.255466 | 0.798363 | 0.978884 |
| b4galt1 | 161.9859719 | 0.050479762 | 0.1677444 | 0.3009327 | 0.763466 | 0.975374 |
| zgc:85722 | 798.9130635 | 0.119085435 | 0.0887871 | 1.3412471 | 0.17984 | 0.741062 |
| sh3gl1b | 404.3696953 | 0.105812648 | 0.1204536 | 0.8784516 | 0.379699 | 0.895192 |
| rgs5a | 731.4905637 | 0.064648478 | 0.0952336 | 0.6788408 | 0.497239 | 0.93322 |
| stxbp5a | 573.8192484 | -0.012146297 | 0.1066924 | -0.113844 | 0.909361 | 0.990702 |
| maprelb | 3578.592917 | 0.096270789 | 0.0807221 | 1.1926194 | 0.233018 | 0.80134 |
| optn | 432.0882869 | -0.035390907 | 0.1158894 | -0.305385 | 0.760073 | 0.975374 |
| kcnj1b | 48.26354606 | 0.0714043 | 0.2778685 | 0.2569716 | 0.797201 | 0.978577 |
| ATG14 | 505.380216 | -0.089485911 | 0.1049451 | -0.852692 | 0.39383 | 0.898496 |
| tbcela | 439.0499009 | -0.251839583 | 0.1119249 | -2.250076 | 0.024444 | 0.3019 |
| fam113 | | 0 NA | NA | NA | NA | NA |
| rabif | 266.6735537 | 0.029535892 | 0.1372892 | 0.2151363 | 0.829661 | 0.982805 |
| gnb3b | 12793.44419 | 0.272394714 | 0.0821818 | 3.3145366 | 0.000918 | 0.029089 |
| rasl12 | 30.12937291 | 0.411317221 | 0.3468732 | 1.1857857 | 0.235707 | 0.804824 |
| her11 | 7.079546724 | 0.164783122 | 0.7547281 | 0.2183344 | 0.827169 | NA |
| ncl | 11731.72513 | -0.112961986 | 0.0682945 | -1.654042 | 0.098119 | 0.59749 |
| utpl5 | 371.1609399 | -0.007385852 | 0.1222376 | -0.060422 | 0.951819 | 0.993864 |
| ankrd2 | 0.325573202 | 0.005883621 | 3.3172783 | 0.0017736 | 0.998585 | NA |
| kisslra | 4.707980623 | 0.850762253 | 0.9189779 | 0.92577 | 0.354565 | NA |
| sdc2 | 1212.677141 | 0.090929631 | 0.0862459 | 1.0543061 | 0.291743 | 0.847498 |
| spon2b | 282.4570924 | 0.049015299 | 0.142721 | 0.3434343 | 0.731272 | 0.971557 |
| tdh | 3940.034196 | 0.192075544 | 0.0768412 | 2.4996438 | 0.012432 | 0.197293 |
| sema6d | 385.2735759 | -0.310217589 | 0.114393 | -2.711858 | 0.006691 | 0.126122 |
| phf20a | 250.398233 | 0.003489467 | 0.1370565 | 0.0254601 | 0.979688 | 0.99687 |
| pcdc21 | 58.90419741 | -0.127654406 | 0.2602922 | -0.490427 | 0.623832 | 0.957354 |
| dedd1 | 1192.352643 | -0.028228501 | 0.0842531 | -0.335044 | 0.737592 | 0.972535 |
| gdf5 | 59.96744433 | -0.047846277 | 0.2542517 | -0.188185 | 0.850732 | 0.985174 |
| miox | 202.9140373 | 0.135286239 | 0.1627616 | 0.8311928 | 0.405865 | 0.901305 |
| pvalb2 | 72004.53101 | 0.180503075 | 0.0992211 | 1.8192011 | 0.068881 | 0.513259 |
| si:ch211-48m9.1 | 226.1946382 | 0.158327356 | 0.1541027 | 1.0274146 | 0.304225 | 0.858657 |
| pdx1 | 92.72568519 | -0.712465084 | 0.2081225 | -3.423296 | 0.000619 | 0.020853 |
| t1e3a | 1543.328091 | -0.017323537 | 0.0918215 | -0.188665 | 0.850355 | 0.985174 |
| ap2mla | 6193.741383 | -0.028193764 | 0.080226 | -0.351429 | 0.725266 | 0.970402 |
| atplala.1 | 9372.332129 | 0.042079895 | 0.0702513 | 0.5989906 | 0.549179 | 0.946312 |
| arcn1a | 1340.166032 | 0.016049609 | 0.0853012 | 0.1881523 | 0.850757 | 0.985174 |
| meis3 | 599.3057547 | -0.034147564 | 0.0969125 | -0.352355 | 0.724572 | 0.970402 |
| BX908804.1 | 0.323844819 | -1.825095364 | 3.274639 | -0.557342 | 0.577293 | NA |
| cog8 | 155.2118954 | -0.132681604 | 0.1680626 | -0.789477 | 0.429833 | 0.911615 |
| rasgrf2b | 12.75425079 | 1.325274695 | 0.55017 | 2.4088459 | 0.016003 | 0.233194 |
| cep57l1 | 170.9396726 | 0.866815006 | 0.1691414 | 5.1247935 | 2.98E-07 | 3.57E-05 |
| trmt2a | 178.7941446 | -0.016107197 | 0.1611439 | -0.099955 | 0.92038 | 0.992049 |
| col4a4 | 134.6111826 | 0.034550377 | 0.1756024 | 0.1967535 | 0.84402 | 0.985174 |
| si:dkey-28b4.8 | 2024.461674 | 0.119736729 | 0.0870935 | 1.3748063 | 0.169191 | 0.726198 |
| fndc1 | 91.71523874 | 0.299874087 | 0.2113402 | 1.4189167 | 0.155923 | 0.705963 |
| zgc:113210 | 197.5781653 | -0.115389532 | 0.1508601 | -0.764878 | 0.444344 | 0.916726 |

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| reps1 | 764.6306361 | -0.086729188 | 0.0975409 | -0.889157 | 0.373919 | 0.893677 |
| vps50 | 395.9307799 | 0.002435222 | 0.1244074 | 0.0195746 | 0.984383 | 0.996944 |
| aven | 198.0586592 | 0.010720326 | 0.1525752 | 0.0702626 | 0.943985 | 0.993364 |
| si:ch211-160o17.2 | 393.8124136 | 0.295234264 | 0.1252089 | 2.3579329 | 0.018377 | 0.25227 |
| tjp3 | 505.0544869 | -0.299719003 | 0.1319462 | -2.271524 | 0.023115 | 0.291648 |
| adipor1a | 1460.879893 | 0.103237539 | 0.084287 | 1.2248333 | 0.220638 | 0.787641 |
| sec31b | 117.1117 | -0.195765321 | 0.1984869 | -0.986288 | 0.323992 | 0.870928 |
| gls2b | 59.71353971 | 0.150586332 | 0.2853218 | 0.5277772 | 0.597654 | 0.95534 |
| gbx2 | 442.893434 | -0.108159894 | 0.1077696 | -1.003622 | 0.315561 | 0.866773 |
| meisla | 596.850293 | -0.145829214 | 0.0961656 | -1.516438 | 0.129409 | 0.661221 |
| bgnb | 268.6157037 | 0.223360824 | 0.1513908 | 1.4753924 | 0.140107 | 0.679809 |
| abcd3b | 213.3866056 | 0.11298964 | 0.1426437 | 0.7921109 | 0.428296 | 0.911082 |
| ppp6c | 1759.358966 | -0.079199111 | 0.0798824 | -0.991447 | 0.321467 | 0.869201 |
| smo | 522.7446843 | 0.020762788 | 0.1028836 | 0.2018085 | 0.840066 | 0.985029 |
| si:dkey-32n7.4 | 18.91687221 | 0.583680407 | 0.4510785 | 1.2939665 | 0.195677 | 0.761077 |
| gpr34b | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| pdap1b | 376.7657982 | 0.042854661 | 0.1235649 | 0.3468191 | 0.728727 | 0.970631 |
| alcf | 337.7298275 | -0.570885846 | 0.1300183 | -4.390812 | 1.13E-05 | 0.000809 |
| ss18 | 1416.182799 | -0.102564865 | 0.0771194 | -1.329949 | 0.183535 | 0.747284 |
| phc1 | 295.8510509 | -0.114880728 | 0.1293011 | -0.888474 | 0.374286 | 0.893914 |
| gda | 77.07080119 | 0.011302934 | 0.2262775 | 0.0499516 | 0.960161 | 0.995388 |
| tnnt2d | 730.3799624 | 0.311124734 | 0.1051187 | 2.959748 | 0.003079 | 0.073439 |
| cep135 | 221.1679905 | -0.298974828 | 0.1425346 | -2.09756 | 0.035944 | 0.369801 |
| itpkca | 715.5833411 | -0.080116309 | 0.0945771 | -0.8471 | 0.396939 | 0.899672 |
| prkcea | 996.8822163 | 0.058996837 | 0.0891735 | 0.6615964 | 0.50823 | 0.935735 |
| ube2a1 | 950.2916722 | 0.135423386 | 0.0867717 | 1.5606868 | 0.118598 | 0.642318 |
| lrrc4.2 | 264.4487876 | 0.166540464 | 0.1312568 | 1.2688136 | 0.204508 | 0.772352 |
| hdac8 | 260.7731905 | -0.07106329 | 0.1313016 | -0.541222 | 0.588355 | 0.953319 |
| limk1b | 125.3806642 | -0.08325514 | 0.1846087 | -0.450982 | 0.652003 | 0.960708 |
| scnml | 82.69278278 | -0.332246041 | 0.2214482 | -1.500333 | 0.133528 | 0.667982 |
| EIF4A1B | 9020.002017 | -0.126946642 | 0.0793407 | -1.60002 | 0.109594 | 0.623766 |
| hspa9 | 5375.623417 | -0.005043985 | 0.0632412 | -0.079758 | 0.93643 | 0.992702 |
| CABZ01111496.1 | 6.43614444 | 0.085850899 | 0.7365922 | 0.1165515 | 0.907216 | NA |
| sorbs2a | 131.0434294 | -0.10265721 | 0.1732129 | -0.592665 | 0.553405 | 0.947265 |
| tacr31 | 33.23832108 | -0.33364283 | 0.3386957 | -0.985081 | 0.324584 | 0.871063 |
| fgfrlop | 439.1485072 | 0.055402509 | 0.1101311 | 0.5030597 | 0.614922 | 0.95688 |
| cd276 | 449.647135 | 0.122872433 | 0.108611 | 1.1313072 | 0.257926 | 0.825413 |
| goraspla | 826.6773227 | 0.030577858 | 0.0931459 | 0.3282791 | 0.742701 | 0.973303 |
| btbd7 | 39.3244835 | 0.32593308 | 0.3398383 | 0.9590828 | 0.337517 | 0.876395 |
| gpx9 | 282.4055221 | 0.118391159 | 0.1343107 | 0.8814723 | 0.378062 | 0.895192 |
| mybphb | 7352.719449 | 0.35616089 | 0.2047694 | 1.7393266 | 0.081977 | 0.552725 |
| spire2 | 117.0321659 | 0.359928339 | 0.1844926 | 1.9509097 | 0.051068 | 0.443485 |
| stambp11 | 233.4761521 | 0.185369941 | 0.1441361 | 1.2860755 | 0.198417 | 0.763597 |
| ubxn6 | 418.908505 | 0.105237669 | 0.1246762 | 0.8440877 | 0.39862 | 0.900359 |
| or103-4 | | 0 NA | NA | NA | NA | NA |
| oclnb | 421.2812558 | -0.061789879 | 0.1206565 | -0.512114 | 0.608571 | 0.956718 |
| kdm5bb | 4824.123038 | -0.159775278 | 0.0660846 | -2.417739 | 0.015617 | 0.229092 |
| rca1a | 1036.769444 | 0.138664719 | 0.0893238 | 1.5523827 | 0.120571 | 0.645578 |
| ada | 1019.546673 | -0.335195827 | 0.089559 | -3.742736 | 0.000182 | 0.007911 |
| zgc:123105 | 1775.14999 | -0.005839294 | 0.075772 | -0.077064 | 0.938573 | 0.992849 |
| apip | 522.1147793 | -0.111610557 | 0.1211583 | -0.921196 | 0.356948 | 0.883467 |
| dachc | 387.6248971 | -0.138933013 | 0.1160383 | -1.197304 | 0.231188 | 0.799444 |
| pxmp2 | 86.69983432 | 0.165778188 | 0.2224158 | 0.7453525 | 0.456059 | 0.921215 |
| si:dkey-27m7.4 | 34.68774013 | 0.223936359 | 0.3379831 | 0.6625668 | 0.507608 | 0.935734 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| skpl | 4767.322085 | -0.039000104 | 0.0821499 | -0.474743 | 0.63497 | 0.957881 |
| nudt21 | 797.0040948 | -0.042092737 | 0.0913397 | -0.460837 | 0.644915 | 0.96029 |
| nfkbil1 | 158.4170041 | -0.015858702 | 0.1621029 | -0.097831 | 0.922066 | 0.992269 |
| nr2f6b | 694.9655613 | -0.039055911 | 0.0957642 | -0.407834 | 0.683396 | 0.965476 |
| mlst8 | 267.5256762 | 0.087937648 | 0.1439939 | 0.6107041 | 0.541395 | 0.944954 |
| magilb | 2487.567975 | -0.038502688 | 0.0760994 | -0.505953 | 0.61289 | 0.95688 |
| stx5a1 | 403.4819898 | -0.101113515 | 0.1173894 | -0.861352 | 0.389044 | 0.896303 |
| sult1st4 | 105.2791378 | -0.526601197 | 0.2017992 | -2.609531 | 0.009067 | 0.159222 |
| psmd1 | 2847.542995 | -0.106813702 | 0.1034734 | -1.032282 | 0.30194 | 0.856944 |
| rassf7b | 180.8551406 | 0.076160218 | 0.153067 | 0.4975612 | 0.618793 | 0.957354 |
| wdr21 | 40.44436524 | -0.857534039 | 0.3154826 | -2.718166 | 0.006564 | 0.124228 |
| foxml | 196.7198251 | -0.045266204 | 0.1500787 | -0.301616 | 0.762944 | 0.975374 |
| rhcga | 851.0714139 | 0.781913195 | 0.1354148 | 5.7742098 | 7.73E-09 | 1.34E-06 |
| ngly1 | 436.6868466 | 0.140333265 | 0.1177314 | 1.1919787 | 0.23327 | 0.801695 |
| chchd6a | 346.4200813 | -0.291095131 | 0.1200727 | -2.424324 | 0.015337 | 0.22717 |
| mterf3 | 143.7723433 | 0.148727249 | 0.1795052 | 0.8285402 | 0.407365 | 0.901305 |
| pomk | 212.1916368 | -0.083518115 | 0.1469589 | -0.568309 | 0.569825 | 0.948983 |
| ano2a | 182.2701751 | 0.001604712 | 0.1545018 | 0.0103864 | 0.991713 | 0.997679 |
| naal5a | 1451.044306 | -0.002182001 | 0.0851299 | -0.025631 | 0.979551 | 0.996866 |
| anxa2a | 992.3531469 | -0.023623445 | 0.0960064 | -0.246061 | 0.805635 | 0.979893 |
| urb2 | 269.2606644 | 0.19190363 | 0.1335915 | 1.4364956 | 0.150861 | 0.698912 |
| bin2a | 735.456157 | -0.581592418 | 0.09661 | -6.020002 | 1.74E-09 | 3.38E-07 |
| gdf9 | 2.29457288 | -3.568136068 | 1.6189121 | -2.204033 | 0.027522 | NA |
| nup88 | 621.8757339 | -0.028392968 | 0.0976582 | -0.290738 | 0.771252 | 0.975687 |
| gbp3 | 61.25560459 | 0.103274559 | 0.2652826 | 0.3893001 | 0.697054 | 0.96736 |
| pik3cd | 121.7699962 | 0.448490682 | 0.1882332 | 2.3826331 | 0.017189 | 0.242176 |
| zbtb22b | 44.39068615 | -0.233969689 | 0.3055886 | -0.765636 | 0.443893 | 0.916631 |
| zgc:101559 | 173.6270324 | 0.200813609 | 0.1552529 | 1.2934609 | 0.195852 | 0.76113 |
| loxa | 90.89855377 | 0.185962103 | 0.2039892 | 0.911627 | 0.361965 | 0.885944 |
| clcn3 | 1442.617062 | 0.094634957 | 0.0775328 | 1.2205802 | 0.222245 | 0.788551 |
| dhps | 354.5750985 | -0.063292467 | 0.1220299 | -0.518664 | 0.603995 | 0.956467 |
| pik3ip1 | 1094.162703 | -0.13656601 | 0.0884626 | -1.543771 | 0.122644 | 0.650831 |
| wdr12 | 355.2019886 | -0.209630361 | 0.1234558 | -1.698019 | 0.089504 | 0.572876 |
| dabl1b | 31.76303633 | -0.193063433 | 0.3599816 | -0.536315 | 0.591741 | 0.954434 |
| sox9a | 758.9273123 | -0.188252618 | 0.1060336 | -1.775406 | 0.075831 | 0.536487 |
| stc1 | 0.679983498 | -1.527277543 | 2.5551009 | -0.597737 | 0.550016 | NA |
| stx16 | 631.09439 | 0.059944278 | 0.0980132 | 0.6115939 | 0.540806 | 0.944633 |
| emc2 | 1782.805289 | -0.041189175 | 0.0748606 | -0.550212 | 0.582174 | 0.952028 |
| pank2 | 502.9679591 | -0.05352427 | 0.1117046 | -0.479159 | 0.631826 | 0.957356 |
| eps811b | 156.130968 | -0.38115098 | 0.1723299 | -2.211752 | 0.026984 | 0.316663 |
| fam91a1 | 876.7532029 | 0.039935315 | 0.0937399 | 0.4260225 | 0.670091 | 0.965223 |
| cacng5a | 98.82808754 | -0.172034488 | 0.2104336 | -0.817524 | 0.413629 | 0.905864 |
| slf2 | 183.1291635 | -0.180958272 | 0.1591622 | -1.136942 | 0.255562 | 0.824118 |
| trpc2b | 17.80182988 | 0.0510655 | 0.44696 | 0.1142507 | 0.909039 | 0.990702 |
| commd2 | 301.057066 | -0.186924691 | 0.1295746 | -1.442603 | 0.149132 | 0.696454 |
| gngl2a | 360.3828042 | -0.123683765 | 0.1207568 | -1.024238 | 0.305723 | 0.860027 |
| si:dkey-275b16.2 | | 0 NA | NA | NA | NA | NA |
| si:ch211-266g18.6 | 178.677939 | -0.219080504 | 0.1578217 | -1.388152 | 0.165091 | 0.721223 |
| cwc25 | 676.4257433 | -0.111857414 | 0.1008229 | -1.109444 | 0.267239 | 0.833191 |
| asb8 | 626.2416343 | -0.089969467 | 0.0998761 | -0.90081 | 0.367689 | 0.887476 |
| col4a3 | 111.5988247 | -0.064611177 | 0.1931192 | -0.334566 | 0.737952 | 0.972535 |
| rbpja | 398.811914 | 0.180219581 | 0.1133769 | 1.5895623 | 0.111934 | 0.627242 |
| fgf8a | 32.27970706 | -0.463642706 | 0.3345761 | -1.385762 | 0.16582 | 0.721626 |
| tenm1 | 875.8314272 | 0.100077652 | 0.088748 | 1.127661 | 0.259463 | 0.827693 |

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|------------|-------------|--------------|-----------|-----------|----------|----------|
| foxa2 | 257.0897724 | -0.379002613 | 0.1526953 | -2.482084 | 0.013062 | 0.204336 |
| caps1b | 23.05668006 | 0.083596019 | 0.4532036 | 0.1844558 | 0.853656 | 0.985174 |
| chrna5 | 236.3863704 | -0.22640691 | 0.1432149 | -1.580889 | 0.113903 | 0.632675 |
| igf2bp2a | 75.31671283 | -0.141627121 | 0.2354093 | -0.601621 | 0.547427 | 0.945526 |
| hnrnpd1 | 3571.923157 | 0.024354925 | 0.076462 | 0.3185231 | 0.750088 | 0.97419 |
| dhrs7 | 334.1224798 | 0.020340098 | 0.137116 | 0.1483422 | 0.882073 | 0.988344 |
| ippk | 178.4154112 | -0.086187449 | 0.1598712 | -0.539106 | 0.589814 | 0.953762 |
| pdel0a | 14.32886898 | 0.695605744 | 0.5048907 | 1.3777354 | 0.168285 | 0.725919 |
| fech | 29.78021582 | 0.144582712 | 0.3515173 | 0.4113104 | 0.680845 | 0.965476 |
| neurod4 | 1386.048097 | -0.134456385 | 0.0871354 | -1.543074 | 0.122813 | 0.650905 |
| sult1st5 | 29.31961538 | -0.288461707 | 0.3542772 | -0.814226 | 0.415516 | 0.906237 |
| ppplcaa | 3792.610793 | -0.040152332 | 0.083044 | -0.483507 | 0.628736 | 0.957354 |
| nup93 | 1467.345071 | -0.128676831 | 0.0858685 | -1.498533 | 0.133995 | 0.669349 |
| madd | 2202.768517 | 0.006955167 | 0.0767589 | 0.0906106 | 0.927802 | 0.992702 |
| anks1b | 1275.537614 | 0.01203728 | 0.0882143 | 0.136455 | 0.891462 | 0.989291 |
| impal | 568.9086527 | -0.039319689 | 0.0988358 | -0.397829 | 0.690757 | 0.967157 |
| aprt | 168.0033455 | -0.23402367 | 0.1687415 | -1.386877 | 0.165479 | 0.721223 |
| tbc1d14 | 199.8640059 | 0.169894931 | 0.1484172 | 1.1447117 | 0.252329 | 0.821887 |
| itln3 | 149.5151109 | -0.10839333 | 0.165568 | -0.654676 | 0.512677 | 0.936253 |
| psma5 | 1526.33432 | -0.055207995 | 0.0871705 | -0.633333 | 0.526516 | 0.940506 |
| mak16 | 457.1193043 | -0.003251359 | 0.1110851 | -0.029269 | 0.97665 | 0.996762 |
| tceal | 1581.128999 | -0.100619061 | 0.0783895 | -1.283578 | 0.19929 | 0.764601 |
| col8a1b | 162.3748196 | 0.560641815 | 0.1796248 | 3.1211825 | 0.001801 | 0.049493 |
| adarb1b | 37.59156002 | 0.001069187 | 0.3423966 | 0.0031227 | 0.997508 | 0.999174 |
| gnrhr2 | 3.338151239 | 0.885070687 | 1.0490776 | 0.8436656 | 0.398856 | NA |
| dohh | 387.2005281 | 0.034243774 | 0.1274126 | 0.2687629 | 0.788112 | 0.976703 |
| hsp90b1 | 5716.14638 | 0.016859847 | 0.0742985 | 0.2269205 | 0.820486 | 0.981594 |
| dctn5 | 490.0082511 | -0.103674119 | 0.1068717 | -0.970081 | 0.332006 | 0.874653 |
| klhl32 | 397.9488295 | -0.060280983 | 0.1175472 | -0.512824 | 0.608075 | 0.956718 |
| pla2g7 | 451.0106916 | -0.003177545 | 0.1097129 | -0.028962 | 0.976895 | 0.996762 |
| surf1 | 285.0394478 | -0.068797301 | 0.1399849 | -0.491462 | 0.623099 | 0.957354 |
| rpl3 | 29544.10675 | -0.34635411 | 0.0770028 | -4.497941 | 6.86E-06 | 0.000521 |
| nr2f6a | 617.0552819 | -0.255114342 | 0.0978725 | -2.606599 | 0.009145 | 0.160082 |
| slc26a3.2 | 132.7485266 | -0.443071468 | 0.1777774 | -2.492282 | 0.012693 | 0.200185 |
| arih1 | 474.9110182 | 0.057766006 | 0.1107599 | 0.5215427 | 0.601989 | 0.956045 |
| clockb | 335.1318207 | -0.056944514 | 0.1241878 | -0.458535 | 0.646568 | 0.960362 |
| zgc:172270 | 45.78354241 | 0.154750292 | 0.3019596 | 0.5124867 | 0.60831 | 0.956718 |
| mogat3b | 173.3600591 | -0.177625592 | 0.1586466 | -1.119631 | 0.262871 | 0.830166 |
| tfg | 1368.563629 | -0.011265972 | 0.098104 | -0.114837 | 0.908574 | 0.990702 |
| zfyve19 | 322.3689247 | -0.072864703 | 0.1313503 | -0.554736 | 0.579075 | 0.951052 |
| tmem591 | 3630.327357 | 0.082688126 | 0.0701636 | 1.1785053 | 0.238595 | 0.807659 |
| cryll | 244.8510629 | -0.049601405 | 0.1397819 | -0.354848 | 0.722703 | 0.970375 |
| runx1t1 | 1821.412994 | -0.066054861 | 0.0749982 | -0.880752 | 0.378452 | 0.895192 |
| EIF5 | 4234.329953 | 0.039719066 | 0.0657937 | 0.6036907 | 0.546049 | 0.945526 |
| obs11a | 136.7568419 | 0.319323654 | 0.1844502 | 1.7312193 | 0.083413 | 0.556666 |
| hars | 1628.649391 | -0.053563178 | 0.0822487 | -0.651234 | 0.514895 | 0.937646 |
| vdac3 | 7515.519019 | 0.039460929 | 0.0794351 | 0.4967693 | 0.619352 | 0.957354 |
| slc5a81 | 94.62494592 | -0.419330304 | 0.2068337 | -2.027379 | 0.042624 | 0.405993 |
| atp7a | 474.1274441 | -0.07933576 | 0.1085904 | -0.730597 | 0.465026 | 0.923671 |
| cldng | 1.794681846 | -3.19748812 | 1.7151324 | -1.864281 | 0.062282 | NA |
| prnprs3 | 2605.75927 | 0.055056811 | 0.071389 | 0.7712228 | 0.440575 | 0.916336 |
| ryr2b | 48.13979216 | -0.24647379 | 0.2791031 | -0.883092 | 0.377186 | 0.895192 |
| mitfa | 13.47214527 | -0.094935005 | 0.5136947 | -0.184808 | 0.853379 | 0.985174 |
| polb | 459.226659 | 0.156937775 | 0.1087667 | 1.4428842 | 0.149053 | 0.696454 |

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|-----------|-------------|--------------|-----------|-----------|----------|----------|
| pfas | 464.8998547 | 0.168013482 | 0.1081328 | 1.5537697 | 0.120239 | 0.645215 |
| lats1 | 390.7801279 | 0.128276658 | 0.1149201 | 1.1162248 | 0.264326 | 0.830245 |
| tspan2a | 1076.4509 | -0.088715561 | 0.084329 | -1.052018 | 0.292791 | 0.848607 |
| cnpy1 | 263.436096 | 0.103074423 | 0.1334248 | 0.7725281 | 0.439802 | 0.916082 |
| tada2b | 150.6916191 | 0.110696859 | 0.1736647 | 0.6374171 | 0.523853 | 0.939336 |
| pip4k2aa | 839.7617389 | -0.068124171 | 0.0968984 | -0.703047 | 0.482026 | 0.928561 |
| ctnnd2b | 1189.994921 | 0.00217148 | 0.0876407 | 0.0247771 | 0.980233 | 0.996879 |
| dennd5b | 1677.629846 | -0.005508683 | 0.0798218 | -0.069012 | 0.94498 | 0.993409 |
| idh2 | 6788.287005 | 0.067784183 | 0.0708459 | 0.9567833 | 0.338677 | 0.877373 |
| asb2a.1 | 155.5952107 | 0.212732177 | 0.1763272 | 1.2064624 | 0.227639 | 0.794934 |
| LHX3 | 85.44805583 | -0.098772564 | 0.2114633 | -0.467091 | 0.640435 | 0.959994 |
| aqp3a | 2251.28309 | 0.329018893 | 0.0793515 | 4.1463461 | 3.38E-05 | 0.001942 |
| plxnb2a | 1187.533757 | -0.039479021 | 0.0827783 | -0.476925 | 0.633416 | 0.957581 |
| prkagl | 485.1712627 | 0.154868716 | 0.1097474 | 1.4111379 | 0.158204 | 0.709224 |
| nrl2a | 2252.956948 | -0.041128616 | 0.086152 | -0.477396 | 0.63308 | 0.957356 |
| ankrd16 | 55.77492741 | -0.282709021 | 0.2574926 | -1.097931 | 0.272235 | 0.837242 |
| snapp1b | 141.4325632 | -0.243586249 | 0.1725785 | -1.411452 | 0.158111 | 0.709224 |
| galnt2 | 1177.637809 | 0.110278516 | 0.0830371 | 1.3280626 | 0.184157 | 0.747376 |
| stom | 1590.533564 | -0.035823962 | 0.081089 | -0.441786 | 0.658644 | 0.962545 |
| usb1 | 129.4548951 | -0.151277242 | 0.1789836 | -0.845202 | 0.397998 | 0.899672 |
| chm | 557.1783353 | 0.16389509 | 0.1104958 | 1.4832695 | 0.138003 | 0.67563 |
| mrpl21 | 344.1547218 | 0.127296298 | 0.1218355 | 1.044821 | 0.296106 | 0.853273 |
| acs11b | 957.4133227 | -0.222145009 | 0.0915101 | -2.427547 | 0.015201 | 0.225685 |
| cbx3a | 1875.120693 | -0.100842285 | 0.0810089 | -1.24483 | 0.213194 | 0.781631 |
| pard6b | 30.64551475 | -0.650296309 | 0.350586 | -1.854884 | 0.063613 | 0.4929 |
| tm9sf2 | 3045.544542 | 0.069420151 | 0.0694891 | 0.9990073 | 0.317791 | 0.867607 |
| cdk20 | 39.5859712 | -0.0640295 | 0.3052734 | -0.209745 | 0.833867 | 0.983583 |
| decr1 | 403.5756329 | -0.091762392 | 0.1141039 | -0.8042 | 0.421281 | 0.90651 |
| ccdc102a | 849.8799882 | -0.07907248 | 0.0906843 | -0.871953 | 0.383234 | 0.895192 |
| pbrml | 582.0860791 | 0.113407828 | 0.1007862 | 1.1252314 | 0.260491 | 0.828546 |
| zdhhc23b | 46.97095576 | -0.154187937 | 0.3084502 | -0.499879 | 0.61716 | 0.95723 |
| gpr611 | 12.71835886 | 0.276367923 | 0.5307465 | 0.5207155 | 0.602565 | 0.956045 |
| ctsl.1 | 147.0070148 | -0.815992796 | 0.1943901 | -4.197707 | 2.70E-05 | 0.001621 |
| hapln2 | 16.66069699 | -0.117543822 | 0.4672361 | -0.251573 | 0.801371 | 0.979377 |
| sycp1 | 22.5981051 | -0.032048179 | 0.4058832 | -0.078959 | 0.937065 | 0.99279 |
| ftr01 | 27.14163818 | -1.998273133 | 0.4105467 | -4.867347 | 1.13E-06 | 0.000111 |
| med13b | 926.1199856 | 0.044779564 | 0.1136536 | 0.3940004 | 0.693581 | 0.96736 |
| setb | 5222.878983 | -0.046670552 | 0.0681663 | -0.684657 | 0.493561 | 0.931926 |
| cx28.6 | 14.4409229 | -0.260033306 | 0.5233145 | -0.496897 | 0.619262 | 0.957354 |
| cldn12 | 707.999907 | 0.098196774 | 0.0944039 | 1.0401772 | 0.298258 | 0.85401 |
| cndp2 | 799.0309579 | -0.202831568 | 0.0949611 | -2.135943 | 0.032684 | 0.352204 |
| nxn12 | 203.0169374 | -0.068570273 | 0.158682 | -0.432124 | 0.665651 | 0.964736 |
| rpal | 1747.194181 | -0.088609366 | 0.0782427 | -1.132494 | 0.257427 | 0.825314 |
| mtfr11 | 1086.124155 | 0.016549767 | 0.0879408 | 0.1881922 | 0.850726 | 0.985174 |
| rrsl | 351.1416707 | 0.180659699 | 0.1231446 | 1.4670534 | 0.142362 | 0.684315 |
| nmurlb | 1.829494234 | -2.205461113 | 1.6346402 | -1.349203 | 0.177272 | NA |
| pfn2 | 7566.991758 | -0.094008398 | 0.0718325 | -1.308716 | 0.19063 | 0.755212 |
| parp3 | 231.4518728 | -0.052848977 | 0.1364381 | -0.387348 | 0.698499 | 0.967998 |
| traf4a | 818.4015525 | -0.084873258 | 0.0889745 | -0.953905 | 0.340132 | 0.87805 |
| tlx1 | 26.35919222 | -0.64469705 | 0.3992295 | -1.614853 | 0.106343 | 0.615567 |
| larp6b | 1.020882972 | 1.110886363 | 2.0729323 | 0.5359009 | 0.592027 | NA |
| trim35-13 | 51.88051056 | 0.468236494 | 0.2720825 | 1.7209357 | 0.085262 | 0.560519 |
| isl2a | 550.3607766 | -0.133586852 | 0.1034123 | -1.291789 | 0.19643 | 0.761835 |
| chordc1a | 69.78830645 | 0.035647994 | 0.2356063 | 0.1513032 | 0.879737 | 0.987881 |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| spoplb | 546.1527812 | -0.028063123 | 0.109093 | -0.25724 | 0.796993 | 0.978569 |
| zgc:153896 | 30.59114883 | -0.507921591 | 0.3621106 | -1.40267 | 0.160715 | 0.713833 |
| LTN1 | 509.4672755 | 0.051094454 | 0.1150963 | 0.4439279 | 0.657095 | 0.962166 |
| crhrl | 30.00626531 | -0.071744735 | 0.3462623 | -0.207198 | 0.835856 | 0.984089 |
| fh12b | 157.5681575 | 0.026651692 | 0.1706476 | 0.1561797 | 0.875891 | 0.987881 |
| syt9a | 633.66861 | 0.019969596 | 0.1029839 | 0.1939099 | 0.846246 | 0.985174 |
| phyhipla | 95.11603897 | 0.048308908 | 0.213071 | 0.2267269 | 0.820636 | 0.981594 |
| adcyap1a | 160.8728251 | -0.505805271 | 0.1647792 | -3.069593 | 0.002144 | 0.056364 |
| spagla | 540.7372903 | 0.184248153 | 0.1071709 | 1.7191998 | 0.085578 | 0.561521 |
| CHST13 | 104.6971566 | 0.073574789 | 0.2019689 | 0.3642877 | 0.715643 | 0.96909 |
| isl1 | 1841.709547 | -0.118762936 | 0.0742639 | -1.599202 | 0.109776 | 0.623766 |
| arhgdig | 2008.153742 | 0.09894005 | 0.077402 | 1.2782626 | 0.201157 | 0.766855 |
| cog2 | 505.4568383 | 0.084581524 | 0.108424 | 0.7800997 | 0.435332 | 0.914408 |
| phf6 | 355.9273595 | 0.003302574 | 0.1175898 | 0.0280856 | 0.977594 | 0.996762 |
| marcksa | 620.2639177 | 0.056825962 | 0.1058152 | 0.5370305 | 0.591247 | 0.954193 |
| CR354540.1 | 21.3074331 | -0.22428427 | 0.4094664 | -0.547748 | 0.583865 | 0.952214 |
| uhrflbp11 | 602.7528912 | -0.221619269 | 0.1046252 | -2.11822 | 0.034156 | 0.359261 |
| galk2 | 50.92832141 | -0.33327025 | 0.2757433 | -1.208625 | 0.226807 | 0.794528 |
| bhlhe40 | 2792.744124 | 0.120181443 | 0.0755845 | 1.5900279 | 0.111829 | 0.627242 |
| bach2b | 314.2817904 | -0.10367726 | 0.1223612 | -0.847305 | 0.396825 | 0.899672 |
| acsl4a | 1149.387134 | -0.107606157 | 0.0843876 | -1.275142 | 0.202259 | 0.768575 |
| cx39.9 | 87.14113296 | 0.254811723 | 0.2217054 | 1.149326 | 0.250422 | 0.820164 |
| acsbg2 | 2055.553312 | -0.048611743 | 0.0830481 | -0.585345 | 0.558316 | 0.948478 |
| tiel | 281.2059593 | -0.135859277 | 0.1480535 | -0.917636 | 0.358809 | 0.884602 |
| esrl | 10.43939753 | 0.413505945 | 0.6039094 | 0.6847152 | 0.493524 | NA |
| ttil | 147.8584733 | -0.330151413 | 0.1850741 | -1.783887 | 0.074442 | 0.531413 |
| mgat4b | 616.1782856 | 0.061463753 | 0.0997316 | 0.6162916 | 0.537702 | 0.943336 |
| mvk | 103.1685091 | 0.055715047 | 0.1947415 | 0.2860974 | 0.774804 | 0.975687 |
| rtnn | 96.00281198 | -0.19706443 | 0.2038397 | -0.966762 | 0.333663 | 0.874933 |
| usp19 | 1098.63681 | 0.017821205 | 0.0915659 | 0.194627 | 0.845685 | 0.985174 |
| DHRS11 (1 of many) | 256.4823707 | -0.448973251 | 0.1393004 | -3.223058 | 0.001268 | 0.037265 |
| grm2a | 392.1936946 | 0.112879937 | 0.1189681 | 0.9488254 | 0.342709 | 0.878434 |
| rab23 | 44.76519049 | -0.012821108 | 0.29727 | -0.043129 | 0.965598 | 0.996315 |
| orailb | 38.24750342 | 0.294852927 | 0.3240534 | 0.90989 | 0.362881 | 0.885944 |
| tmem63c | 181.9534804 | -0.199530977 | 0.1654572 | -1.205937 | 0.227842 | 0.794963 |
| reep3b | 784.5190528 | 0.008954117 | 0.0900703 | 0.0994125 | 0.920811 | 0.992138 |
| ik | 1633.529106 | 0.045634815 | 0.0796761 | 0.5727544 | 0.566811 | 0.948739 |
| zgc:110366 | 108.3648369 | 0.077844049 | 0.1972171 | 0.3947125 | 0.693055 | 0.96736 |
| stmn1a | 956.7172347 | -0.120713259 | 0.0974768 | -1.238379 | 0.215575 | 0.783025 |
| rabac1 | 697.7590053 | 0.20884437 | 0.0929615 | 2.2465675 | 0.024668 | 0.302262 |
| copa | 4745.276994 | -0.038887762 | 0.0642239 | -0.605503 | 0.544845 | 0.945463 |
| cnot1 | 4361.957319 | -0.006092825 | 0.0897641 | -0.067876 | 0.945884 | 0.993759 |
| ulk4 | 70.56633732 | -0.151085803 | 0.2322247 | -0.650602 | 0.515304 | 0.9377 |
| fam169ab | 190.1176413 | 0.239383986 | 0.1478529 | 1.6190684 | 0.105433 | 0.614144 |
| nflb | 96.42018368 | 0.321958241 | 0.203709 | 1.5804812 | 0.113997 | 0.632839 |
| zgc:122979 | 148.8778715 | 0.57513953 | 0.1788487 | 3.2157881 | 0.001301 | 0.038109 |
| cbx1a | 1613.370742 | 0.07393737 | 0.0791134 | 0.9345748 | 0.350007 | 0.880195 |
| tnfsf101 | 469.8196622 | 0.032960769 | 0.1070163 | 0.3079975 | 0.758084 | 0.975374 |
| spaml | 84.50558642 | 0.585431331 | 0.2491242 | 2.3499581 | 0.018776 | 0.255518 |
| efhc2 | 35.72594089 | 0.083968201 | 0.3309649 | 0.2537072 | 0.799722 | 0.979377 |
| ccdc106a | 765.4153261 | -0.052257091 | 0.0914701 | -0.571303 | 0.567794 | 0.948739 |
| rnd1b | 608.8632496 | 0.118030343 | 0.1068019 | 1.1051335 | 0.269102 | 0.834439 |
| slc6a3 | 169.6360531 | -0.126117447 | 0.1758491 | -0.717191 | 0.473256 | 0.924993 |
| pde3a | 60.04956578 | 0.026880726 | 0.2765078 | 0.0972151 | 0.922556 | 0.99233 |

| | | | | | | |
|------------------|-------------|--------------|-----------|-----------|----------|----------|
| dlb | 441.0154731 | 0.125134343 | 0.1113072 | 1.1242249 | 0.260918 | 0.829083 |
| asic4b | 9.592033464 | 0.204727655 | 0.6157048 | 0.3325094 | 0.739505 | NA |
| slit2 | 1380.921704 | 0.13209624 | 0.0824103 | 1.6029103 | 0.108954 | 0.622318 |
| dhfr | 275.0427456 | -0.103155631 | 0.1282989 | -0.804026 | 0.421382 | 0.90651 |
| wnt11 | 33.43779923 | -0.063868767 | 0.3625442 | -0.176168 | 0.860162 | 0.985773 |
| cul5b | 73.89015281 | 0.009482979 | 0.2304202 | 0.0411552 | 0.967172 | 0.996315 |
| tmed9 | 2197.101513 | 0.095592856 | 0.075257 | 1.2702188 | 0.204007 | 0.771764 |
| cyp46a1.2 | 23.47147787 | 0.405038928 | 0.3938915 | 1.0283007 | 0.303808 | 0.858093 |
| at13 | 747.5294466 | -0.018934976 | 0.0937107 | -0.202058 | 0.839871 | 0.984979 |
| zgc:112496 | 52.49323285 | -0.072140976 | 0.2787976 | -0.258757 | 0.795822 | 0.978498 |
| seh11 | 763.8950197 | -0.032151728 | 0.095185 | -0.337781 | 0.735528 | 0.972535 |
| zgc:77375 | 136.3421606 | -0.192236911 | 0.1885012 | -1.019818 | 0.307815 | 0.861088 |
| hecw1b | 102.3699666 | -0.0283135 | 0.2201828 | -0.128591 | 0.897681 | 0.990121 |
| ambp | 1372.917329 | 0.185547312 | 0.1073945 | 1.7277172 | 0.084039 | 0.557646 |
| irf2bp1 | 1973.932052 | -0.021085944 | 0.0808967 | -0.260653 | 0.79436 | 0.977937 |
| rhogb | 153.9574911 | -0.219149442 | 0.1799312 | -1.217963 | 0.223238 | 0.789115 |
| slc45a1 | 248.4794994 | 0.087951303 | 0.137417 | 0.640032 | 0.522152 | 0.939056 |
| vangl1 | 224.9067545 | -0.015516331 | 0.1378657 | -0.112547 | 0.91039 | 0.990702 |
| klhl18 | 263.9735111 | 0.26666949 | 0.1350682 | 1.974332 | 0.048344 | 0.433147 |
| lypd6 | 206.5506039 | -0.083702276 | 0.1516061 | -0.552103 | 0.580877 | 0.951731 |
| fam8a1b | 247.4372032 | 0.03607308 | 0.1475579 | 0.2444672 | 0.806869 | 0.980254 |
| ldlrapla | 180.0085513 | -0.026902535 | 0.1663385 | -0.161734 | 0.871516 | 0.987754 |
| cbwd | 201.9635937 | 0.02769322 | 0.1523208 | 0.1818085 | 0.855733 | 0.985174 |
| ush1ga | 114.7344135 | 0.106915771 | 0.1926583 | 0.5549501 | 0.578929 | 0.951052 |
| casp9 | 342.946452 | -0.287780188 | 0.1288467 | -2.233509 | 0.025515 | 0.309193 |
| LIN28A | 1.16600141 | 0.393120273 | 1.8307582 | 0.2147309 | 0.829977 | NA |
| exoc4 | 403.6741746 | 0.126527394 | 0.1162757 | 1.0881674 | 0.276521 | 0.839541 |
| nelfe | 435.5317665 | -0.038585252 | 0.1128053 | -0.342052 | 0.732312 | 0.971719 |
| gnb3a | 1729.862248 | -0.183326607 | 0.087073 | -2.105436 | 0.035253 | 0.365357 |
| lhfp16 | 401.3950452 | 0.110466367 | 0.1158736 | 0.9533351 | 0.34042 | 0.87805 |
| fmnl3 | 363.9342444 | 0.162957962 | 0.119934 | 1.35873 | 0.174232 | 0.734375 |
| ppplr13ba | 731.345311 | 0.099189303 | 0.1058859 | 0.9367565 | 0.348884 | 0.880195 |
| yrk | 272.7338918 | 0.030223245 | 0.1339949 | 0.2255552 | 0.821547 | 0.981928 |
| si:dkey-153k10.9 | 1430.942877 | -0.00275848 | 0.0774793 | -0.035603 | 0.971599 | 0.996315 |
| hdr | 74.10418119 | 0.082326597 | 0.246942 | 0.3333843 | 0.738844 | 0.972722 |
| b3gnt5b | 73.83526372 | -0.132640403 | 0.2250968 | -0.589259 | 0.555687 | 0.947621 |
| elov16 | 823.7492143 | 0.141631838 | 0.0984267 | 1.4389571 | 0.150163 | 0.698387 |
| snx10a | 58.69958559 | -0.299382851 | 0.2965578 | -1.009526 | 0.312722 | 0.864656 |
| spra | 246.9667221 | 0.123311631 | 0.1366134 | 0.9026317 | 0.366721 | 0.88734 |
| tcf712 | 3178.157148 | -0.114927831 | 0.0722846 | -1.589936 | 0.111849 | 0.627242 |
| dpy30 | 443.9702525 | -0.368636341 | 0.1334655 | -2.762035 | 0.005744 | 0.113814 |
| btk | 34.28199078 | -0.045449459 | 0.3329833 | -0.136492 | 0.891433 | 0.989291 |
| fam92a1 | 101.9157726 | -0.160448619 | 0.2039978 | -0.786521 | 0.431562 | 0.91277 |
| grm5a | 162.1851935 | 0.036726469 | 0.1642704 | 0.2235733 | 0.823089 | 0.982189 |
| aplnr2 | 21.62864778 | 0.278824061 | 0.4158009 | 0.670571 | 0.502494 | 0.935304 |
| tnfrsfa | 372.0440857 | 0.042099032 | 0.1291942 | 0.3258586 | 0.744531 | 0.974094 |
| tardbp1 | 4833.347464 | -0.047972679 | 0.0735161 | -0.652546 | 0.514049 | 0.936851 |
| p2rx5 | 92.41068755 | 0.205622558 | 0.2039553 | 1.0081745 | 0.313371 | 0.865132 |
| unc119.2 | 36.4831017 | 0.625474288 | 0.3563531 | 1.7552093 | 0.079224 | 0.547489 |
| desi2 | 412.2349839 | -0.09486415 | 0.113049 | -0.839142 | 0.40139 | 0.90084 |
| prkesh | 2006.412619 | -0.053847023 | 0.0716101 | -0.751948 | 0.452082 | 0.918781 |
| atat1 | 392.6015515 | -0.001334576 | 0.1193026 | -0.011186 | 0.991075 | 0.997679 |
| tbx21 | 21.14713949 | -0.528484338 | 0.4311616 | -1.225722 | 0.220303 | 0.787184 |
| pcytlab | 240.172381 | -0.239753046 | 0.1391138 | -1.723432 | 0.084811 | 0.560519 |

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|------------|-------------|--------------|-----------|-----------|----------|----------|
| tspan33a | 222.0704168 | 0.119891365 | 0.1402578 | 0.8547926 | 0.392666 | 0.897688 |
| xkr8.1 | 14.60142818 | 1.028940314 | 0.5006347 | 2.0552717 | 0.039853 | 0.391511 |
| rcor3 | 67.80641108 | 0.134037482 | 0.2477406 | 0.5410397 | 0.58848 | 0.953319 |
| ppat | 323.6023244 | -0.195155004 | 0.1222396 | -1.596495 | 0.110378 | 0.624676 |
| zgc:63882 | 171.2785796 | -0.029025245 | 0.1576706 | -0.184088 | 0.853945 | 0.985174 |
| pin4 | 317.4822018 | -0.038676777 | 0.1295382 | -0.298574 | 0.765265 | 0.975374 |
| zgc:173742 | 20.63038643 | -0.293340752 | 0.441426 | -0.66453 | 0.506351 | 0.935724 |
| kmt2a | 399.7030421 | -0.088710184 | 0.1311918 | -0.676187 | 0.498922 | 0.934006 |
| ptgs2a | 986.0434347 | 0.154930568 | 0.1020122 | 1.5187451 | 0.128827 | 0.659982 |
| prkcg | 12.56655507 | 0.228225114 | 0.532612 | 0.4285017 | 0.668286 | 0.964736 |
| gtf3c2 | 139.4433272 | -0.215796168 | 0.1751087 | -1.232356 | 0.217816 | 0.785256 |
| plk4 | 283.6462378 | -0.17217965 | 0.1273392 | -1.352134 | 0.176332 | 0.73663 |
| zgc:194665 | 296.7559133 | -0.084460544 | 0.1265812 | -0.667244 | 0.504616 | 0.935617 |
| nmnat2 | 1010.79407 | -0.016004334 | 0.0959567 | -0.166787 | 0.867538 | 0.987231 |
| sel1l | 934.2795986 | 0.315152988 | 0.0883104 | 3.5686958 | 0.000359 | 0.013616 |
| ntrk1 | 20.62521113 | -0.344113968 | 0.4659368 | -0.738542 | 0.460185 | 0.921978 |
| kat5a | 512.3474403 | -0.048117635 | 0.1087633 | -0.442407 | 0.658195 | 0.962545 |
| sox4a | 6693.96462 | -0.13870806 | 0.0645682 | -2.148241 | 0.031695 | 0.345305 |
| gpr22a | 284.9157523 | -0.011319369 | 0.1384606 | -0.081752 | 0.934844 | 0.992702 |
| znf800a | 307.5659062 | -0.112820468 | 0.1267347 | -0.89021 | 0.373353 | 0.893571 |
| lrrc4ba | 72.46390524 | -0.001623152 | 0.2271039 | -0.007147 | 0.994297 | 0.998694 |
| or102-2 | 3.783978736 | -0.660031124 | 0.9780924 | -0.674815 | 0.499794 | NA |
| mtmr2 | 384.8043384 | 0.116027084 | 0.1189373 | 0.9755312 | 0.329297 | 0.873436 |
| stx2a | 109.7133686 | 0.038638943 | 0.2031234 | 0.190224 | 0.849134 | 0.985174 |
| gpm6ab | 6160.542793 | 0.030488174 | 0.0700915 | 0.4349771 | 0.663579 | 0.964736 |
| panx3 | 64.1883146 | -0.015984375 | 0.2546928 | -0.062759 | 0.949958 | 0.99381 |
| egln1b | 315.9930924 | -0.20465794 | 0.1287419 | -1.589676 | 0.111908 | 0.627242 |
| epn3b | 13.65522621 | 0.411445572 | 0.55859 | 0.7365788 | 0.461379 | 0.922161 |
| osbp | 145.0705976 | 0.200543043 | 0.1771263 | 1.1322037 | 0.257549 | 0.825314 |
| epha7 | 665.4911177 | -0.367481054 | 0.103152 | -3.56252 | 0.000367 | 0.013861 |
| ccdc9 | 690.3227797 | 0.034689987 | 0.1071575 | 0.323729 | 0.746143 | 0.97419 |
| cdhrla | 397.8935721 | 0.28028602 | 0.113695 | 2.4652441 | 0.013692 | 0.210066 |
| spicel | 94.96101173 | -0.024683213 | 0.2116552 | -0.11662 | 0.907161 | 0.990702 |
| kctd16a | 7.489171937 | -0.074394173 | 0.705033 | -0.105519 | 0.915964 | NA |
| zgc:101810 | 529.763858 | 0.248550294 | 0.1139326 | 2.181556 | 0.029142 | 0.330614 |
| ptk2ab | 807.5120991 | 0.046984978 | 0.0926383 | 0.5071873 | 0.612023 | 0.95688 |
| dnajb6a | 1638.269354 | -0.044865822 | 0.0870312 | -0.515514 | 0.606194 | 0.956718 |
| acaal | 387.3282821 | -0.29052128 | 0.1334417 | -2.177141 | 0.02947 | 0.332709 |
| nabpla | 281.8795773 | 0.183409851 | 0.1347676 | 1.3609348 | 0.173534 | 0.732906 |
| six4a | 113.7061777 | -0.26064808 | 0.1927422 | -1.352315 | 0.176275 | 0.736614 |
| eefsec | 144.5649246 | -0.049774915 | 0.1688728 | -0.294748 | 0.768186 | 0.975687 |
| rxrgb | 255.5437577 | -0.443592057 | 0.1408126 | -3.150229 | 0.001631 | 0.046066 |
| irf2bp2a | 968.4819032 | 0.048472963 | 0.1005195 | 0.4822244 | 0.629647 | 0.957354 |
| syf2 | 1038.216347 | -0.199891075 | 0.088382 | -2.261672 | 0.023718 | 0.297019 |
| tbr1b | 411.8349321 | -0.059268226 | 0.1156651 | -0.512412 | 0.608362 | 0.956718 |
| mad2l1 | 384.8769012 | -0.252307381 | 0.1198896 | -2.104498 | 0.035335 | 0.36572 |
| tcf12 | 1604.60548 | -0.011187142 | 0.08196 | -0.136495 | 0.89143 | 0.989291 |
| mpp5b | 54.8410105 | -0.492315127 | 0.2725204 | -1.806526 | 0.070836 | 0.520712 |
| tcea3 | 117.7665071 | -0.3740184 | 0.1934253 | -1.933658 | 0.053155 | 0.452412 |
| trappc1l | 1104.531413 | -0.016355251 | 0.0842612 | -0.194102 | 0.846096 | 0.985174 |
| hnrnpub | 4853.976963 | -0.007577748 | 0.0667213 | -0.113573 | 0.909576 | 0.990702 |
| lmbr1l | 161.2743817 | -0.003319942 | 0.1655639 | -0.020052 | 0.984002 | 0.996944 |
| zgc:100868 | 2152.442561 | -0.083849071 | 0.1181628 | -0.709606 | 0.477948 | 0.926857 |
| mylkb | 58.25997256 | -0.060352215 | 0.2618299 | -0.230502 | 0.817702 | 0.981594 |

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|----------------|-------------|--------------|-----------|-----------|----------|----------|
| hspa4a | 1383.390682 | 0.175931993 | 0.0826831 | 2.1277855 | 0.033355 | 0.355558 |
| ybx1 | 14079.64573 | -0.139634637 | 0.0796178 | -1.753813 | 0.079463 | 0.547489 |
| hhla2a.2 | 5.238384069 | -0.538652683 | 0.8605235 | -0.625959 | 0.531342 | NA |
| ankrd10b | 327.4483591 | 0.119390976 | 0.1215048 | 0.9826033 | 0.325803 | 0.871896 |
| wdr36 | 483.7722165 | -0.149939391 | 0.1083657 | -1.383643 | 0.166468 | 0.722981 |
| fgfr3 | 2164.442176 | 0.083698503 | 0.0738554 | 1.1332754 | 0.257099 | 0.825303 |
| cops2 | 950.738817 | -0.044602191 | 0.0922844 | -0.483312 | 0.628874 | 0.957354 |
| lrplba | 27.8301871 | -0.208853644 | 0.3587357 | -0.582194 | 0.560436 | 0.948728 |
| ccdc146 | 18.22131731 | 0.329278311 | 0.4461867 | 0.7379833 | 0.460525 | 0.921978 |
| mgrn1b | 842.1966607 | 0.05723573 | 0.0940343 | 0.6086689 | 0.542744 | 0.944974 |
| grwd1 | 336.2072209 | -0.046916896 | 0.1232042 | -0.380806 | 0.703347 | 0.968134 |
| asz1 | 3.944434732 | -0.971028866 | 0.9739744 | -0.996976 | 0.318776 | NA |
| flot2a | 4681.439058 | -0.004878748 | 0.0695829 | -0.070114 | 0.944103 | 0.993364 |
| dnajc5ab | 2686.330595 | -0.052900616 | 0.0816297 | -0.648056 | 0.516949 | 0.938543 |
| rassf1 | 506.3614364 | 0.112885704 | 0.1117211 | 1.0104244 | 0.312292 | 0.864401 |
| foxpla | 737.0438542 | -0.384521433 | 0.0959486 | -4.007578 | 6.13E-05 | 0.003262 |
| hinfp | 127.2894776 | -0.022039035 | 0.1853391 | -0.118912 | 0.905345 | 0.990702 |
| esrrga | 472.8549042 | 0.020947553 | 0.1059227 | 0.1977626 | 0.843231 | 0.985174 |
| zgc:171734 | 0.325452849 | 0.005883619 | 3.3177086 | 0.0017734 | 0.998585 | NA |
| mindyl | 516.4946996 | 0.018773493 | 0.1085132 | 0.1730066 | 0.862646 | 0.985841 |
| penka | 221.7654243 | -0.371145938 | 0.1427922 | -2.599203 | 0.009344 | 0.162078 |
| psen1 | 875.3297129 | -0.076757161 | 0.092525 | -0.829583 | 0.406774 | 0.901305 |
| mst1rb | 9.901199558 | 0.312305982 | 0.6293513 | 0.4962347 | 0.619729 | NA |
| spata6l | 24.28844944 | -0.237072722 | 0.4029084 | -0.588404 | 0.556261 | 0.947902 |
| tmc6b | 322.4577218 | -0.299037839 | 0.1230038 | -2.431127 | 0.015052 | 0.224971 |
| rock2b | 478.7578154 | -0.08022105 | 0.1179426 | -0.68017 | 0.496397 | 0.932436 |
| acsm3 | 104.6011671 | -0.176819467 | 0.2182008 | -0.810352 | 0.417738 | 0.906237 |
| aga | 188.1511244 | -0.286874088 | 0.1536509 | -1.867051 | 0.061895 | 0.485483 |
| pex19 | 998.801918 | 0.108163269 | 0.0958606 | 1.1283391 | 0.259177 | 0.82755 |
| zp212 | 0.995966258 | -1.056292575 | 2.0854203 | -0.506513 | 0.612497 | NA |
| gys2 | 274.8513235 | 0.441990819 | 0.1390194 | 3.1793459 | 0.001476 | 0.04224 |
| stipl | 1767.985804 | 0.023669949 | 0.0832523 | 0.284316 | 0.776168 | 0.975826 |
| immp21 | 83.46454079 | -0.353935079 | 0.2174055 | -1.627995 | 0.103526 | 0.609625 |
| lmo7a | 1258.420511 | -0.01754846 | 0.1082094 | -0.162171 | 0.871171 | 0.987754 |
| slc8a3 | 32.41313122 | 0.239144371 | 0.3539508 | 0.6756429 | 0.499267 | 0.934006 |
| anos1b | 336.5333478 | 0.161758256 | 0.1236455 | 1.3082422 | 0.190791 | 0.755212 |
| skp2 | 159.2599437 | 0.030027135 | 0.1636018 | 0.1835379 | 0.854376 | 0.985174 |
| mtdhb | 542.898567 | 0.217142122 | 0.1084259 | 2.0026783 | 0.045212 | 0.417766 |
| bccip | 966.7793603 | -0.191122514 | 0.093113 | -2.052586 | 0.040113 | 0.392085 |
| rsad2 | 4.251712716 | 0.186102543 | 0.979076 | 0.1900798 | 0.849247 | NA |
| mxb | 3.758706303 | 0.835972124 | 1.0212801 | 0.8185532 | 0.413041 | NA |
| grna | 44.78493679 | 0.595861004 | 0.2996118 | 1.9887768 | 0.046726 | 0.424613 |
| zmat2 | 725.5632423 | -0.116065571 | 0.09331 | -1.24387 | 0.213547 | 0.781737 |
| cyp4t8 | 130.6645327 | -0.409843965 | 0.1773976 | -2.310312 | 0.020871 | 0.27277 |
| elov15 | 104.345925 | 0.218605848 | 0.1982114 | 1.1028926 | 0.270074 | 0.834705 |
| ppp3ca | 2085.620425 | -0.039498563 | 0.0889221 | -0.444193 | 0.656903 | 0.96205 |
| brflb | 154.5703366 | -0.050873153 | 0.1642091 | -0.309807 | 0.756708 | 0.975374 |
| slc5a12 | 114.4282454 | 0.426431785 | 0.1938676 | 2.1996029 | 0.027835 | 0.323391 |
| si:dkeyp-2e4.8 | 32.19979392 | -0.477069197 | 0.3428687 | -1.391405 | 0.164103 | 0.71945 |
| tspy | 775.3114978 | 0.056452614 | 0.0901465 | 0.6262322 | 0.531163 | 0.942209 |
| fkbp9 | 712.502517 | 0.303004475 | 0.3238949 | 0.9355024 | 0.349529 | 0.880195 |
| tshz1 | 1210.318286 | -0.104522753 | 0.0855351 | -1.221987 | 0.221713 | 0.78829 |
| crppa | 247.8190827 | 0.044552233 | 0.1399171 | 0.3184189 | 0.750167 | 0.97419 |
| rab20 | 92.11586539 | -0.304545538 | 0.2109048 | -1.443996 | 0.14874 | 0.69636 |

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| wnt2ba | 22. 33694951 | 0. 033331173 | 0. 4208727 | 0. 0791954 | 0. 936877 | 0. 992702 |
| dimt11 | 214. 0462914 | 0. 27134789 | 0. 149468 | 1. 8154252 | 0. 069459 | 0. 514708 |
| ncapd2 | 992. 1591889 | -0. 070206371 | 0. 0920838 | -0. 762419 | 0. 44581 | 0. 917154 |
| EIF4E3 | 781. 2313181 | -0. 018397797 | 0. 1084881 | -0. 169583 | 0. 865338 | 0. 986385 |
| ggctb | 561. 1160281 | -0. 003488171 | 0. 1101964 | -0. 031654 | 0. 974748 | 0. 996605 |
| cep89 | 62. 66545779 | 0. 27381791 | 0. 2570007 | 1. 0654365 | 0. 286678 | 0. 84596 |
| glcea | 333. 4270293 | 0. 292285454 | 0. 1217628 | 2. 4004485 | 0. 016375 | 0. 236243 |
| ZGC:86764 | 311. 8649685 | 0. 004936016 | 0. 1280075 | 0. 0385604 | 0. 969241 | 0. 996315 |
| limk2 | 920. 3976392 | -0. 138001577 | 0. 0882583 | -1. 563611 | 0. 117909 | 0. 641446 |
| oclna | 873. 104332 | -0. 189825459 | 0. 1076969 | -1. 762591 | 0. 07797 | 0. 544026 |
| cdh17 | 2256. 76186 | -0. 185891069 | 0. 0781068 | -2. 379959 | 0. 017315 | 0. 243166 |
| calub | 1049. 990414 | 0. 16376667 | 0. 0861038 | 1. 9019683 | 0. 057175 | 0. 469122 |
| atp2a2b | 2721. 1384 | 0. 108103608 | 0. 0752075 | 1. 437405 | 0. 150603 | 0. 698912 |
| large1 | 36. 15009427 | 0. 306055626 | 0. 3240757 | 0. 9443955 | 0. 344968 | 0. 878434 |
| rnaseh2b | 214. 8381003 | 0. 214569996 | 0. 1405408 | 1. 5267457 | 0. 126824 | 0. 656588 |
| psmd11b | 1092. 30968 | 0. 118430724 | 0. 0890606 | 1. 3297765 | 0. 183592 | 0. 747284 |
| hhat1b | 520. 5081488 | 0. 351619475 | 0. 1027187 | 3. 4231315 | 0. 000619 | 0. 020853 |
| camkvb | 462. 9177225 | 0. 039357018 | 0. 1186515 | 0. 3317026 | 0. 740114 | 0. 972943 |
| tbx20 | 32. 22591182 | -0. 513625401 | 0. 3416762 | -1. 503252 | 0. 132774 | 0. 667381 |
| aspa | 9. 49816035 | 0. 074451669 | 0. 623755 | 0. 1193604 | 0. 90499 | NA |
| cyth1a | 379. 6077936 | -0. 090182516 | 0. 1240083 | -0. 72723 | 0. 467085 | 0. 924328 |
| tpm3 | 8487. 799683 | 0. 073087949 | 0. 0674426 | 1. 0837065 | 0. 278495 | 0. 842429 |
| efr3a | 74. 29368087 | -0. 099955154 | 0. 2327393 | -0. 429473 | 0. 667579 | 0. 964736 |
| dynl12b | 622. 1463632 | 0. 021547101 | 0. 1048045 | 0. 2055932 | 0. 837109 | 0. 984645 |
| ZGC:101040 | 86. 75963091 | -0. 202820931 | 0. 2169504 | -0. 934872 | 0. 349854 | 0. 880195 |
| dglucy | 299. 8105473 | -0. 08088678 | 0. 140251 | -0. 576729 | 0. 564123 | 0. 948739 |
| cpn1 | 6. 002436204 | -0. 10804383 | 0. 8428652 | -0. 128186 | 0. 898001 | NA |
| sp4 | 812. 7831496 | 0. 096068492 | 0. 092722 | 1. 0360922 | 0. 300159 | 0. 856224 |
| ahcy | 8165. 752217 | -0. 14880889 | 0. 0925862 | -1. 607248 | 0. 108 | 0. 619371 |
| coro2a | 394. 7089557 | 0. 021460123 | 0. 1225017 | 0. 1751823 | 0. 860936 | 0. 985773 |
| ZGC:158328 | 20. 20780674 | 0. 717414017 | 0. 435363 | 1. 6478527 | 0. 099383 | 0. 599511 |
| wrnip1 | 71. 99578898 | -0. 0741574 | 0. 2294956 | -0. 323132 | 0. 746595 | 0. 97419 |
| pdc6 | 564. 900524 | 0. 023209705 | 0. 1076659 | 0. 2155716 | 0. 829322 | 0. 982805 |
| desmb | 182. 0417806 | -0. 075644229 | 0. 1566943 | -0. 48275 | 0. 629273 | 0. 957354 |
| ssr2 | 2179. 625252 | -0. 136577126 | 0. 0744636 | -1. 834147 | 0. 066632 | 0. 504944 |
| ccdc85ca | 53. 79203053 | 0. 17768126 | 0. 2943737 | 0. 6035907 | 0. 546116 | 0. 945526 |
| srcap | 1394. 216647 | 0. 057446249 | 0. 0863843 | 0. 6650078 | 0. 506046 | 0. 935724 |
| asb3 | 99. 69510182 | -0. 049133352 | 0. 2227975 | -0. 220529 | 0. 825459 | 0. 982196 |
| rpe | 483. 6413613 | -0. 011063592 | 0. 1090844 | -0. 101422 | 0. 919215 | 0. 991623 |
| kdelr2a | 1481. 871906 | 0. 223338147 | 0. 0835041 | 2. 6745756 | 0. 007482 | 0. 136997 |
| zc3h12a | 27. 94025694 | -0. 115201707 | 0. 3572938 | -0. 322428 | 0. 747128 | 0. 97419 |
| rad52 | 67. 80904276 | -0. 04001343 | 0. 2355971 | -0. 169838 | 0. 865137 | 0. 986367 |
| fbx115 | 86. 65666166 | 0. 267623037 | 0. 2101685 | 1. 2733735 | 0. 202886 | 0. 769849 |
| CALHM1 (1 of many) | 5. 353635404 | 0. 374080631 | 0. 8723163 | 0. 428836 | 0. 668043 | NA |
| celf1 | 2026. 681829 | 0. 045017615 | 0. 0752323 | 0. 5983813 | 0. 549586 | 0. 946312 |
| stam2 | 722. 0328944 | 0. 009725892 | 0. 0920603 | 0. 1056469 | 0. 915862 | 0. 991314 |
| nipsnap1 | 83. 384457 | -0. 49762644 | 0. 222318 | -2. 238354 | 0. 025198 | 0. 30686 |
| ftr66 | 1. 964116229 | 0. 510643648 | 1. 3857694 | 0. 3684911 | 0. 712507 | NA |
| lipib | 56. 79085244 | -0. 011248342 | 0. 2691719 | -0. 041789 | 0. 966667 | 0. 996315 |
| slc22a4 | 14. 29416894 | 0. 321073427 | 0. 5175513 | 0. 6203702 | 0. 535014 | 0. 943336 |
| ccdc85a1 | 283. 4019452 | 0. 01283163 | 0. 126579 | 0. 1013725 | 0. 919255 | 0. 991623 |
| dip2ba | 1157. 969733 | -0. 120127297 | 0. 0897662 | -1. 338224 | 0. 180824 | 0. 741776 |
| larp6a | 370. 7944637 | -0. 002540396 | 0. 1289559 | -0. 0197 | 0. 984283 | 0. 996944 |
| tyro3 | 18. 18024045 | 0. 74298171 | 0. 4489989 | 1. 6547517 | 0. 097975 | 0. 59749 |

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| suc1a2 | 3355.220151 | 0.144115869 | 0.0818512 | 1.7607063 | 0.078288 | 0.545287 |
| grin3ba | 56.19937916 | -0.041635393 | 0.2721998 | -0.152959 | 0.878431 | 0.987881 |
| mcamb | 718.5700529 | -0.016010099 | 0.0917426 | -0.174511 | 0.861464 | 0.985841 |
| gprc6a | 23.85216812 | 0.3006779 | 0.4037998 | 0.7446212 | 0.456501 | 0.921215 |
| camk4 | 361.2147403 | -0.042125802 | 0.1168305 | -0.360572 | 0.718419 | 0.96909 |
| tubgcp4 | 428.5587745 | 0.088328435 | 0.1099865 | 0.8030843 | 0.421926 | 0.90651 |
| prdm9 | 235.1923701 | -0.1728005 | 0.1417764 | -1.218825 | 0.222911 | 0.789115 |
| slc5a5 | 15.9482868 | 0.104704929 | 0.5954641 | 0.1758375 | 0.860422 | 0.985773 |
| dnmt3aa | 27.99884209 | 0.455369056 | 0.372119 | 1.2237187 | 0.221058 | 0.787641 |
| trim3b | 1098.73895 | 0.115617244 | 0.0835421 | 1.3839397 | 0.166377 | 0.722981 |
| grapa | 112.150711 | -0.041177574 | 0.204991 | -0.200875 | 0.840796 | 0.985092 |
| map3k5 | 677.3043966 | 0.009701631 | 0.1015008 | 0.0955818 | 0.923853 | 0.992628 |
| pgam1a | 2215.314985 | -0.098884752 | 0.0724862 | -1.364187 | 0.172509 | 0.731348 |
| wdfyl | 75.65759057 | 0.111869712 | 0.2345226 | 0.4770105 | 0.633355 | 0.957562 |
| mtfmt | 109.1259079 | 0.148189481 | 0.1899158 | 0.7802904 | 0.43522 | 0.914408 |
| gdi2 | 6163.273672 | -0.012121774 | 0.0671885 | -0.180414 | 0.856827 | 0.985597 |
| foxp2 | 462.496036 | -0.084648172 | 0.1112966 | -0.760564 | 0.446918 | 0.917154 |
| tacc3 | 818.8750005 | -0.16559694 | 0.0908671 | -1.822409 | 0.068393 | 0.512556 |
| katnbl | 645.1637069 | -0.076003067 | 0.0977089 | -0.777852 | 0.436656 | 0.914408 |
| csnklg2a | 908.579515 | 0.012590388 | 0.0865613 | 0.1454506 | 0.884355 | 0.98879 |
| kif4 | 775.3704415 | -0.039810244 | 0.0962823 | -0.413474 | 0.679259 | 0.965257 |
| slc30a1a | 561.5758703 | 0.309768428 | 0.1122372 | 2.7599442 | 0.005781 | 0.11443 |
| dnasell1 | 161.3614182 | -0.091688374 | 0.1710651 | -0.535985 | 0.591969 | 0.954434 |
| irf2bp1 | 628.4588498 | -0.004559762 | 0.1078538 | -0.042277 | 0.966278 | 0.996315 |
| nav3 | 219.9646607 | 0.186386954 | 0.1446762 | 1.288304 | 0.19764 | 0.762928 |
| tenm3 | 2309.561242 | 0.030312166 | 0.0820724 | 0.3693345 | 0.711878 | 0.969006 |
| nfkbiaa | 539.0759905 | -0.477320808 | 0.136487 | -3.497189 | 0.00047 | 0.017028 |
| rapgef2 | 1973.292948 | 0.027428056 | 0.080027 | 0.3427352 | 0.731798 | 0.971572 |
| ucmab | 686.0649199 | -0.17750974 | 0.1065326 | -1.666248 | 0.095664 | 0.588752 |
| dgcr6 | 198.6092736 | -0.126513786 | 0.1459353 | -0.866917 | 0.385988 | 0.89551 |
| gdf6b | 8.150218759 | -0.157537014 | 0.66955 | -0.235288 | 0.813985 | NA |
| naca | 9559.047831 | -0.227225946 | 0.0696682 | -3.261542 | 0.001108 | 0.033401 |
| slc5a9 | 73.56678439 | -0.084777857 | 0.2245651 | -0.37752 | 0.705787 | 0.968412 |
| galr1a | 11.60527518 | 0.05223557 | 0.5676247 | 0.0920248 | 0.926678 | 0.992702 |
| acy3.2 | 225.3101824 | -0.077522494 | 0.1452914 | -0.533566 | 0.593642 | 0.954434 |
| igfnl.1 | 815.2468871 | 0.374856399 | 0.112966 | 3.3183119 | 0.000906 | 0.028837 |
| ubr7 | 651.966982 | -0.070231228 | 0.0975281 | -0.720112 | 0.471456 | 0.924838 |
| xpo7 | 1319.582158 | -0.148738011 | 0.0791092 | -1.880161 | 0.060086 | 0.478687 |
| wif1 | 556.8867893 | 0.074217704 | 0.1075605 | 0.6900089 | 0.490189 | 0.931926 |
| btbd3a | 10.70312144 | -0.940361848 | 0.6505447 | -1.445499 | 0.148318 | NA |
| rint1 | 192.5867232 | -0.215641217 | 0.1483889 | -1.453217 | 0.146164 | 0.691942 |
| znf710b | 1136.099824 | -0.180210239 | 0.0806076 | -2.235649 | 0.025375 | 0.308303 |
| hnrnph11 | 2654.190254 | -0.077289939 | 0.0769079 | -1.004967 | 0.314913 | 0.866054 |
| pou4f1 | 402.1610523 | -0.027446242 | 0.1136839 | -0.241426 | 0.809225 | 0.980642 |
| ywhah | 5885.549624 | 0.002230465 | 0.0676159 | 0.0329873 | 0.973685 | 0.996315 |
| gfm2 | 268.9074417 | -0.006579065 | 0.1351867 | -0.048667 | 0.961185 | 0.995729 |
| entpd8 | 49.11500768 | -0.756112306 | 0.2805671 | -2.694943 | 0.00704 | 0.13096 |
| vsx2 | 450.0205464 | 0.017488686 | 0.115577 | 0.1513164 | 0.879726 | 0.987881 |
| mphosph8 | 1101.231742 | 0.049630053 | 0.0841868 | 0.5895231 | 0.55551 | 0.947607 |
| ugp2a | 46.72632779 | 0.026551182 | 0.3094003 | 0.085815 | 0.931614 | 0.992702 |
| zbtb20 | 3.701774465 | -1.046137009 | 1.0561667 | -0.990504 | 0.321928 | NA |
| mtf2 | 425.5202331 | 0.070165586 | 0.1127508 | 0.622307 | 0.53374 | 0.943276 |
| rxrga | 148.2046609 | -0.398792302 | 0.1728129 | -2.307654 | 0.021018 | 0.273449 |
| adgb | 76.40437836 | 0.04388623 | 0.2278144 | 0.1926403 | 0.847241 | 0.985174 |

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| paxipl | 500.5220816 | -0.059094621 | 0.1041885 | -0.567189 | 0.570586 | 0.949061 |
| aph1b | 829.1306965 | 0.045459286 | 0.0911421 | 0.4987738 | 0.617939 | 0.957354 |
| bfb | 44.1627867 | -0.201825932 | 0.3282005 | -0.614947 | 0.53859 | 0.943336 |
| nek2 | 84.51825427 | 0.123247793 | 0.2266562 | 0.5437654 | 0.586603 | 0.953319 |
| macola | 297.1342627 | 0.146507655 | 0.1474212 | 0.9938031 | 0.320319 | 0.868202 |
| RHO (1 of many) | 58.38383253 | 0.058364644 | 0.2565498 | 0.2274983 | 0.820036 | 0.981594 |
| zmp:0000000527 | 2.411113467 | 1.926067046 | 1.3632399 | 1.4128599 | 0.157697 | NA |
| smyd2b | 399.1286354 | 0.235591498 | 0.1211095 | 1.9452762 | 0.051742 | 0.446202 |
| adat3 | 37.96732317 | -0.178659602 | 0.338587 | -0.527662 | 0.597734 | 0.95534 |
| gcat | 415.7752574 | 0.249859457 | 0.1284683 | 1.9449113 | 0.051786 | 0.446386 |
| robo3 | 1235.140622 | -0.161598369 | 0.0811739 | -1.990768 | 0.046506 | 0.423787 |
| olfml2a | 133.2727902 | 0.244137638 | 0.1834801 | 1.3305949 | 0.183322 | 0.747003 |
| hrasb | 932.4127038 | -0.002383812 | 0.0892442 | -0.026711 | 0.97869 | 0.996762 |
| man1a1 | 1018.957233 | -0.04973942 | 0.0834541 | -0.596009 | 0.551169 | 0.946571 |
| ttbk2a | 27.71335758 | -0.328671023 | 0.3612847 | -0.909729 | 0.362966 | 0.885944 |
| f3b | 181.9851639 | 0.464034109 | 0.1855019 | 2.5015062 | 0.012367 | 0.196732 |
| sec61a11 | 601.318943 | 0.043405625 | 0.0964373 | 0.4500919 | 0.652644 | 0.960708 |
| trip10a | 369.0537696 | 0.047622192 | 0.1201147 | 0.3964726 | 0.691756 | 0.967305 |
| slc25a23a | 546.524046 | 0.27812107 | 0.1124943 | 2.4723133 | 0.013424 | 0.207707 |
| ddx19 | 509.3402931 | 0.166759647 | 0.1030002 | 1.6190226 | 0.105442 | 0.614144 |
| eps813b | 356.5959108 | -0.828285672 | 0.129479 | -6.397067 | 1.58E-10 | 3.64E-08 |
| ethel | 317.1777244 | -0.496427064 | 0.1384542 | -3.585496 | 0.000336 | 0.012973 |
| olfml2ba | 64.00834751 | -0.084356313 | 0.2466965 | -0.341944 | 0.732393 | 0.971719 |
| rpfl | 279.729202 | 0.153348461 | 0.1438272 | 1.0661995 | 0.286333 | 0.845942 |
| gpm6ba | 1350.934499 | 0.047303977 | 0.0831451 | 0.5689326 | 0.569402 | 0.948983 |
| cand2 | 278.9349347 | 0.274579319 | 0.1296078 | 2.1185399 | 0.034129 | 0.359261 |
| ptrfb | 3378.557961 | 0.003863117 | 0.0801315 | 0.0482097 | 0.961549 | 0.995845 |
| coll4a1a | 348.7621297 | -0.170883386 | 0.1299886 | -1.314602 | 0.188644 | 0.753288 |
| tsr2 | 279.2065142 | -0.178526388 | 0.1322541 | -1.349874 | 0.177056 | 0.738098 |
| ddx3xb | 5754.333006 | 0.015035967 | 0.0740447 | 0.2030661 | 0.839083 | 0.984979 |
| scn8aa | 679.2829568 | 0.04925187 | 0.0946713 | 0.5202408 | 0.602896 | 0.956045 |
| guk1b | 714.328614 | 0.157898311 | 0.0960019 | 1.6447422 | 0.100023 | 0.601211 |
| npy8br | 8.332631478 | 0.393599298 | 0.6651216 | 0.5917704 | 0.554004 | NA |
| ncanb | 47.52420612 | -0.160779788 | 0.3022605 | -0.531925 | 0.594778 | 0.954434 |
| ppmlf | 8.40315104 | 0.351639882 | 0.6783088 | 0.5184068 | 0.604175 | NA |
| enppl | 733.105576 | 0.208697242 | 0.0928509 | 2.2476588 | 0.024598 | 0.302262 |
| rpl28 | 13064.15975 | -0.266920187 | 0.0773231 | -3.452012 | 0.000556 | 0.019235 |
| smim14 | 160.1768279 | -0.166637471 | 0.1647137 | -1.011679 | 0.311691 | 0.864257 |
| ampd3a | 130.2497045 | 0.440717646 | 0.2019473 | 2.1823404 | 0.029084 | 0.330497 |
| klhl10a | 1.148909967 | 1.312490708 | 1.8001617 | 0.729096 | 0.465943 | NA |
| ncf2 | 16.9058725 | 0.299071902 | 0.4694756 | 0.6370339 | 0.524103 | 0.939336 |
| slc39a10 | 754.0573728 | 0.122545637 | 0.0968047 | 1.2659058 | 0.205547 | 0.773646 |
| EIF2S1A | 720.3526456 | 0.004188407 | 0.0930273 | 0.0450234 | 0.964089 | 0.995927 |
| faima | 114.3298795 | -0.092914711 | 0.1849258 | -0.502443 | 0.615356 | 0.95688 |
| gatad2b | 47.53705761 | 0.444350926 | 0.3063579 | 1.4504307 | 0.146938 | 0.693731 |
| got2b | 2649.335867 | 0.13081872 | 0.0842299 | 1.5531154 | 0.120396 | 0.645215 |
| tnni2a.2 | 521.5621118 | 0.170818875 | 0.1167615 | 1.4629732 | 0.143475 | 0.686804 |
| cd9a | 634.9791158 | -0.143728837 | 0.1030287 | -1.395037 | 0.163005 | 0.717875 |
| SP5 | 4.881132812 | 0.31244379 | 0.8528734 | 0.3663425 | 0.71411 | NA |
| slc25a6 | 176.0068059 | 0.066111843 | 0.1646395 | 0.4015552 | 0.688011 | 0.966493 |
| ralgapa2 | 1094.32934 | -0.002892745 | 0.0872014 | -0.033173 | 0.973537 | 0.996315 |
| or131-1 | 0.837291216 | -1.914743452 | 2.2412189 | -0.854331 | 0.392921 | NA |
| gon4l | 775.8202115 | 0.033248106 | 0.0953549 | 0.3486773 | 0.727332 | 0.970402 |
| mmadhc | 613.4335139 | 0.002215426 | 0.1103539 | 0.0200756 | 0.983983 | 0.996944 |

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|------------|-------------|--------------|-----------|-----------|----------|----------|
| rfx1a | 391.6229974 | -0.095338853 | 0.1179548 | -0.808266 | 0.418938 | 0.906406 |
| cyb5r3 | 543.915363 | 0.016724815 | 0.1046938 | 0.1597499 | 0.873078 | 0.987846 |
| slc7a9 | 48.74677187 | -1.259355635 | 0.2875064 | -4.380271 | 1.19E-05 | 0.000834 |
| dera | 128.7075918 | 0.173500835 | 0.1767097 | 0.9818409 | 0.326178 | 0.872073 |
| clk4b | 690.8444304 | -0.157181462 | 0.0975922 | -1.610595 | 0.107268 | 0.617322 |
| tgm113 | 49.44315385 | -1.943051723 | 0.3611582 | -5.380057 | 7.45E-08 | 1.07E-05 |
| tcf3a | 34.21981993 | 0.18302083 | 0.3377397 | 0.5418991 | 0.587888 | 0.953319 |
| srpk3 | 464.3403197 | 0.031430981 | 0.1069705 | 0.2938284 | 0.768889 | 0.975687 |
| serpina10a | 1408.580364 | 0.021372873 | 0.0804312 | 0.2657285 | 0.790448 | 0.977359 |
| ak2 | 2207.907586 | -0.459606288 | 0.0918588 | -5.003402 | 5.63E-07 | 6.22E-05 |
| tbc1d17 | 632.389326 | -0.124695146 | 0.1037017 | -1.202441 | 0.229193 | 0.796702 |
| clul1 | 1434.150778 | 0.05676396 | 0.0773426 | 0.7339285 | 0.462992 | 0.922698 |
| v2r11 | 21.62084185 | -0.484014729 | 0.4086931 | -1.184299 | 0.236295 | 0.805463 |
| htra4 | 67.64436833 | 0.456503408 | 0.2368614 | 1.9273015 | 0.053942 | 0.455056 |
| sart1 | 1636.048863 | 0.092979297 | 0.0751326 | 1.2375357 | 0.215888 | 0.783484 |
| ankmy2a | 173.0960201 | 0.060041808 | 0.173907 | 0.3452525 | 0.729905 | 0.971143 |
| ric8b | 661.8368826 | 0.028937776 | 0.0992675 | 0.2915132 | 0.770659 | 0.975687 |
| sfswap | 1433.489975 | -0.090895474 | 0.0774351 | -1.173828 | 0.240464 | 0.808525 |
| rgl1 | 858.1247783 | -0.280591884 | 0.0928244 | -3.022824 | 0.002504 | 0.063006 |
| prclb | 188.7138473 | -0.185536446 | 0.1575891 | -1.177343 | 0.239058 | 0.807768 |
| mycla | 164.6715089 | 0.010206957 | 0.161998 | 0.0630067 | 0.949761 | 0.99381 |
| dct | 1763.945184 | -0.033886084 | 0.0889 | -0.381171 | 0.703076 | 0.968134 |
| bmila | 303.2873667 | -0.069255327 | 0.1424877 | -0.486044 | 0.626936 | 0.957354 |
| klhl42 | 38.73505427 | -0.133730273 | 0.3190296 | -0.419178 | 0.675086 | 0.965257 |
| tktb | 4467.339672 | -0.26045772 | 0.0775579 | -3.358237 | 0.000784 | 0.025553 |
| tp53i11b | 696.9445069 | -0.02870215 | 0.1040481 | -0.275855 | 0.78266 | 0.97627 |
| lta4h | 886.7912989 | -0.578693779 | 0.0958069 | -6.040209 | 1.54E-09 | 3.11E-07 |
| abat | 3849.417712 | 0.00098583 | 0.0898729 | 0.0109692 | 0.991248 | 0.997679 |
| aebp2 | 521.8972309 | 0.020433134 | 0.1121637 | 0.1821724 | 0.855447 | 0.985174 |
| cyp20a1 | 409.8652078 | -0.023668177 | 0.1133031 | -0.208893 | 0.834532 | 0.983992 |
| usta | 141.8747341 | -0.306539543 | 0.1716516 | -1.785824 | 0.074128 | 0.530917 |
| malt2 | 78.51204459 | -0.065025885 | 0.2206775 | -0.294665 | 0.76825 | 0.975687 |
| crybglb | 296.9383188 | -0.043389037 | 0.1542744 | -0.281246 | 0.778522 | 0.975942 |
| akap1b | 1320.454535 | 0.018670198 | 0.0804273 | 0.2321375 | 0.816431 | 0.981594 |
| znf385b | 106.5272113 | -0.053028378 | 0.1978589 | -0.268011 | 0.788691 | 0.976703 |
| uck2a | 601.6551919 | 0.008089871 | 0.1026698 | 0.078795 | 0.937196 | 0.99279 |
| gpr3711a | 34.68729099 | 0.391812734 | 0.3559527 | 1.1007439 | 0.271008 | 0.835943 |
| rad21a | 6157.09067 | -0.071326038 | 0.0662471 | -1.076667 | 0.281629 | 0.84357 |
| cdk15 | 48.26180266 | 0.428754795 | 0.2810784 | 1.5253924 | 0.127161 | 0.656588 |
| igf2r | 160.1948353 | 0.250736524 | 0.1864647 | 1.3446865 | 0.178726 | 0.739486 |
| pimr185 | 2.296881697 | 0.424419626 | 1.2199724 | 0.3478928 | 0.727921 | NA |
| chrd | 76.67547542 | -0.172694421 | 0.2511201 | -0.687696 | 0.491644 | 0.931926 |
| myof | 477.1262626 | -0.154498911 | 0.1125829 | -1.372312 | 0.169966 | 0.727155 |
| tbx2b | 1189.949232 | -0.165194301 | 0.0845986 | -1.952684 | 0.050857 | 0.44241 |
| kdm5c | 3790.65965 | -0.10089593 | 0.0699638 | -1.442116 | 0.14927 | 0.696454 |
| csnk1db | 3205.271969 | -0.005907903 | 0.0693877 | -0.085143 | 0.932147 | 0.992702 |
| cep170aa | 1257.726684 | -0.054263015 | 0.0799902 | -0.678371 | 0.497536 | 0.933353 |
| star | 86.87845939 | 0.385399752 | 0.2555283 | 1.5082469 | 0.131491 | 0.66499 |
| pdellal | 24.52078131 | 0.319521452 | 0.381131 | 0.8383506 | 0.401834 | 0.90084 |
| lrrk2 | 293.7260503 | -0.138692787 | 0.1470293 | -0.9433 | 0.345527 | 0.878434 |
| lrrc23 | 22.87557575 | -0.150784519 | 0.4013431 | -0.3757 | 0.70714 | 0.968664 |
| hif1aa | 271.2966664 | 0.229033425 | 0.1325827 | 1.7274757 | 0.084082 | 0.557747 |
| gatad2ab | 683.1314967 | -0.051929729 | 0.1004273 | -0.517088 | 0.605095 | 0.95651 |
| savl | 464.8637007 | 0.124661056 | 0.1164571 | 1.0704461 | 0.284419 | 0.844955 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| eif4g1a | 4698.112234 | 0.067023458 | 0.0697805 | 0.9604899 | 0.336809 | 0.876088 |
| erbb3a | 614.2922031 | -0.373043933 | 0.1029738 | -3.622706 | 0.000292 | 0.011553 |
| pou4f3 | 81.52697056 | 0.476529738 | 0.2243448 | 2.1240955 | 0.033662 | 0.357045 |
| gpx1b | 217.6439158 | -0.46576608 | 0.1585128 | -2.93835 | 0.0033 | 0.076671 |
| akr1b1.1 | 426.4402145 | -0.036037557 | 0.1103236 | -0.326653 | 0.74393 | 0.974094 |
| gnl3 | 709.6530273 | 0.043371429 | 0.0959015 | 0.4522495 | 0.651089 | 0.960708 |
| ugtlab | 1731.453604 | -0.530735974 | 0.07914 | -6.706295 | 2.00E-11 | 5.41E-09 |
| ddx39aa | 2633.551247 | -0.181421609 | 0.0750693 | -2.416723 | 0.015661 | 0.229392 |
| brms11a | 657.1624003 | -0.072843964 | 0.1098017 | -0.663414 | 0.507066 | 0.935734 |
| slc27a1a | 632.7085926 | 0.042654141 | 0.1024193 | 0.4164659 | 0.677069 | 0.965257 |
| ptp4a1 | 5524.140023 | -0.028311034 | 0.0738819 | -0.383193 | 0.701577 | 0.968134 |
| ell2 | 591.0514475 | 0.182701647 | 0.0971527 | 1.8805625 | 0.060031 | 0.478654 |
| mier3a | 461.1730703 | -0.057951499 | 0.1102524 | -0.525626 | 0.599148 | 0.955891 |
| vldlr | 1735.077725 | 0.043326088 | 0.0848121 | 0.5108479 | 0.609458 | 0.956718 |
| tuba814 | 9323.859507 | -0.046346989 | 0.1074301 | -0.431415 | 0.666166 | 0.964736 |
| stat1a | 664.8621553 | -0.081053063 | 0.0991026 | -0.81787 | 0.413431 | 0.905838 |
| mpp5a | 168.5982995 | -0.129965703 | 0.1737294 | -0.748093 | 0.454404 | 0.920544 |
| rragd | 52.97890481 | 0.260645647 | 0.3004322 | 0.8675688 | 0.38563 | 0.89551 |
| was1b | 592.0010963 | -0.160360612 | 0.1075103 | -1.491584 | 0.135808 | 0.672208 |
| prdm5 | 61.16875224 | 0.136220135 | 0.2556838 | 0.5327679 | 0.594194 | 0.954434 |
| ndufs5 | 2008.575559 | -0.075940898 | 0.1962739 | -0.386913 | 0.698821 | 0.967998 |
| maats1 | 44.95707412 | 0.258003963 | 0.2973033 | 0.867814 | 0.385496 | 0.89551 |
| arhgef7a | 1122.598505 | 0.070712918 | 0.0811663 | 0.87121 | 0.383639 | 0.895192 |
| psmd9 | 243.9405205 | -0.266476121 | 0.139599 | -1.908868 | 0.056279 | 0.465438 |
| RAPH1 (1 of many) | 987.2091769 | -0.004809403 | 0.1087473 | -0.044225 | 0.964725 | 0.996004 |
| shisa4 | 396.5106316 | 0.001583425 | 0.1371699 | 0.0115435 | 0.99079 | 0.997679 |
| ptpn18 | 17.06121104 | 0.442387044 | 0.4728532 | 0.9355696 | 0.349495 | 0.880195 |
| itgav | 2148.592597 | 0.206526474 | 0.0776739 | 2.6588906 | 0.00784 | 0.142065 |
| rpl23a | 16859.79678 | -0.348215895 | 0.0811132 | -4.292962 | 1.76E-05 | 0.001125 |
| snx14 | 931.6448837 | -0.010792253 | 0.0870612 | -0.123962 | 0.901346 | 0.990121 |
| tas1r3 | 2.952202733 | -1.831067659 | 1.2689793 | -1.442945 | 0.149036 | NA |
| med17 | 260.4170752 | -0.21655892 | 0.1353601 | -1.599873 | 0.109627 | 0.623766 |
| nkx1.21a | 15.81143197 | -0.445878682 | 0.5170435 | -0.862362 | 0.388488 | 0.896271 |
| itga5 | 368.3945405 | 0.019143361 | 0.1181965 | 0.1619622 | 0.871336 | 0.987754 |
| slc18a3a | 864.4162527 | 0.193403157 | 0.0907489 | 2.1311906 | 0.033073 | 0.354192 |
| crlf1b | 30.14985461 | -0.00047302 | 0.3682755 | -0.001284 | 0.998975 | 0.999632 |
| atp6v1h | 2668.358836 | 0.014063281 | 0.0702665 | 0.2001419 | 0.84137 | 0.985174 |
| ugt5c2 | 4.33346125 | 0.014887252 | 0.8984707 | 0.0165695 | 0.98678 | NA |
| stxbp51 | 333.6195953 | 0.024940196 | 0.1249947 | 0.1995301 | 0.841848 | 0.985174 |
| triobpb | 351.7599854 | -0.164950542 | 0.1188187 | -1.388254 | 0.16506 | 0.721223 |
| smad2 | 874.0817844 | 0.02262727 | 0.094768 | 0.2387648 | 0.811288 | 0.981081 |
| exosc9 | 221.2938546 | 0.043944217 | 0.1442945 | 0.3045453 | 0.760712 | 0.975374 |
| rbm25b | 1701.372787 | -0.040136714 | 0.0807983 | -0.496752 | 0.619364 | 0.957354 |
| nrcama | 246.1294356 | 0.011850605 | 0.1359345 | 0.0871788 | 0.930529 | 0.992702 |
| laptm4a | 2770.299717 | 0.016176961 | 0.0712099 | 0.2271728 | 0.820289 | 0.981594 |
| ywhael | 4816.074097 | 0.011105368 | 0.0751088 | 0.147857 | 0.882456 | 0.988344 |
| hmgb3b | 1081.867582 | -0.128784517 | 0.086201 | -1.494003 | 0.135175 | 0.670689 |
| mapk12b | 15.60658749 | -0.051047287 | 0.5238122 | -0.097453 | 0.922366 | 0.99233 |
| rpl38 | 3045.811881 | -0.30148704 | 0.1141575 | -2.640974 | 0.008267 | 0.147176 |
| atrnl1b | 1467.692696 | 0.053776172 | 0.0857577 | 0.6270712 | 0.530613 | 0.942209 |
| esyt3 | 200.0014897 | 0.161653527 | 0.1456704 | 1.1097211 | 0.267119 | 0.833191 |
| fabp2 | 2097.296366 | -0.919807631 | 0.1004552 | -9.156397 | 5.37E-20 | 4.82E-17 |
| polr1e | 228.6445989 | 0.016776503 | 0.1597585 | 0.1050116 | 0.916367 | 0.991314 |
| slc19a3a | 11.00283241 | 0.014780194 | 0.6073078 | 0.0243372 | 0.980584 | NA |

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|------------|-------------|--------------|-----------|-----------|----------|----------|
| pdgfr1 | 367.3030301 | 0.227073226 | 0.1247102 | 1.8208071 | 0.068636 | 0.513124 |
| pcdh8 | 227.5483266 | 0.445931028 | 0.1478384 | 3.016342 | 0.002558 | 0.064039 |
| grap2a | 38.60215959 | 0.089216844 | 0.3122717 | 0.2857026 | 0.775106 | 0.975687 |
| saxo2 | 11.25041867 | -0.930583492 | 0.651083 | -1.429286 | 0.152922 | 0.702086 |
| ddi2 | 1199.477964 | 0.093032946 | 0.0819409 | 1.1353669 | 0.256222 | 0.824633 |
| anp32a | 8789.5026 | -0.142111252 | 0.0677799 | -2.096657 | 0.036024 | 0.370238 |
| agpat9l | 279.6323191 | -0.264810674 | 0.136367 | -1.941898 | 0.05215 | 0.44874 |
| asb7 | 243.5815639 | -0.025025793 | 0.136402 | -0.183471 | 0.854429 | 0.985174 |
| rtn1a | 9223.066355 | 0.048220854 | 0.0633111 | 0.7616493 | 0.446269 | 0.917154 |
| cyp2x10.2 | 1.012669898 | -0.989442317 | 1.8898446 | -0.523558 | 0.600586 | NA |
| pip5k1bb | 234.4395109 | -0.170972089 | 0.1373295 | -1.244977 | 0.21314 | 0.781631 |
| her6 | 1022.993407 | -0.139281177 | 0.090549 | -1.538186 | 0.124003 | 0.652658 |
| otop2 | 34.32680789 | -0.782254643 | 0.3322687 | -2.354284 | 0.018558 | 0.253962 |
| supt6h | 2516.027899 | 0.008185257 | 0.0735977 | 0.1112162 | 0.911445 | 0.991066 |
| fn1b | 4847.688647 | 0.034214695 | 0.0811427 | 0.4216608 | 0.673273 | 0.965257 |
| brd3a | 987.9348863 | 0.054911295 | 0.0866969 | 0.6333708 | 0.526492 | 0.940506 |
| clqtnf6b | 75.95694077 | 0.237667841 | 0.2372941 | 1.0015751 | 0.316549 | 0.867129 |
| rgpl | 276.987119 | 0.061818214 | 0.1394568 | 0.4432784 | 0.657564 | 0.96252 |
| ak4 | 645.0252541 | -0.036742372 | 0.0961257 | -0.382233 | 0.702289 | 0.968134 |
| rras | 603.645735 | -0.167179551 | 0.1019301 | -1.640139 | 0.100976 | 0.604004 |
| irf4a | 4.272475133 | -0.195838938 | 0.9343848 | -0.209591 | 0.833987 | NA |
| nlk1 | 1582.710443 | 0.051577151 | 0.0758196 | 0.6802617 | 0.496339 | 0.932415 |
| dus4l | 94.20559064 | 0.019559993 | 0.2091078 | 0.0935402 | 0.925474 | 0.992676 |
| kcnmb2 | 23.49231658 | 0.032636729 | 0.4414577 | 0.0739295 | 0.941067 | 0.992857 |
| nadka | 18.35575191 | -0.21905312 | 0.4855097 | -0.451182 | 0.651859 | 0.960708 |
| clnd | 4.552851705 | -0.30246027 | 0.8915766 | -0.339242 | 0.734427 | NA |
| phf8 | 1022.58731 | 0.010779435 | 0.084761 | 0.1271745 | 0.898802 | 0.990121 |
| DMWD | 27.04716774 | -0.28161997 | 0.3753379 | -0.75031 | 0.453068 | 0.919811 |
| zgc:111983 | 2747.823718 | 0.320640935 | 0.1909021 | 1.6796096 | 0.093033 | 0.580695 |
| sgk2b | 320.2919371 | 0.338535508 | 0.1320811 | 2.5630875 | 0.010375 | 0.17519 |
| lsm14aa | 703.7356155 | -0.035178983 | 0.0972031 | -0.361912 | 0.717418 | 0.96909 |
| kaznb | 219.7611419 | -0.006620184 | 0.1494824 | -0.044287 | 0.964675 | 0.996004 |
| chrna2a | 46.46349634 | 0.151123041 | 0.3036332 | 0.4977158 | 0.618684 | 0.957354 |
| csrpla | 332.7047207 | 0.059708159 | 0.118983 | 0.5018209 | 0.615794 | 0.95688 |
| nectin3b | 148.9951157 | -0.22669946 | 0.16464 | -1.37694 | 0.168531 | 0.725919 |
| gpr27 | 342.8201108 | 0.014531074 | 0.1234807 | 0.1176789 | 0.906322 | 0.990702 |
| map2k2a | 1115.253269 | 0.032969637 | 0.0914389 | 0.3605647 | 0.718425 | 0.96909 |
| hnflba | 411.9210575 | -0.481554774 | 0.1276667 | -3.771969 | 0.000162 | 0.00723 |
| napga | 554.834718 | -0.070386046 | 0.1005896 | -0.699735 | 0.484093 | 0.929461 |
| pspc1 | 753.4191739 | -0.091221212 | 0.0897982 | -1.015846 | 0.309703 | 0.86172 |
| ppp2r2ab | 1019.630046 | 0.121631867 | 0.094525 | 1.2867692 | 0.198175 | 0.76333 |
| slitrk2 | 265.3169652 | -0.012171886 | 0.1468151 | -0.082906 | 0.933926 | 0.992702 |
| lnpk | 375.7316698 | -0.03564496 | 0.1184512 | -0.300925 | 0.763472 | 0.975374 |
| eomesa | 396.9979976 | -0.188824669 | 0.1163911 | -1.622329 | 0.104733 | 0.612652 |
| drg2 | 458.0409451 | -0.040045533 | 0.110942 | -0.360959 | 0.71813 | 0.96909 |
| bud13 | 241.4643905 | -0.070007706 | 0.1384186 | -0.505768 | 0.61302 | 0.95688 |
| fam49a | 503.4503518 | -0.183562959 | 0.1262184 | -1.454328 | 0.145855 | 0.691641 |
| ripk1l | 39.30113542 | 0.180856561 | 0.3116564 | 0.5803075 | 0.561707 | 0.948728 |
| pth2r | 19.32556115 | -0.002884734 | 0.4506789 | -0.006401 | 0.994893 | 0.998694 |
| arhgef6 | 437.2338173 | -0.036561509 | 0.1088406 | -0.335918 | 0.736933 | 0.972535 |
| rpl12 | 17308.03098 | -0.414720974 | 0.0786846 | -5.270678 | 1.36E-07 | 1.82E-05 |
| wipf2b | 651.1523377 | -0.111252231 | 0.0987882 | -1.126169 | 0.260094 | 0.828288 |
| specc1la | 785.0583491 | -0.00880547 | 0.0896923 | -0.098174 | 0.921794 | 0.992138 |
| tmem178b | 561.9277918 | 0.027414919 | 0.1115233 | 0.2458222 | 0.80582 | 0.979908 |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| mllt3 | 330.3099598 | 0.140524133 | 0.1311709 | 1.0713056 | 0.284032 | 0.844697 |
| klh141b | 1095.106387 | 0.124793124 | 0.1126857 | 1.1074441 | 0.268102 | 0.833343 |
| fam234b | 523.4265908 | 0.012475769 | 0.1059957 | 0.1177007 | 0.906305 | 0.990702 |
| slc24a3 | 60.24628482 | 0.312542593 | 0.2605944 | 1.1993451 | 0.230394 | 0.798424 |
| snd1 | 3590.783254 | -0.149212565 | 0.07865 | -1.897172 | 0.057805 | 0.471676 |
| elov14a | 142.644092 | 0.006728665 | 0.1676055 | 0.0401459 | 0.967977 | 0.996315 |
| cass4 | 22.70800178 | 0.355901001 | 0.4153443 | 0.8568819 | 0.39151 | 0.897688 |
| rb1 | 489.1686445 | 0.065341294 | 0.1053391 | 0.6202947 | 0.535064 | 0.943336 |
| copz2 | 740.0224563 | 0.058063258 | 0.095677 | 0.6068674 | 0.543939 | 0.945438 |
| arntl1a | 608.6353475 | -0.133692302 | 0.0960324 | -1.392159 | 0.163874 | 0.71945 |
| nt5dc1 | 140.7228392 | 0.020187699 | 0.1823781 | 0.1106915 | 0.911861 | 0.991066 |
| sult1st6 | 123.9905369 | -0.146640079 | 0.1809584 | -0.810352 | 0.417738 | 0.906237 |
| wdr26b | 1400.205911 | -0.089056229 | 0.0798958 | -1.114654 | 0.264999 | 0.830836 |
| gtf2f2b | 0.349228403 | 0.005884014 | 3.2372587 | 0.0018176 | 0.99855 | NA |
| urod | 165.3844148 | 0.183734175 | 0.1687611 | 1.0887233 | 0.276276 | 0.839541 |
| galnt9 | 781.8181277 | 0.059623849 | 0.1006146 | 0.5925966 | 0.553451 | 0.947265 |
| mycn | 2130.824851 | 0.972317845 | 0.0784082 | 12.400723 | 2.59E-35 | 1.28E-31 |
| eef1a2 | 38.39117075 | 0.163036187 | 0.3307921 | 0.4928661 | 0.622107 | 0.957354 |
| gnmt | 756.0963196 | 0.095812043 | 0.0988164 | 0.9695962 | 0.332248 | 0.874653 |
| parp9 | 203.0340818 | -0.248839256 | 0.1490026 | -1.670033 | 0.094913 | 0.585587 |
| asic2 | 113.5039116 | 0.032438126 | 0.1980058 | 0.1638241 | 0.86987 | 0.987395 |
| nkain1 | 690.0975091 | -0.089583971 | 0.0944732 | -0.948248 | 0.343003 | 0.878434 |
| kifap3b | 1115.615611 | -0.009575813 | 0.0900913 | -0.10629 | 0.915352 | 0.991171 |
| si:ch1073-349o24.2 | 69.46429725 | 0.422675622 | 0.2492755 | 1.6956166 | 0.089959 | 0.57419 |
| glra4a | 251.0425727 | 0.227141041 | 0.141479 | 1.605475 | 0.108389 | 0.620165 |
| trh | 148.4996028 | 0.322493589 | 0.1737838 | 1.8557177 | 0.063494 | 0.49217 |
| stx17 | 71.17957387 | -0.289000258 | 0.2306691 | -1.252878 | 0.21025 | 0.778043 |
| enpp4 | 1.292891743 | 2.681696034 | 1.8542769 | 1.446222 | 0.148115 | NA |
| phf21aa | 587.6640791 | -0.04257693 | 0.1153096 | -0.36924 | 0.711949 | 0.969006 |
| mpped2a | 925.7492766 | -0.064650665 | 0.0894454 | -0.722794 | 0.469806 | 0.924741 |
| kcns3a | 125.7880363 | 0.364804271 | 0.1988532 | 1.8345408 | 0.066574 | 0.504929 |
| myo3b | 177.0397844 | 0.206292904 | 0.1694318 | 1.2175575 | 0.223392 | 0.789519 |
| oprk1 | 12.44576503 | 0.542877233 | 0.5627675 | 0.9646563 | 0.334717 | 0.875699 |
| lhx6 | 242.5528803 | -0.069955846 | 0.134798 | -0.518968 | 0.603783 | 0.956207 |
| far1 | 203.2601759 | 0.049293088 | 0.1542931 | 0.3194769 | 0.749365 | 0.97419 |
| impdh2 | 751.4952161 | 0.072014213 | 0.0943767 | 0.7630508 | 0.445433 | 0.917117 |
| si:ch1073-459j12.1 | 806.8669291 | 0.219350895 | 0.1027137 | 2.1355563 | 0.032716 | 0.352352 |
| wnt8b | 54.85333849 | -0.174322399 | 0.2710744 | -0.64308 | 0.520172 | 0.939056 |
| arl8ba | 579.3598032 | -0.121548217 | 0.1145009 | -1.061548 | 0.288441 | 0.845979 |
| lrp5 | 1240.342293 | -0.061409945 | 0.0854965 | -0.718274 | 0.472588 | 0.924838 |
| cacnalab | 79.57386197 | 0.2004276 | 0.2284438 | 0.8773605 | 0.380291 | 0.895192 |
| fbxo38 | 416.4018174 | -0.015925662 | 0.1152523 | -0.138181 | 0.890097 | 0.989291 |
| tbx16l | 4.477879896 | -0.543281226 | 0.8943932 | -0.60743 | 0.543566 | NA |
| gdpd3b | 55.71316196 | -0.760155637 | 0.2833865 | -2.682399 | 0.00731 | 0.134958 |
| csell | 1606.009489 | 0.070378067 | 0.0770832 | 0.9130143 | 0.361235 | 0.885686 |
| zak | 25.67069769 | -0.21996413 | 0.4090918 | -0.537689 | 0.590792 | 0.954193 |
| ccdc113 | 14.56857614 | 0.191006562 | 0.5014414 | 0.380915 | 0.703266 | 0.968134 |
| celf3b | 657.7707934 | 0.045338154 | 0.0969639 | 0.4675779 | 0.640087 | 0.959994 |
| creld1b | 321.7409957 | 0.012231682 | 0.1397382 | 0.0875328 | 0.930248 | 0.992702 |
| hoxa11b | 85.25744094 | -0.029050441 | 0.2131165 | -0.136313 | 0.891574 | 0.989291 |
| ms4a17a.6 | 4.621741319 | -0.211505468 | 0.8690414 | -0.243378 | 0.807713 | NA |
| uox | 916.8109836 | 0.402994464 | 0.0929044 | 4.3377349 | 1.44E-05 | 0.000972 |
| ttc9c | 77.29777694 | -0.262284942 | 0.2325177 | -1.128021 | 0.259311 | 0.827577 |
| hnrpk1 | 1563.721033 | 0.082265351 | 0.0809122 | 1.0167232 | 0.309285 | 0.861381 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| tmigd1 | 21.68657553 | -1.010167047 | 0.4398489 | -2.296623 | 0.02164 | 0.278385 |
| cnot4a | 388.7919095 | -0.034858715 | 0.1263226 | -0.27595 | 0.782587 | 0.97627 |
| mrps18b | 293.146816 | 0.099138729 | 0.1272308 | 0.7792038 | 0.43586 | 0.914408 |
| si:dkey-19a16.16 | 0 NA | NA | NA | NA | NA | NA |
| ankrd501 | 280.2217057 | 0.221121349 | 0.1545878 | 1.4303935 | 0.152604 | 0.701776 |
| rhcgl1 | 227.3036038 | 0.945229799 | 0.1882643 | 5.0207608 | 5.15E-07 | 5.78E-05 |
| pias4a | 1145.313722 | 0.069926916 | 0.0810083 | 0.8632066 | 0.388024 | 0.896144 |
| aqp10a | 20.80455487 | 0.816563496 | 0.443574 | 1.8408731 | 0.06564 | 0.500566 |
| xab2 | 500.2886875 | -0.175064264 | 0.117922 | -1.484577 | 0.137656 | 0.675209 |
| her13 | 95.91855796 | 0.023950059 | 0.2120953 | 0.1129212 | 0.910093 | 0.990702 |
| itm2ba | 3893.418513 | 0.032571415 | 0.0721681 | 0.4513271 | 0.651754 | 0.960708 |
| cx43.4 | 953.3706508 | 0.038397304 | 0.0919298 | 0.4176808 | 0.67618 | 0.965257 |
| lipia | 233.7116207 | -0.150406151 | 0.1420585 | -1.058762 | 0.289708 | 0.846246 |
| asb6 | 125.7708345 | -0.061668123 | 0.1773393 | -0.347741 | 0.728035 | 0.970402 |
| acat2 | 493.714183 | -0.811775629 | 0.1288669 | -6.299332 | 2.99E-10 | 6.57E-08 |
| slc6a16a | 75.55652013 | 0.294045053 | 0.2337001 | 1.2582153 | 0.208314 | 0.775404 |
| mrto4 | 187.0989118 | 0.123357923 | 0.1597666 | 0.7721135 | 0.440047 | 0.916082 |
| cnot3a | 1032.299694 | 0.010009217 | 0.0848088 | 0.118021 | 0.906051 | 0.990702 |
| gtf2h4 | 118.953651 | 0.241536965 | 0.1925467 | 1.2544329 | 0.209685 | 0.777044 |
| psmc3 | 3358.260306 | 0.015198262 | 0.0774732 | 0.1961746 | 0.844474 | 0.985174 |
| llcama | 418.3806976 | 0.032463709 | 0.1277947 | 0.2540302 | 0.799472 | 0.979366 |
| kcnk2b | 15.44270366 | 0.031028487 | 0.486636 | 0.0637612 | 0.94916 | 0.99381 |
| itgblbp1 | 396.9378821 | -0.020503952 | 0.1194151 | -0.171703 | 0.863671 | 0.985952 |
| aigl | 185.3387701 | -0.194530271 | 0.1674945 | -1.161413 | 0.245474 | 0.815388 |
| plxna3 | 578.7140999 | -0.062526421 | 0.1060165 | -0.58978 | 0.555338 | 0.947452 |
| recq1 | 239.2967951 | -0.037680919 | 0.145465 | -0.259038 | 0.795606 | 0.978498 |
| sash1a | 736.9283012 | -0.324648949 | 0.0906487 | -3.581399 | 0.000342 | 0.013122 |
| slc30a4 | 357.824557 | -0.18510561 | 0.1395215 | -1.326717 | 0.184602 | 0.747376 |
| nadk2 | 275.155108 | -0.128777197 | 0.1335154 | -0.964512 | 0.334789 | 0.875699 |
| zbtb16a | 763.9870208 | -0.23080381 | 0.091098 | -2.533578 | 0.01129 | 0.184823 |
| ppplr8a | 59.20336127 | -0.193479904 | 0.2498887 | -0.774264 | 0.438775 | 0.915997 |
| grm2b | 857.6923152 | 0.1158302 | 0.0918971 | 1.2604337 | 0.207513 | 0.775175 |
| rael | 762.5264825 | 0.018861581 | 0.0928738 | 0.2030883 | 0.839066 | 0.984979 |
| mtal | 510.3977462 | -0.105528359 | 0.1072672 | -0.983789 | 0.325219 | 0.871629 |
| CR846090.1 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| cnpy2 | 270.6971015 | 0.188110217 | 0.1351512 | 1.39185 | 0.163968 | 0.71945 |
| abcel | 2658.013137 | -0.018402448 | 0.0771692 | -0.238469 | 0.811517 | 0.981081 |
| wdr55 | 140.0990577 | 0.228151182 | 0.1691164 | 1.3490776 | 0.177312 | 0.738201 |
| actn1 | 1438.413122 | 0.111293306 | 0.0814404 | 1.3665618 | 0.171763 | 0.730416 |
| ncamlb | 573.5755885 | 0.037191425 | 0.1023769 | 0.3632795 | 0.716396 | 0.96909 |
| pbk | 307.7011987 | -0.246691043 | 0.1266233 | -1.948228 | 0.051388 | 0.444245 |
| ryk | 644.8089374 | 0.140777633 | 0.0988256 | 1.4245053 | 0.1543 | 0.70398 |
| mycb | 589.1991125 | 0.115278171 | 0.1058675 | 1.0888906 | 0.276202 | 0.839541 |
| acp2 | 456.4773856 | -0.071911866 | 0.1219005 | -0.589923 | 0.555243 | 0.947449 |
| rundc3aa | 37.82043399 | 0.362617613 | 0.3266962 | 1.1099535 | 0.267019 | 0.833191 |
| ric8a | 582.9493911 | 0.105265633 | 0.101268 | 1.0394762 | 0.298583 | 0.854441 |
| usel | 416.9958231 | -0.023680582 | 0.1194976 | -0.198168 | 0.842914 | 0.985174 |
| rab5ab | 461.0957272 | -0.102666814 | 0.107567 | -0.954445 | 0.339858 | 0.87805 |
| nipsnap2 | 570.2036172 | 0.072713014 | 0.1092634 | 0.6654837 | 0.505741 | 0.935724 |
| mynn | 484.4084503 | -0.03648875 | 0.1093592 | -0.33366 | 0.738636 | 0.972722 |
| si:ch211-251b21.1 | 8100.669951 | 0.210512137 | 0.0639694 | 3.2908231 | 0.000999 | 0.030961 |
| ela3l | 132.7559563 | -0.721788767 | 0.2137083 | -3.377448 | 0.000732 | 0.023992 |
| myf5 | 39.568704 | -0.176763308 | 0.3111251 | -0.568142 | 0.569938 | 0.948983 |
| ect2 | 326.2303885 | -0.09764471 | 0.1249383 | -0.781543 | 0.434483 | 0.914278 |

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|-----------|-------------|--------------|-----------|-----------|----------|----------|
| yipf5 | 622.391728 | 0.132045004 | 0.1082414 | 1.2199125 | 0.222498 | 0.788748 |
| mrpl57 | 450.6635387 | -0.033281824 | 0.1115504 | -0.298357 | 0.765431 | 0.975374 |
| metrnlb | 36.93258875 | -0.086238575 | 0.3139839 | -0.274659 | 0.783578 | 0.97627 |
| aco2 | 9423.54146 | 0.088104541 | 0.0635651 | 1.3860514 | 0.165731 | 0.721576 |
| sh3gl3b | 190.3223862 | -0.621032914 | 0.1522351 | -4.079434 | 4.51E-05 | 0.002487 |
| tmpoa | 437.8220793 | -0.135285765 | 0.12313 | -1.098723 | 0.271889 | 0.836816 |
| rpl7 | 21923.34914 | -0.362203619 | 0.0906812 | -3.994252 | 6.49E-05 | 0.0034 |
| chmp4bb | 1197.679138 | -0.12172215 | 0.0840681 | -1.447899 | 0.147645 | 0.694905 |
| tbx16 | 6.739927876 | 0.503079728 | 0.7582505 | 0.6634743 | 0.507027 | NA |
| tcap | 427.548985 | -0.367166687 | 0.157901 | -2.325297 | 0.020056 | 0.266383 |
| degs1 | 823.2495079 | 0.078309614 | 0.0994604 | 0.787345 | 0.43108 | 0.91234 |
| dmrt1 | 3.640076028 | -1.146635083 | 1.0659907 | -1.075652 | 0.282083 | NA |
| fgf20a | 67.56214406 | -0.034904258 | 0.2372009 | -0.147151 | 0.883013 | 0.988659 |
| cxcr3.1 | 2.665287728 | -1.125376781 | 1.1680178 | -0.963493 | 0.3353 | NA |
| UBL4A | 256.3053814 | -0.047895112 | 0.1365628 | -0.350719 | 0.7258 | 0.970402 |
| sft2d1 | 504.62287 | 0.004844884 | 0.107449 | 0.0450901 | 0.964036 | 0.995927 |
| AMDHD1 | 68.6935162 | -0.11671258 | 0.2436676 | -0.478983 | 0.631951 | 0.957356 |
| tcf7l1b | 593.1851087 | -0.099819692 | 0.1263383 | -0.790099 | 0.42947 | 0.911489 |
| dysf | 282.830811 | 0.040572501 | 0.147569 | 0.2749393 | 0.783363 | 0.97627 |
| slc26a3.1 | 0.839019598 | -0.671793185 | 2.356059 | -0.285134 | 0.775541 | NA |
| odc1 | 3797.657058 | 0.226022798 | 0.0933474 | 2.4213084 | 0.015465 | 0.228575 |
| ubtdla | 252.0472854 | 0.341654907 | 0.1353947 | 2.5233985 | 0.011623 | 0.189002 |
| kenk6 | 275.777184 | -0.168657025 | 0.1568575 | -1.075224 | 0.282274 | 0.843666 |
| cct7 | 5680.448834 | -0.058053623 | 0.1001923 | -0.579422 | 0.562304 | 0.948728 |
| irf2a | 238.7295902 | 0.009635834 | 0.13669 | 0.0704941 | 0.9438 | 0.993364 |
| rnd3b | 172.7219373 | 0.131291456 | 0.1581714 | 0.8300582 | 0.406506 | 0.901305 |
| lrrk1 | 16.84437373 | 0.064144893 | 0.4604787 | 0.1393005 | 0.889213 | 0.989291 |
| strap | 1052.445045 | -0.058012851 | 0.0894585 | -0.648489 | 0.516669 | 0.938543 |
| phox2a | 444.8420847 | -0.248563394 | 0.1145944 | -2.16907 | 0.030077 | 0.335259 |
| barx1 | 296.2612607 | -0.168173267 | 0.1265989 | -1.328395 | 0.184048 | 0.747376 |
| ppifa | 106.8455371 | -0.16456251 | 0.201664 | -0.816023 | 0.414487 | 0.906237 |
| slc2a1b | 255.3773369 | -0.168261245 | 0.1568398 | -1.072822 | 0.283351 | 0.84466 |
| arid2 | 1048.556434 | -0.008383775 | 0.0984835 | -0.085129 | 0.932159 | 0.992702 |
| chmp4c | 90.96099354 | 0.097200608 | 0.2116655 | 0.4592179 | 0.646078 | 0.96029 |
| ftcd | 599.8366698 | 0.043236963 | 0.1117534 | 0.3868963 | 0.698833 | 0.967998 |
| apoll | 114.3368435 | -0.248202104 | 0.1976611 | -1.255695 | 0.209227 | 0.776073 |
| ndor1 | 225.4285823 | 0.041132059 | 0.1441769 | 0.2852888 | 0.775423 | 0.975687 |
| prdm12b | 367.6373378 | 0.066078003 | 0.1177684 | 0.5610843 | 0.57474 | 0.950037 |
| avpr2aa | 36.80254798 | -0.153661374 | 0.3226378 | -0.476266 | 0.633885 | 0.95776 |
| ube2ib | 2044.699411 | -0.091468814 | 0.0855804 | -1.068805 | 0.285157 | 0.845129 |
| fbx118 | 110.0837487 | -0.041809196 | 0.2093375 | -0.199721 | 0.841698 | 0.985174 |
| ift81 | 73.32075891 | -0.202938653 | 0.2341354 | -0.866758 | 0.386075 | 0.89551 |
| slc25a39 | 523.2792199 | 0.048500941 | 0.1064017 | 0.4558285 | 0.648513 | 0.960708 |
| srgap1a | 49.10452111 | 0.212442167 | 0.285784 | 0.7433662 | 0.45726 | 0.921679 |
| tdrd1 | 26.2448842 | -0.066970736 | 0.381707 | -0.175451 | 0.860726 | 0.985773 |
| ifit10 | 5.462608657 | -0.826996813 | 0.8225468 | -1.00541 | 0.314699 | NA |
| fbxo8 | 238.7632575 | 0.306610305 | 0.1438763 | 2.1310685 | 0.033084 | 0.354192 |
| rpe65a | 3202.571386 | -0.151647976 | 0.1097589 | -1.381647 | 0.16708 | 0.723651 |
| epc2 | 541.8843625 | -0.140217968 | 0.1098348 | -1.276626 | 0.201734 | 0.767736 |
| adrb1 | 19.21627181 | -0.1997051 | 0.4270132 | -0.467679 | 0.640014 | 0.959994 |
| st3gal8 | 161.4323228 | 0.179271721 | 0.1824413 | 0.9826267 | 0.325791 | 0.871896 |
| uf11 | 616.1083569 | -0.151721328 | 0.0958999 | -1.58208 | 0.113631 | 0.631874 |
| kmt2e | 1641.760292 | -0.156173485 | 0.0995061 | -1.569487 | 0.116534 | 0.639148 |
| ndufs2 | 3937.723237 | 0.076646641 | 0.0749362 | 1.022825 | 0.306391 | 0.860027 |

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| zcchc9 | 160.4517549 | 0.1699508 | 0.1581134 | 1.0748662 | 0.282435 | 0.843666 |
| itln1 | 3.459158892 | 0.170002151 | 1.0220201 | 0.1663393 | 0.86789 | NA |
| opn4.1 | 500.9303093 | 0.179359494 | 0.1305557 | 1.3738161 | 0.169499 | 0.726744 |
| sema3b1 | 157.4549576 | 0.057588828 | 0.1696999 | 0.3393569 | 0.734341 | 0.972021 |
| cdh23 | 9.555134028 | -1.278876097 | 0.6802839 | -1.879915 | 0.06012 | NA |
| appbp2 | 818.2911587 | 0.090944703 | 0.0919102 | 0.9894949 | 0.322421 | 0.870226 |
| crybb111 | 30709.61321 | -0.125949877 | 0.0788796 | -1.596735 | 0.110325 | 0.624637 |
| si:ch1073-155h21.1 | 7.164081389 | -0.039148791 | 0.7430108 | -0.052689 | 0.957979 | NA |
| bloc1s4 | 160.9983117 | -0.097562688 | 0.1636449 | -0.596185 | 0.551051 | 0.946549 |
| zmynd8 | 328.2005596 | 0.127504001 | 0.1227248 | 1.0389423 | 0.298832 | 0.85478 |
| stxbp2 | 589.8654677 | -0.132594908 | 0.1009942 | -1.312897 | 0.189218 | 0.753954 |
| wwox | 153.8753649 | -0.209076548 | 0.1671366 | -1.250932 | 0.210959 | 0.778412 |
| gins1 | 127.9310959 | -0.020591645 | 0.1810058 | -0.113762 | 0.909426 | 0.990702 |
| mkrn2 | 417.1198203 | -0.102583462 | 0.1112741 | -0.921899 | 0.356581 | 0.883422 |
| cnot4b | 457.6253509 | 0.075060645 | 0.1130571 | 0.663918 | 0.506743 | 0.935734 |
| nsfa | 4446.62419 | 0.072720804 | 0.0720162 | 1.0097839 | 0.312599 | 0.864642 |
| crybb113 | 122.6192105 | -0.017071636 | 0.1923354 | -0.08876 | 0.929273 | 0.992702 |
| ccnh | 109.4951022 | -0.080892824 | 0.1943294 | -0.416266 | 0.677215 | 0.965257 |
| amph | 2660.231448 | 0.05899996 | 0.0743853 | 0.7931674 | 0.42768 | 0.91075 |
| ghrb | 321.7007615 | 0.091503502 | 0.1240726 | 0.7374994 | 0.460819 | 0.921978 |
| ttyh3b | 3719.469383 | 0.085365313 | 0.069974 | 1.2199579 | 0.222481 | 0.788748 |
| ppdpfa | 1893.008582 | 0.140991128 | 0.093217 | 1.5125038 | 0.130406 | 0.662797 |
| cullb | 632.2025832 | -0.228584505 | 0.0959228 | -2.383004 | 0.017172 | 0.242176 |
| nfkbiab | 1361.571687 | -0.412441822 | 0.1002138 | -4.115621 | 3.86E-05 | 0.002188 |
| fabp7a | 11931.62973 | 0.053412179 | 0.065513 | 0.8152915 | 0.414906 | 0.906237 |
| nsa2 | 3951.24262 | -0.397104342 | 0.091976 | -4.317477 | 1.58E-05 | 0.001037 |
| adamts8a | 60.24414993 | 0.222404166 | 0.2537315 | 0.8765336 | 0.38074 | 0.895192 |
| rab3i11 | 141.5870594 | -0.104519961 | 0.1717004 | -0.608735 | 0.5427 | 0.944974 |
| lgsn | 1894.001707 | 0.186667591 | 0.0759956 | 2.4562949 | 0.014038 | 0.214185 |
| sub1b | 571.7184647 | -0.08300847 | 0.1099224 | -0.755155 | 0.450156 | 0.918761 |
| nudt8 | 135.0305915 | 0.020450911 | 0.1703274 | 0.1200683 | 0.904429 | 0.99032 |
| efnbl | 176.3694374 | 0.241573349 | 0.1572968 | 1.5357804 | 0.124592 | 0.653845 |
| rgl2 | 30.7308749 | -0.381328496 | 0.3430096 | -1.111714 | 0.266261 | 0.832419 |
| stn1 | 89.68809231 | -0.13556973 | 0.2171093 | -0.624431 | 0.532345 | 0.942651 |
| zygl1 | 683.2049652 | 0.120393043 | 0.0933253 | 1.2900367 | 0.197038 | 0.761944 |
| atplala.2 | 3077.397451 | -0.021490017 | 0.094138 | -0.228282 | 0.819427 | 0.981594 |
| ill151 | 20.4824893 | -0.161944965 | 0.4276664 | -0.378671 | 0.704932 | 0.968134 |
| tsr1 | 1048.244596 | -0.099284799 | 0.0910162 | -1.090847 | 0.27534 | 0.839541 |
| uqcrfs1 | 4121.122388 | 0.006841077 | 0.0717631 | 0.0953286 | 0.924054 | 0.992676 |
| lmn13 | 91.8246231 | -0.002252514 | 0.2065637 | -0.010905 | 0.991299 | 0.997679 |
| cpne2 | 596.9169579 | -0.040693708 | 0.1038382 | -0.391895 | 0.695136 | 0.96736 |
| wdr61 | 363.5702998 | 0.085980123 | 0.1270708 | 0.6766316 | 0.49864 | 0.934006 |
| spg21 | 251.4055573 | 0.101661086 | 0.1414765 | 0.7185723 | 0.472404 | 0.924838 |
| klhdc10 | 542.4945921 | 0.004587929 | 0.1030787 | 0.044509 | 0.964499 | 0.995927 |
| sult5a1 | 22.72197104 | -0.360910393 | 0.4046026 | -0.892012 | 0.372386 | 0.892843 |
| vash2 | 592.5749792 | -0.319516756 | 0.1033488 | -3.091636 | 0.001991 | 0.053335 |
| blk | 3.808222402 | -0.886825723 | 1.0837986 | -0.818257 | 0.413211 | NA |
| tmx2b | 1298.694265 | 0.038566917 | 0.0786029 | 0.4906549 | 0.623671 | 0.957354 |
| zgc:l12965 | 1.727511566 | 2.104037042 | 1.7084701 | 1.2315328 | 0.218124 | NA |
| atp2blb | 1230.644855 | 0.086780355 | 0.1005086 | 0.8634121 | 0.387911 | 0.896133 |
| ppp2r1ba | 4952.986846 | -0.001013219 | 0.0677105 | -0.014964 | 0.988061 | 0.997369 |
| cst3 | 2579.653545 | -0.02314166 | 0.0734242 | -0.315177 | 0.752627 | 0.97481 |
| gas6 | 396.895015 | 0.10429034 | 0.1216465 | 0.8573227 | 0.391267 | 0.897688 |
| cyth3a | 347.4285183 | 0.105876223 | 0.1168698 | 0.9059328 | 0.364971 | 0.886714 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| zdhhc16a | 377.9411398 | 0.048588045 | 0.1184984 | 0.4100313 | 0.681783 | 0.965476 |
| sp3b | 884.5663964 | -0.064067106 | 0.094504 | -0.67793 | 0.497816 | 0.933482 |
| rnpepl1 | 294.0498863 | 0.036672303 | 0.1346882 | 0.2722755 | 0.78541 | 0.97627 |
| palmlb | 1863.574786 | 0.127597804 | 0.0763934 | 1.6702728 | 0.094865 | 0.585477 |
| atf3 | 819.8448444 | 0.286502667 | 0.1161702 | 2.4662322 | 0.013654 | 0.20979 |
| camtalb | 1665.202168 | 0.028354854 | 0.0788621 | 0.3595497 | 0.719184 | 0.969183 |
| map2kl | 947.1321485 | 0.152751472 | 0.0863831 | 1.7683023 | 0.07701 | 0.540058 |
| ctsla | 17394.22345 | 0.284580663 | 0.0782446 | 3.637065 | 0.000276 | 0.011106 |
| MCHR2 (1 of many) | 12.74084292 | -0.421911399 | 0.5607783 | -0.752368 | 0.45183 | 0.918761 |
| rtn4rll1a | 9.5932182 | -0.718600694 | 0.6379388 | -1.126441 | 0.259979 | NA |
| tra2a | 1628.934481 | -0.081855454 | 0.0810262 | -1.010234 | 0.312383 | 0.864401 |
| pimr195 | 0 | NA | NA | NA | NA | NA |
| dazap2 | 2686.62247 | -0.075763514 | 0.0709351 | -1.068069 | 0.28549 | 0.845164 |
| ehd3 | 21.06494903 | 0.405812782 | 0.4403468 | 0.9215754 | 0.35675 | 0.883422 |
| fanc1 | 16.84381509 | 0.50919413 | 0.4666962 | 1.0910613 | 0.275246 | 0.839541 |
| slc35b2 | 305.8638273 | -0.18998375 | 0.1279991 | -1.484259 | 0.13774 | 0.675209 |
| meox1 | 212.1134795 | -0.136765419 | 0.1468311 | -0.931447 | 0.351622 | 0.880769 |
| pdcd2 | 32.76028341 | -0.536678227 | 0.3550452 | -1.511577 | 0.130641 | 0.662797 |
| crnk11 | 445.8118757 | -0.023895211 | 0.1150569 | -0.207682 | 0.835478 | 0.984089 |
| lrp2b | 60.00960839 | -2.926418003 | 0.3302418 | -8.861439 | 7.90E-19 | 6.01E-16 |
| si:ch211-196i2.1 | 624.6035421 | 0.319727356 | 0.1026179 | 3.1157089 | 0.001835 | 0.050201 |
| xpnpep3 | 272.0718139 | -0.059272544 | 0.1344349 | -0.440901 | 0.659284 | 0.962839 |
| ttc27 | 491.8081952 | -0.039201004 | 0.1082908 | -0.361997 | 0.717354 | 0.96909 |
| ptpn1 | 709.0535964 | 0.039708486 | 0.0956558 | 0.4151186 | 0.678055 | 0.965257 |
| hmx4 | 371.9510555 | 0.097793271 | 0.1250175 | 0.7822367 | 0.434075 | 0.914001 |
| gabpb2a | 390.6634382 | -0.044050953 | 0.1189187 | -0.370429 | 0.711063 | 0.968985 |
| lhx1b | 127.4261214 | 0.064754586 | 0.1854608 | 0.3491551 | 0.726973 | 0.970402 |
| itgallb | 27.10516861 | -0.1930393 | 0.3638085 | -0.530607 | 0.595691 | 0.954434 |
| iars | 1147.932881 | -0.077680686 | 0.1023261 | -0.759149 | 0.447764 | 0.917154 |
| hibadhb | 1467.010252 | 0.074418583 | 0.0851649 | 0.8738173 | 0.382218 | 0.895192 |
| hnrnpaba | 14118.50802 | -0.088873508 | 0.0707215 | -1.25667 | 0.208873 | 0.776073 |
| ckslb | 238.8054091 | 0.178494901 | 0.1423218 | 1.2541638 | 0.209782 | 0.77726 |
| fth1b | 586.3795822 | -0.136098623 | 0.0991282 | -1.372955 | 0.169766 | 0.726965 |
| si:ch211-220f16.2 | 329.076335 | -0.016966903 | 0.1291598 | -0.131364 | 0.895488 | 0.989814 |
| onecut1 | 80.17984846 | -0.04741022 | 0.2343907 | -0.20227 | 0.839706 | 0.984979 |
| masp2 | 150.191159 | 0.047171644 | 0.1778965 | 0.2651634 | 0.790884 | 0.977402 |
| nedd8 | 694.418251 | 0.007596964 | 0.1069245 | 0.0710498 | 0.943358 | 0.993364 |
| wtlb | 26.63191858 | -0.30688994 | 0.3669666 | -0.836289 | 0.402993 | 0.90084 |
| pou2flb | 218.1371432 | 0.04612418 | 0.1456103 | 0.3167645 | 0.751422 | 0.97419 |
| zgc:194189 | 13.5644973 | -0.592630444 | 0.5410046 | -1.095426 | 0.27333 | 0.838214 |
| nudt17 | 278.3581481 | -0.250667485 | 0.1325431 | -1.891215 | 0.058596 | 0.473924 |
| mxg | 2.299317655 | 0.341892505 | 1.3878956 | 0.2463388 | 0.80542 | NA |
| med31 | 275.6864082 | -0.017061013 | 0.1301862 | -0.131051 | 0.895735 | 0.989814 |
| kif18a | 193.2071315 | -0.042639673 | 0.1500936 | -0.284087 | 0.776344 | 0.975826 |
| fam129bb | 384.4979378 | -0.174448777 | 0.1247543 | -1.398339 | 0.162011 | 0.716531 |
| mepla.2 | 14.01425296 | -1.497971949 | 0.5432484 | -2.757435 | 0.005826 | 0.114852 |
| myl9b | 1188.12115 | 0.167874541 | 0.0888098 | 1.8902709 | 0.058722 | 0.474103 |
| sart3 | 1291.415545 | 0.0081961 | 0.0805349 | 0.1017707 | 0.918939 | 0.991623 |
| skib | 813.7803005 | 0.079322427 | 0.0942842 | 0.8413121 | 0.400173 | 0.90084 |
| si:dkey-42i9.4 | 1656.865434 | -0.486920204 | 0.2505658 | -1.943283 | 0.051982 | 0.447688 |
| scara3 | 110.5919207 | 0.087988084 | 0.1876926 | 0.4687882 | 0.639221 | 0.959994 |
| tma16 | 245.6753127 | 0.058607191 | 0.137977 | 0.4247606 | 0.671011 | 0.965257 |
| illr4 | 4.398787045 | -0.130072405 | 0.9865019 | -0.131852 | 0.895101 | NA |
| olfcd1 | 1.013460044 | -2.21473548 | 2.0108742 | -1.101379 | 0.270732 | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| srsf9 | 966.2116597 | -0.084130215 | 0.0845655 | -0.994852 | 0.319808 | 0.86809 |
| ifit9 | 1.205810811 | 1.348074313 | 1.7970906 | 0.7501427 | 0.453169 | NA |
| slc7a10a | 728.7442625 | 0.237975927 | 0.1065044 | 2.2344233 | 0.025455 | 0.308994 |
| mettl2a | 209.8947153 | 0.074646175 | 0.1444029 | 0.5169298 | 0.605205 | 0.95651 |
| src | 78.27424237 | 0.342073643 | 0.2285006 | 1.497036 | 0.134384 | 0.670529 |
| si:ch211-195d17.2 | 356.9071867 | -0.06343606 | 0.1188194 | -0.533887 | 0.59342 | 0.954434 |
| pcdh15b | 205.4742297 | -0.075808296 | 0.151377 | -0.500792 | 0.616518 | 0.95688 |
| sox1b | 574.0121329 | -0.036509975 | 0.1372359 | -0.266038 | 0.79021 | 0.977338 |
| foxl1 | 181.6341128 | -0.180786349 | 0.1628197 | -1.110347 | 0.26685 | 0.833073 |
| kcnabla | 25.70913512 | 0.241457652 | 0.3753324 | 0.6433168 | 0.520019 | 0.938995 |
| rb1l | 330.7364474 | -0.127249872 | 0.1341824 | -0.948335 | 0.342959 | 0.878434 |
| stxbp3 | 601.7996178 | -0.021643185 | 0.1044569 | -0.207197 | 0.835856 | 0.984089 |
| serinc5 | 811.7679594 | 0.096628946 | 0.0889083 | 1.0868385 | 0.277108 | 0.840549 |
| sms | 1045.262861 | 0.072035688 | 0.0965792 | 0.7458714 | 0.455745 | 0.921215 |
| btr33 | 31.61585753 | -0.230672649 | 0.3431408 | -0.672239 | 0.501432 | 0.934613 |
| caspa | 108.7940339 | 0.157827684 | 0.1955849 | 0.8069524 | 0.419694 | 0.90651 |
| dbnla | 246.5612398 | 0.024761428 | 0.1424292 | 0.1738508 | 0.861983 | 0.985841 |
| hoxbla | 11.48682009 | -0.807552524 | 0.569048 | -1.419129 | 0.155861 | 0.705963 |
| si:ch73-111e15.1 | 1.03982315 | 1.062941397 | 2.0584146 | 0.5163884 | 0.605583 | NA |
| mia3 | 904.0121165 | -0.034875541 | 0.0867065 | -0.402225 | 0.687518 | 0.966376 |
| syk | 160.9591456 | -0.025244565 | 0.1703506 | -0.148192 | 0.882191 | 0.988344 |
| sfl | 2470.284315 | 0.022414279 | 0.0915775 | 0.2447576 | 0.806644 | 0.980254 |
| tmeffla | 22.7489891 | 0.497579568 | 0.413295 | 1.2039331 | 0.228615 | 0.796028 |
| pankla | 203.8627498 | 0.333424158 | 0.1442572 | 2.311318 | 0.020815 | 0.272701 |
| ugp2b | 1002.911432 | -0.11796847 | 0.0955097 | -1.235147 | 0.216776 | 0.784252 |
| paxla | 57.95012039 | 0.54256333 | 0.2672762 | 2.0299722 | 0.042359 | 0.404449 |
| myt1la | 973.6582071 | -0.037814981 | 0.0988927 | -0.382384 | 0.702177 | 0.968134 |
| kcnk13a | 13.25701375 | 0.205789206 | 0.5549675 | 0.3708131 | 0.710777 | 0.968985 |
| znf410 | 560.9450447 | 0.058207024 | 0.1135075 | 0.5128036 | 0.608089 | 0.956718 |
| crygm4 | 1.121798001 | -0.423136943 | 1.8510039 | -0.228599 | 0.819181 | NA |
| vps35 | 2206.954535 | 0.023632325 | 0.0730227 | 0.3236298 | 0.746218 | 0.97419 |
| cog5 | 380.7173681 | 0.066593833 | 0.1251993 | 0.5319027 | 0.594793 | 0.954434 |
| sars | 2499.724712 | 0.011813639 | 0.072492 | 0.1629648 | 0.870546 | 0.987505 |
| manba | 86.47562632 | -0.327123677 | 0.2195385 | -1.490051 | 0.136211 | 0.673089 |
| mocs3 | 88.16558797 | -0.307970414 | 0.2141036 | -1.438418 | 0.150316 | 0.698669 |
| cct8 | 4693.948116 | -0.104480366 | 0.0797515 | -1.310074 | 0.190171 | 0.754837 |
| vezfla | 67.67940146 | -0.38725203 | 0.2491822 | -1.554092 | 0.120162 | 0.645215 |
| ptchd4 | 25.83415239 | 0.348257705 | 0.384047 | 0.9068102 | 0.364507 | 0.886564 |
| cnot6a | 1313.63391 | 0.157191618 | 0.0779762 | 2.0158914 | 0.043811 | 0.411165 |
| mfsd4ab | 203.6410168 | -0.151167803 | 0.1449865 | -1.042634 | 0.297118 | 0.853945 |
| klhl24b | 851.5008069 | -0.218345549 | 0.0896948 | -2.434317 | 0.01492 | 0.223742 |
| rcor2 | 834.8852599 | -0.081931545 | 0.0975001 | -0.840323 | 0.400728 | 0.90084 |
| map2k7 | 7.504147194 | -0.191471541 | 0.7026898 | -0.272484 | 0.78525 | NA |
| fam114a1 | 286.8454805 | -0.091758089 | 0.1253257 | -0.732157 | 0.464073 | 0.923197 |
| eif2s3 | 5531.191275 | -0.204607878 | 0.0746355 | -2.741428 | 0.006117 | 0.118579 |
| hand2 | 260.4960271 | -0.092295777 | 0.1360336 | -0.678478 | 0.497469 | 0.933353 |
| rdh5 | 478.9576242 | 0.044818755 | 0.1310681 | 0.3419501 | 0.732388 | 0.971719 |
| ip6k2a | 1761.904568 | 0.030478596 | 0.0780381 | 0.3905605 | 0.696122 | 0.96736 |
| ambrala | 187.48083 | -0.198248243 | 0.1795144 | -1.104358 | 0.269438 | 0.834705 |
| asicla | 69.8616576 | 0.358829434 | 0.2532123 | 1.4171089 | 0.156451 | 0.706639 |
| znf12a | 38.59627537 | 0.443961951 | 0.3067498 | 1.4473097 | 0.14781 | 0.695242 |
| mcl1b | 1665.770665 | -0.117508106 | 0.0926953 | -1.267681 | 0.204912 | 0.772822 |
| csnklda | 4700.83227 | 0.009338412 | 0.0663688 | 0.1407049 | 0.888103 | 0.989291 |
| spred2b | 91.19695829 | -0.007506265 | 0.2108302 | -0.035603 | 0.971599 | 0.996315 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| epn2 | 1631.312883 | 0.115868898 | 0.07725 | 1.4999217 | 0.133635 | 0.66814 |
| brd7 | 943.3119715 | 0.03470682 | 0.090176 | 0.3848788 | 0.700327 | 0.967998 |
| arpc1a | 3366.073002 | 0.089226799 | 0.0761898 | 1.1711119 | 0.241554 | 0.810471 |
| hdac6 | 388.6659342 | -0.029082288 | 0.1145395 | -0.253906 | 0.799568 | 0.979366 |
| mmp14b | 1445.153431 | 0.20980846 | 0.081692 | 2.568285 | 0.01022 | 0.17288 |
| snupn | 290.2094963 | -0.106012605 | 0.1404306 | -0.754911 | 0.450302 | 0.918761 |
| ftr24 | 90.89654543 | 0.06065115 | 0.2151272 | 0.2819316 | 0.777996 | 0.975942 |
| cacnalc | 41.84825732 | 0.062008651 | 0.310219 | 0.1998867 | 0.841569 | 0.985174 |
| phospho1 | 71.22650445 | 0.309251081 | 0.2550829 | 1.2123552 | 0.225376 | 0.792847 |
| tspan7b | 3092.205804 | 0.092496603 | 0.0727014 | 1.2722814 | 0.203273 | 0.77034 |
| atp11a | 1223.718352 | 0.091757402 | 0.0824865 | 1.1123927 | 0.265969 | 0.831945 |
| exoc312a | 76.50601108 | -0.27807148 | 0.2206027 | -1.260508 | 0.207486 | 0.775175 |
| unc45b | 433.9667588 | 0.474513062 | 0.1152437 | 4.1174762 | 3.83E-05 | 0.00218 |
| bcl2l1 | 590.6598433 | -0.011967877 | 0.098636 | -0.121334 | 0.903427 | 0.990154 |
| atxn10 | 84.52446997 | 0.019657494 | 0.2156632 | 0.091149 | 0.927374 | 0.992702 |
| fkbp4 | 1499.262605 | 0.071704135 | 0.0791873 | 0.9055 | 0.365201 | 0.886714 |
| pcolce2a | 63.26460516 | 0.13391843 | 0.2498622 | 0.5359692 | 0.59198 | 0.954434 |
| cpeblb | 22.65875599 | -0.061274106 | 0.4410712 | -0.138921 | 0.889512 | 0.989291 |
| faah2a | 241.2740463 | -0.426817383 | 0.1439995 | -2.964019 | 0.003036 | 0.07278 |
| anapc5 | 236.9843185 | 0.036828154 | 0.1481216 | 0.2486345 | 0.803644 | 0.979643 |
| apex2 | 143.6108273 | -0.172777223 | 0.1684845 | -1.025478 | 0.305138 | 0.859759 |
| asb14a | 0.489712128 | -0.887840729 | 2.693685 | -0.329601 | 0.741702 | NA |
| trmt61a | 167.3006911 | -0.1289684 | 0.1600334 | -0.805884 | 0.42031 | 0.90651 |
| lrp3 | 68.66008604 | -0.049369136 | 0.2381993 | -0.20726 | 0.835807 | 0.984089 |
| dmd | 839.9032162 | 0.033022339 | 0.0921708 | 0.3582734 | 0.720139 | 0.969318 |
| ltvl | 609.610548 | -0.015191424 | 0.0978681 | -0.155223 | 0.876645 | 0.987881 |
| si:ch211-107o10.3 | 265.147837 | -0.289089395 | 0.1637036 | -1.765932 | 0.077407 | 0.542016 |
| myl6 | 773.6457336 | -0.050675465 | 0.0967056 | -0.524018 | 0.600266 | 0.956045 |
| pnol | 906.8107042 | -0.052026407 | 0.0903407 | -0.575891 | 0.564689 | 0.948739 |
| glccila | 147.5234445 | -0.16115554 | 0.1739546 | -0.926423 | 0.354226 | 0.882064 |
| sox21b | 216.6845539 | 0.124491019 | 0.1456734 | 0.8545899 | 0.392778 | 0.897688 |
| chia.4 | 6.450964848 | -1.171706352 | 0.7787125 | -1.504671 | 0.132409 | NA |
| yod1 | 841.7147279 | -0.032238222 | 0.1009643 | -0.319303 | 0.749497 | 0.97419 |
| arhgap12a | 479.5012146 | 0.062295363 | 0.1068048 | 0.5832637 | 0.559716 | 0.948478 |
| pole3 | 555.8697589 | -0.026778464 | 0.1063209 | -0.251865 | 0.801146 | 0.979377 |
| zgc:136872 | 139.439571 | -0.926698896 | 0.1843548 | -5.026715 | 4.99E-07 | 5.67E-05 |
| brap | 262.6119866 | -0.076151281 | 0.1345815 | -0.565837 | 0.571504 | 0.949418 |
| slc25a24 | 307.9940673 | -0.308837058 | 0.1289734 | -2.394579 | 0.016639 | 0.2379 |
| fam20b | 591.6126865 | 0.071665024 | 0.1030381 | 0.6955199 | 0.48673 | 0.930882 |
| lyst | 165.06455 | 0.142155613 | 0.1603491 | 0.886538 | 0.375328 | 0.894316 |
| mtmr8 | 137.6441116 | -0.068725577 | 0.172757 | -0.397816 | 0.690766 | 0.967157 |
| nbas | 153.1224081 | 0.06019407 | 0.1755486 | 0.3428912 | 0.73168 | 0.971557 |
| cops3 | 757.3661321 | -0.065870364 | 0.0971112 | -0.678298 | 0.497583 | 0.933353 |
| mttp | 820.6455141 | -0.213774446 | 0.0910044 | -2.349057 | 0.018821 | 0.255627 |
| kifap3a | 872.9982128 | -0.024779646 | 0.0933682 | -0.265397 | 0.790704 | 0.977402 |
| coro1b | 1471.054072 | 0.038615025 | 0.0770477 | 0.5011835 | 0.616242 | 0.95688 |
| fign | 94.78153234 | 0.10174377 | 0.2117416 | 0.480509 | 0.630865 | 0.957354 |
| snx3 | 980.8576642 | 0.013885895 | 0.0946077 | 0.1467734 | 0.883311 | 0.988706 |
| epasla | 919.1432567 | 0.107238074 | 0.0853855 | 1.2559284 | 0.209142 | 0.776073 |
| apeh | 473.5246065 | -0.154574003 | 0.1161217 | -1.331138 | 0.183144 | 0.746697 |
| paip2b | 3391.37626 | -0.168244038 | 0.0732583 | -2.296585 | 0.021642 | 0.278385 |
| lmo3 | 1977.311984 | -0.073134788 | 0.082638 | -0.885002 | 0.376156 | 0.894698 |
| prkcba | 329.1166143 | 0.192009753 | 0.127138 | 1.5102467 | 0.13098 | 0.663795 |
| ranbp3a | 15.13618897 | -0.205640261 | 0.4953213 | -0.415165 | 0.678021 | 0.965257 |

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|------------------|-------------|--------------|-----------|-----------|----------|----------|
| zgc:66479 | 846.0089214 | 0.274266296 | 0.0921826 | 2.9752501 | 0.002927 | 0.070768 |
| atp6ap2 | 2858.522056 | -0.042646233 | 0.07547 | -0.565075 | 0.572023 | 0.949494 |
| esf1 | 237.513184 | -0.024054049 | 0.1465233 | -0.164165 | 0.869601 | 0.987282 |
| ube2na | 2270.537603 | 0.01918521 | 0.0821104 | 0.2336515 | 0.815256 | 0.981185 |
| entpd6 | 686.9869955 | 0.191423093 | 0.0945308 | 2.0249822 | 0.042869 | 0.406764 |
| tmed5 | 410.7502574 | 0.176960732 | 0.1133398 | 1.5613294 | 0.118446 | 0.641861 |
| tle2b | 131.7619969 | -0.243673829 | 0.1959053 | -1.243835 | 0.21356 | 0.781737 |
| cacngla | 366.1320406 | 0.189804905 | 0.1217397 | 1.5591045 | 0.118972 | 0.642772 |
| prpf4ba | 267.3762986 | 0.052624058 | 0.1379043 | 0.3815985 | 0.702759 | 0.968134 |
| dldh | 3691.945152 | -0.073210883 | 0.0660826 | -1.107869 | 0.267918 | 0.833349 |
| camklgb | 636.8101939 | 0.301307434 | 0.1027873 | 2.9313694 | 0.003375 | 0.077672 |
| actr3b | 16.52442822 | 0.24797586 | 0.4891986 | 0.5069023 | 0.612223 | 0.95688 |
| her5 | 1.961408324 | -0.984996006 | 1.4132582 | -0.696968 | 0.485823 | NA |
| marcksb | 8671.159679 | -0.039863013 | 0.075058 | -0.531096 | 0.595352 | 0.954434 |
| orc3 | 188.9085373 | -0.108094528 | 0.1538069 | -0.702794 | 0.482184 | 0.928585 |
| bokb | 12.47883558 | 0.444042547 | 0.5441157 | 0.8160812 | 0.414454 | 0.906237 |
| eml2 | 1566.452526 | -0.035832232 | 0.0852757 | -0.420193 | 0.674345 | 0.965257 |
| cmtm3 | 81.32753476 | 0.454863707 | 0.2241555 | 2.0292333 | 0.042435 | 0.404971 |
| gludla | 1204.742317 | 0.021108216 | 0.0870184 | 0.2425719 | 0.808337 | 0.980642 |
| hsf1 | 207.3478304 | 0.053857649 | 0.1422539 | 0.3786022 | 0.704983 | 0.968134 |
| chga | 712.7959955 | 0.294889159 | 0.0963428 | 3.0608313 | 0.002207 | 0.057504 |
| neul | 203.0726305 | -0.068613807 | 0.1461407 | -0.469505 | 0.638709 | 0.959628 |
| si:dkey-46g23.5 | 4.643520045 | -1.051399954 | 0.8957239 | -1.173799 | 0.240475 | NA |
| hmbsa | 290.1959735 | -0.033813915 | 0.1292055 | -0.261707 | 0.793548 | 0.977937 |
| ptprq | 13.21240591 | -0.157879299 | 0.5756758 | -0.27425 | 0.783892 | 0.97627 |
| elp4 | 112.0601681 | -0.206572656 | 0.1890651 | -1.092601 | 0.274569 | 0.839136 |
| cyp7b1 | 32.05197796 | 0.101214831 | 0.3778456 | 0.2678735 | 0.788797 | 0.976747 |
| mylipa | 387.9020586 | 0.048082722 | 0.1282194 | 0.3750036 | 0.707658 | 0.968664 |
| tfap2e | 314.532752 | -0.038883477 | 0.1220449 | -0.3186 | 0.75003 | 0.97419 |
| cabp4 | 32.07310461 | 0.162213934 | 0.343229 | 0.4726114 | 0.63649 | 0.958565 |
| rap1b | 1405.757053 | 0.153652207 | 0.0881196 | 1.7436774 | 0.081215 | 0.551495 |
| usp28 | 471.3301235 | 0.155003574 | 0.1209075 | 1.2820009 | 0.199842 | 0.765237 |
| hprt1 | 800.2283009 | 0.139131579 | 0.0923342 | 1.5068253 | 0.131855 | 0.665566 |
| msx1b | 164.811155 | 0.030170998 | 0.1612525 | 0.1871041 | 0.851579 | 0.985174 |
| ctns | 101.5601874 | 0.016765321 | 0.19578 | 0.0856335 | 0.931758 | 0.992702 |
| smarca2 | 561.3304923 | -0.100984455 | 0.1073407 | -0.940784 | 0.346815 | 0.8794 |
| si:ch211-241e1.5 | 81.57446556 | -0.469487155 | 0.2244764 | -2.091477 | 0.036485 | 0.373234 |
| slc8a2a | 62.62013047 | 0.004016403 | 0.2510839 | 0.0159963 | 0.987237 | 0.997136 |
| mrpl53 | 192.4083492 | -0.096159175 | 0.1599138 | -0.601319 | 0.547628 | 0.945581 |
| renbp | 78.1754744 | -0.083632622 | 0.2373196 | -0.352405 | 0.724534 | 0.970402 |
| secl1a | 568.5100647 | 0.031449322 | 0.1148041 | 0.2739389 | 0.784132 | 0.97627 |
| ccdc127b | 73.85337563 | -0.017605015 | 0.2358619 | -0.074641 | 0.9405 | 0.992857 |
| rtf1 | 1721.465383 | -0.071286598 | 0.0739278 | -0.964273 | 0.334909 | 0.875876 |
| pla2g3 | 6.105745906 | -0.406344983 | 0.7861147 | -0.516903 | 0.605224 | NA |
| pofut1 | 281.6574281 | -0.164420053 | 0.1264803 | -1.299966 | 0.193613 | 0.757219 |
| tbl1xrlb | 776.1716398 | -0.045028595 | 0.0980988 | -0.459013 | 0.646225 | 0.96032 |
| fgb | 2786.832644 | 0.143942198 | 0.1118518 | 1.2869012 | 0.198129 | 0.76333 |
| mdn1 | 903.0106913 | -0.173114498 | 0.0963334 | -1.797036 | 0.07233 | 0.525828 |
| golgal | 464.9384101 | -0.027075608 | 0.106952 | -0.253157 | 0.800147 | 0.979377 |
| casq2 | 2737.28515 | 0.138720881 | 0.0845846 | 1.6400245 | 0.101 | 0.604004 |
| sh3glb2a | 16.04426972 | -0.408654704 | 0.486037 | -0.840789 | 0.400466 | 0.90084 |
| e2f7 | 187.1187686 | -0.06122354 | 0.1621735 | -0.377519 | 0.705788 | 0.968412 |
| pdia6 | 2115.384718 | -0.302173203 | 0.0819808 | -3.685904 | 0.000228 | 0.009487 |
| coll1a1b | 5500.520081 | 0.270584703 | 0.0764163 | 3.5409301 | 0.000399 | 0.014765 |

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|-----------------|-------------|--------------|-----------|-----------|----------|----------|
| rhbg | 3505.45612 | 0.362261781 | 0.0779085 | 4.649837 | 3.32E-06 | 0.000287 |
| cnrl | 20.90309981 | 0.649145164 | 0.4234417 | 1.5330215 | 0.125271 | 0.654648 |
| chrnal | 730.9919112 | 0.174287365 | 0.1128254 | 1.544753 | 0.122406 | 0.650311 |
| ankrd28b | 868.6523856 | -0.028784054 | 0.0920117 | -0.31283 | 0.754409 | 0.975114 |
| ank2a | 668.9667841 | 0.055021344 | 0.0965059 | 0.5701347 | 0.568586 | 0.948983 |
| tnikb | 586.8951205 | -0.008293232 | 0.1001943 | -0.082772 | 0.934033 | 0.992702 |
| si:ch73-141c7.1 | 427.2453559 | 0.427308018 | 0.1394934 | 3.0632846 | 0.002189 | 0.057186 |
| nphpl | 73.71451121 | -0.075712907 | 0.2255312 | -0.335709 | 0.73709 | 0.972535 |
| cbr4 | 78.9940297 | 0.045048025 | 0.222783 | 0.2022058 | 0.839756 | 0.984979 |
| BX296551.1 | 16.33773155 | 0.37939973 | 0.4792697 | 0.7916205 | 0.428582 | 0.911378 |
| cd74a | 2.290009204 | 0.394129153 | 1.2682449 | 0.3107674 | 0.755977 | NA |
| gata2b | 12.80350592 | 0.246602111 | 0.5475144 | 0.450403 | 0.65242 | 0.960708 |
| serinc1 | 5473.151366 | -0.037717661 | 0.0697847 | -0.540486 | 0.588862 | 0.953345 |
| pigc | 118.8400392 | 0.172853916 | 0.1848031 | 0.9353408 | 0.349613 | 0.880195 |
| sele | 101.4644872 | -0.114942459 | 0.2647617 | -0.434135 | 0.66419 | 0.964736 |
| slc10a4 | 25.67003767 | 0.915966991 | 0.3879338 | 2.3611426 | 0.018219 | 0.25105 |
| myoleb | 536.0250783 | -0.059795874 | 0.1000165 | -0.59786 | 0.549933 | 0.94648 |
| hlx1 | 193.6500896 | -0.01165229 | 0.1515179 | -0.076904 | 0.9387 | 0.992857 |
| tp53bp2a | 1136.919757 | -0.198512833 | 0.08578 | -2.31421 | 0.020656 | 0.271399 |
| ppplr13bb | 1386.138637 | 0.142333463 | 0.0777284 | 1.8311631 | 0.067076 | 0.506251 |
| pla2glb | 4.323238798 | 0.196117318 | 0.9489974 | 0.2066574 | 0.836277 | NA |
| kmo | 225.7636993 | -0.38880151 | 0.1428748 | -2.721275 | 0.006503 | 0.12329 |
| ftr55 | 1.110561499 | 2.435091206 | 2.0673778 | 1.1778646 | 0.238851 | NA |
| moblba | 610.7356243 | -0.059526208 | 0.0966518 | -0.615883 | 0.537972 | 0.943336 |
| ctr9 | 1242.948368 | -0.129337416 | 0.0809801 | -1.59715 | 0.110232 | 0.62463 |
| zfand1 | 146.535928 | 0.123536733 | 0.1653776 | 0.746998 | 0.455065 | 0.921022 |
| coll6a1 | 2218.951137 | 0.27581169 | 0.0861577 | 3.2012442 | 0.001368 | 0.039791 |
| anxa3a | 246.9597666 | -0.339571427 | 0.1382194 | -2.456757 | 0.01402 | 0.214075 |
| prkcd | 404.1321698 | 0.094088285 | 0.1108359 | 0.8488973 | 0.395938 | 0.899504 |
| slc9a6a | 285.8646968 | 0.100338152 | 0.1284178 | 0.7813417 | 0.434602 | 0.914333 |
| ppiaa | 24346.59455 | -0.365148858 | 0.0971177 | -3.759858 | 0.00017 | 0.007454 |
| mfsd13a | 651.5559997 | 0.041811335 | 0.0982564 | 0.425533 | 0.670448 | 0.965257 |
| zgc:112437 | 96.17719164 | 0.09114826 | 0.2032201 | 0.4485198 | 0.653778 | 0.961168 |
| tom112 | 62.88767567 | -0.362532708 | 0.254115 | -1.426648 | 0.153681 | 0.702578 |
| mars2 | 73.9422379 | -0.106470543 | 0.2309649 | -0.460982 | 0.644812 | 0.96029 |
| fev | 71.66397349 | -0.340422352 | 0.2326516 | -1.463228 | 0.143405 | 0.686804 |
| etfb | 2143.604555 | -0.096281937 | 0.084116 | -1.144632 | 0.252361 | 0.821887 |
| napepld | 88.63441995 | 0.254047381 | 0.2231011 | 1.1387095 | 0.254824 | 0.823484 |
| rtraf | 553.3007691 | 0.091971859 | 0.1170504 | 0.7857457 | 0.432016 | 0.912876 |
| FAR2 | 17.68039789 | 0.261301504 | 0.4678127 | 0.55856 | 0.576462 | 0.950611 |
| uevld | 148.6257227 | 0.01043443 | 0.1709363 | 0.0610428 | 0.951325 | 0.99381 |
| zgc:136439 | | 0 NA | NA | NA | NA | NA |
| ppmlda | 591.3171798 | -0.004475533 | 0.1029555 | -0.043471 | 0.965326 | 0.996257 |
| smyd1a | 1494.754658 | 0.270451102 | 0.1148437 | 2.3549486 | 0.018525 | 0.253683 |
| dnmlb | 460.5782228 | 0.08427756 | 0.1258395 | 0.6697227 | 0.503035 | 0.935304 |
| rpl15 | 11149.07732 | -0.348027384 | 0.0809617 | -4.298667 | 1.72E-05 | 0.0011 |
| dusp8a | 597.2357774 | -0.137195205 | 0.1135793 | -1.207924 | 0.227076 | 0.794587 |
| pvalb6 | 1101.14414 | 0.129809035 | 0.097797 | 1.327331 | 0.184399 | 0.747376 |
| napsa | 93.58269068 | -0.343868126 | 0.230151 | -1.494098 | 0.13515 | 0.670689 |
| clgn | 2097.193287 | 0.049681378 | 0.0724613 | 0.6856261 | 0.492949 | 0.931926 |
| aif11 | 1043.447215 | 0.038530692 | 0.0862695 | 0.4466317 | 0.655141 | 0.961614 |
| nrp | 593.5915583 | 0.200123884 | 0.1119878 | 1.7870154 | 0.073935 | 0.530091 |
| txndc5 | 2833.298781 | 0.100250027 | 0.0749216 | 1.3380656 | 0.180875 | 0.741776 |
| caprinla | 1016.068658 | 0.071684897 | 0.0849768 | 0.8435825 | 0.398903 | 0.900446 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| atg3 | 674.3274009 | -0.07250397 | 0.0998929 | -0.725817 | 0.467951 | 0.924328 |
| fgf6a | 72.49259023 | 0.108955828 | 0.269693 | 0.4039994 | 0.686213 | 0.966376 |
| diras1b | 4.644179547 | 0.200413293 | 0.865203 | 0.2316373 | 0.81682 | NA |
| mpp4l | 141.8382683 | 0.16368518 | 0.1691328 | 0.9677911 | 0.333149 | 0.874926 |
| robo4 | 576.7009438 | -0.086862201 | 0.1026859 | -0.845902 | 0.397607 | 0.899672 |
| npl | 213.7254761 | -0.29857867 | 0.1545746 | -1.931615 | 0.053407 | 0.45286 |
| vcanb | 1493.447139 | 0.393668234 | 0.0814254 | 4.8347119 | 1.33E-06 | 0.000128 |
| si:ch211-210b2.2 | 47.06843358 | 0.767231633 | 0.2867488 | 2.6756225 | 0.007459 | 0.136696 |
| mef2cb | 1454.207445 | 0.052037724 | 0.081314 | 0.6399602 | 0.522198 | 0.939056 |
| tmem30c | 125.3406242 | -0.345109318 | 0.1808602 | -1.908155 | 0.056371 | 0.46581 |
| ubxn7 | 412.4004899 | -0.176755543 | 0.1105651 | -1.598656 | 0.109897 | 0.624178 |
| myog | 52.50035832 | 0.086142354 | 0.2876055 | 0.2995157 | 0.764547 | 0.975374 |
| zgc:92137 | 51.5298633 | -0.568019821 | 0.3555833 | -1.597431 | 0.11017 | 0.62463 |
| atp5mc3b | 5999.57972 | 0.031654243 | 0.2077875 | 0.1523395 | 0.878919 | 0.987881 |
| slc35e4 | 14.89114182 | -0.390989811 | 0.52477 | -0.745069 | 0.45623 | 0.921215 |
| rgs9bp | 53.29853907 | 0.359694694 | 0.2898208 | 1.2410934 | 0.214571 | 0.782493 |
| hnfla | 61.25990364 | 0.01532509 | 0.2617301 | 0.058553 | 0.953308 | 0.994184 |
| nid2b | 1.657494491 | -1.086853109 | 1.7352975 | -0.626321 | 0.531104 | NA |
| med19b | 197.0723363 | 0.018908387 | 0.1458527 | 0.1296403 | 0.896851 | 0.989971 |
| ppar db | 589.9901695 | 0.087914613 | 0.1009947 | 0.8704878 | 0.384034 | 0.895192 |
| prkar2ab | 167.9906099 | 0.221537346 | 0.1701804 | 1.3017792 | 0.192992 | 0.756795 |
| pdc1 | 2064.969206 | -0.082382116 | 0.0823115 | -1.000857 | 0.316896 | 0.867308 |
| slc38a8a | 11.35148787 | 0.259915734 | 0.5698708 | 0.4560959 | 0.648321 | 0.960708 |
| arfl | 2078.812487 | -0.054325424 | 0.0755935 | -0.718652 | 0.472355 | 0.924838 |
| gipc2 | 475.8856668 | -0.215024371 | 0.1180207 | -1.82192 | 0.068467 | 0.512635 |
| MAP3K13 | 26.84599291 | -0.090381886 | 0.3933526 | -0.229773 | 0.818268 | 0.981594 |
| xrcc1 | 650.0533623 | -0.036470854 | 0.0988139 | -0.369086 | 0.712063 | 0.969006 |
| synela | 2490.570917 | 0.081111903 | 0.0859589 | 0.9436122 | 0.345368 | 0.878434 |
| prelid3b | 1487.083861 | 0.114988383 | 0.087107 | 1.3200827 | 0.186807 | 0.750951 |
| tnfa | 5.578901287 | -1.277412656 | 0.8446407 | -1.512374 | 0.130439 | NA |
| rnf150b | 184.6591714 | -0.267287811 | 0.1545062 | -1.729948 | 0.08364 | 0.557158 |
| tiall | 1884.578375 | 0.044026089 | 0.0787309 | 0.559197 | 0.576027 | 0.950611 |
| wls | 1587.079185 | 0.172557913 | 0.081817 | 2.1090729 | 0.034938 | 0.363807 |
| cldnb | 1721.363598 | -0.045322851 | 0.0875627 | -0.517605 | 0.604734 | 0.95651 |
| ubr4 | 3068.563003 | -0.035671105 | 0.0798724 | -0.446601 | 0.655163 | 0.961614 |
| foxi3b | 260.0368026 | -0.030689262 | 0.1585307 | -0.193586 | 0.8465 | 0.985174 |
| gng3 | 3484.185111 | 0.027326811 | 0.0862022 | 0.3170083 | 0.751237 | 0.97419 |
| wrap73 | 163.8515852 | 0.107667755 | 0.1643986 | 0.6549191 | 0.51252 | 0.936253 |
| spegb | 812.4013055 | 0.200172132 | 0.0902162 | 2.2188056 | 0.0265 | 0.313216 |
| cal0b | 113.8274296 | -0.113477059 | 0.1966008 | -0.577195 | 0.563808 | 0.948739 |
| papola | 2874.966015 | -0.044419997 | 0.0764549 | -0.580996 | 0.561243 | 0.948728 |
| nr1d2b | 3548.237638 | 0.122583659 | 0.0712315 | 1.7209188 | 0.085266 | 0.560519 |
| ccnc | 822.4609704 | -0.167906455 | 0.0967423 | -1.735605 | 0.082634 | 0.554782 |
| rgs12a | 306.8080884 | -0.327521714 | 0.1320631 | -2.480039 | 0.013137 | 0.204864 |
| chia.3 | 9.141476782 | -1.043981109 | 0.6365 | -1.64019 | 0.100966 | NA |
| CABZ01027646.1 | 46.26437534 | 0.021695837 | 0.2981841 | 0.0727599 | 0.941997 | 0.993099 |
| nrbp2b | 125.1776298 | -0.054137849 | 0.1882055 | -0.287653 | 0.773612 | 0.975687 |
| unc119.1 | 389.2739866 | 0.044380674 | 0.1139798 | 0.3893733 | 0.697 | 0.96736 |
| rcvrn3 | 9553.467501 | 0.380395111 | 0.0909038 | 4.1845896 | 2.86E-05 | 0.001686 |
| psmb1 | 2423.920275 | -0.169966574 | 0.0828619 | -2.051203 | 0.040247 | 0.392394 |
| lhfp12a | 264.3983895 | -0.424552759 | 0.1477226 | -2.873986 | 0.004053 | 0.087787 |
| fgfr1op2 | 309.3869305 | -0.231090487 | 0.1344219 | -1.719143 | 0.085588 | 0.561521 |
| si:ch211-197g15.6 | 5.341097347 | 0.558257031 | 0.8101373 | 0.6890894 | 0.490767 | NA |
| dlg1 | 1081.451045 | 0.040277913 | 0.0859433 | 0.4686569 | 0.639315 | 0.959994 |

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|----------|-------------|--------------|-----------|-----------|----------|----------|
| med27 | 303.9993898 | -0.135475897 | 0.1243729 | -1.089272 | 0.276034 | 0.839541 |
| ppa2 | 163.4578807 | -0.02801418 | 0.159552 | -0.17558 | 0.860624 | 0.985773 |
| daamlb | 994.0774526 | 0.050222059 | 0.0866517 | 0.5795857 | 0.562194 | 0.948728 |
| llgl1 | 567.0803069 | 0.105510043 | 0.1125425 | 0.9375132 | 0.348495 | 0.880195 |
| ascl1b | 25.99093951 | 0.313199579 | 0.3784391 | 0.827609 | 0.407892 | 0.901493 |
| rpn2 | 3555.149345 | -0.00147969 | 0.078419 | -0.018869 | 0.984946 | 0.996944 |
| twf2b | 51.37621503 | 0.409196595 | 0.2859764 | 1.4308755 | 0.152466 | 0.70162 |
| kif21b | 43.09945469 | 0.105521854 | 0.3023061 | 0.3490563 | 0.727047 | 0.970402 |
| gigyf2 | 1200.470432 | 0.025179226 | 0.0873089 | 0.2883925 | 0.773046 | 0.975687 |
| cacnb4a | 3.960697999 | -0.000779022 | 0.9284538 | -0.000839 | 0.999331 | NA |
| ppplr7 | 1140.517617 | 0.043701858 | 0.0856598 | 0.5101794 | 0.609926 | 0.95688 |
| efhc1 | 75.57661684 | -0.36260558 | 0.2280903 | -1.589746 | 0.111892 | 0.627242 |
| fbxw2 | 633.0342316 | 0.14583556 | 0.0958384 | 1.5216822 | 0.128089 | 0.658954 |
| dffb | 93.68819843 | -0.354398902 | 0.2139761 | -1.656254 | 0.09767 | 0.596644 |
| sf3b6 | 500.6537764 | 0.071723831 | 0.1091815 | 0.6569227 | 0.511231 | 0.936253 |
| zc3h11a | 1775.396164 | -0.088385441 | 0.0818552 | -1.079779 | 0.280241 | 0.843423 |
| srekl | 254.562324 | -0.090545241 | 0.1327802 | -0.681918 | 0.495291 | 0.931928 |
| ppmel | 2037.073844 | -0.063263131 | 0.0861234 | -0.734564 | 0.462605 | 0.922698 |
| mc11a | 1301.307057 | -0.16001723 | 0.1042435 | -1.535033 | 0.124776 | 0.654423 |
| myh11a | 677.5291937 | -0.162748991 | 0.1087241 | -1.496898 | 0.13442 | 0.670539 |
| slc49a4 | 550.7094503 | 0.0301054 | 0.1038788 | 0.2898126 | 0.77196 | 0.975687 |
| k1c1a | 869.3136396 | 0.218860635 | 0.0960173 | 2.2793869 | 0.022644 | 0.287397 |
| smfn | 162.6996218 | 0.114515314 | 0.1754146 | 0.6528267 | 0.513868 | 0.936778 |
| her4.4 | 216.3615164 | 0.011008186 | 0.1512382 | 0.0727871 | 0.941976 | 0.993099 |
| pou3f1 | 1658.318192 | 0.027088709 | 0.0875994 | 0.3092341 | 0.757143 | 0.975374 |
| mmp23bb | 207.9120692 | -0.086013674 | 0.1801028 | -0.477581 | 0.632949 | 0.957356 |
| hdlbpa | 14506.98947 | -0.028713941 | 0.0685637 | -0.418792 | 0.675368 | 0.965257 |
| agk | 493.563858 | -0.074210672 | 0.1075621 | -0.689933 | 0.490236 | 0.931926 |
| fam117bb | 122.4019979 | -0.145125106 | 0.185944 | -0.780478 | 0.43511 | 0.914408 |
| dusp23a | 58.33456577 | -0.533940636 | 0.2905885 | -1.837446 | 0.066144 | 0.502802 |
| wdr41 | 504.296352 | 0.017261408 | 0.1064539 | 0.1621491 | 0.871188 | 0.987754 |
| dcps | 363.2504285 | 0.020519574 | 0.1248842 | 0.1643088 | 0.869488 | 0.987282 |
| ddx55 | 199.186006 | 0.01317013 | 0.1493625 | 0.0881756 | 0.929737 | 0.992702 |
| dcaf11 | 803.5321519 | -0.13207306 | 0.0916941 | -1.440366 | 0.149764 | 0.697935 |
| mapk8b | 63.39332024 | -0.082673935 | 0.2514874 | -0.32874 | 0.742352 | 0.973154 |
| snrpc | 680.7903734 | -0.03707434 | 0.1106852 | -0.334953 | 0.737661 | 0.972535 |
| cyp2k6 | | 0 NA | NA | NA | NA | NA |
| ier5 | 1488.279556 | -0.233112078 | 0.0803084 | -2.902713 | 0.003699 | 0.082473 |
| sult3st1 | 5.81544542 | 0.090369413 | 0.7961875 | 0.1135027 | 0.909632 | NA |
| rnf114 | 125.1756774 | 0.394693448 | 0.1929656 | 2.045408 | 0.040815 | 0.394957 |
| znf385a | 57.69627879 | 0.105535932 | 0.2686914 | 0.3927775 | 0.694484 | 0.96736 |
| slc38a5a | 640.9989236 | 0.120386718 | 0.0979074 | 1.2295972 | 0.218848 | 0.785734 |
| dmbx1a | 848.2528677 | -0.032810405 | 0.0996874 | -0.329133 | 0.742055 | 0.973154 |
| cadm2a | 36.30652208 | 0.5967617 | 0.3234194 | 1.8451637 | 0.065014 | 0.497901 |
| micu2 | 638.0132713 | -0.210441528 | 0.1115297 | -1.886866 | 0.059178 | 0.475427 |
| ercla | 734.974053 | -0.00451496 | 0.0953943 | -0.047329 | 0.962251 | 0.995907 |
| cdc6 | 363.7215695 | -0.100259493 | 0.1298069 | -0.772374 | 0.439893 | 0.916082 |
| fndc4b | 504.6452311 | 0.030202423 | 0.1161398 | 0.2600523 | 0.794823 | 0.978206 |
| edf1 | 1545.44327 | -0.222478265 | 0.0821054 | -2.709667 | 0.006735 | 0.126476 |
| med14 | 947.7436029 | -0.090462503 | 0.1039661 | -0.870115 | 0.384238 | 0.895192 |
| cbl | 211.8844867 | 0.0273448 | 0.1425151 | 0.1918731 | 0.847842 | 0.985174 |
| rundc3b | 6.996471156 | -0.400611888 | 0.7068341 | -0.566769 | 0.570871 | NA |
| icn | 3734.592075 | -0.282817195 | 0.2380123 | -1.188246 | 0.234736 | 0.803509 |
| fam199x | 993.1237015 | 0.014794337 | 0.0937227 | 0.1578522 | 0.874573 | 0.987881 |

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| gnalla | 165.5918394 | -0.053153279 | 0.1602234 | -0.331745 | 0.740082 | 0.972943 |
| vim | 1053.701939 | -0.104078305 | 0.0953127 | -1.091967 | 0.274848 | 0.839487 |
| triml3 | 754.1186084 | 0.240399057 | 0.0996512 | 2.4124055 | 0.015848 | 0.231784 |
| qki2 | 315.5488652 | -0.144054949 | 0.1215641 | -1.185013 | 0.236012 | 0.805056 |
| grpell | 658.7266663 | 0.108429996 | 0.1019777 | 1.0632717 | 0.287659 | 0.845979 |
| CU856539.1 | 378.2810359 | 0.302746643 | 0.1176419 | 2.5734603 | 0.010069 | 0.171342 |
| sponla | 26.78556806 | 0.448716679 | 0.377038 | 1.1901101 | 0.234003 | 0.802633 |
| ssh1b | 481.8323132 | 0.006523993 | 0.1070677 | 0.0609333 | 0.951412 | 0.99381 |
| cmtm7 | 224.3945923 | -0.022369211 | 0.1438053 | -0.155552 | 0.876386 | 0.987881 |
| engase | 125.978898 | -0.315639573 | 0.183396 | -1.721082 | 0.085236 | 0.560519 |
| dnmla | 108.0454467 | 0.202983605 | 0.1904846 | 1.0656169 | 0.286597 | 0.845942 |
| neu3.2 | 82.69898935 | 0.139107127 | 0.2258024 | 0.6160568 | 0.537857 | 0.943336 |
| ufd11 | 1054.352676 | -0.016245489 | 0.0851309 | -0.19083 | 0.848659 | 0.985174 |
| ndrg3b | 1946.281509 | -0.122053548 | 0.074043 | -1.648415 | 0.099267 | 0.599058 |
| itpkb | 25.61693933 | 0.043424113 | 0.4001423 | 0.1085217 | 0.913582 | 0.991119 |
| adam9 | 297.2262468 | 0.084684278 | 0.1368417 | 0.6188484 | 0.536016 | 0.943336 |
| CR792422.1 | 17.61669547 | -0.015370592 | 0.467876 | -0.032852 | 0.973793 | 0.996315 |
| nup133 | 566.947561 | 0.049785481 | 0.0985461 | 0.5051999 | 0.613418 | 0.95688 |
| rbfox3a | 1250.566376 | 0.053776331 | 0.0821313 | 0.6547603 | 0.512622 | 0.936253 |
| p4ha2 | 473.7697174 | -0.306394212 | 0.1169345 | -2.620221 | 0.008787 | 0.155004 |
| slc1a6 | 63.12450108 | 0.052322548 | 0.2425025 | 0.2157609 | 0.829174 | 0.982743 |
| f9a | 10.46341279 | 0.049464476 | 0.588174 | 0.0840984 | 0.932978 | NA |
| pank1b | 642.2201454 | -0.00958332 | 0.0993206 | -0.096489 | 0.923132 | 0.992588 |
| bri3bp | 252.9712262 | 0.046479314 | 0.133201 | 0.3489411 | 0.727134 | 0.970402 |
| ndufb8 | 2299.39148 | -0.007368597 | 0.0888806 | -0.082904 | 0.933928 | 0.992702 |
| smpd13b | 150.072267 | 0.233840638 | 0.1697747 | 1.3773584 | 0.168401 | 0.725919 |
| dacha | 831.1331732 | -0.12465737 | 0.0894835 | -1.393077 | 0.163597 | 0.71945 |
| ldbla | 3091.959067 | -0.013611386 | 0.0702482 | -0.193761 | 0.846363 | 0.985174 |
| plppr3a | 981.2256267 | -0.152816433 | 0.0989453 | -1.544454 | 0.122478 | 0.65052 |
| tor4aa | 131.3666461 | -0.035653525 | 0.1843817 | -0.193368 | 0.846671 | 0.985174 |
| cpa2 | 42.80333399 | -0.068993687 | 0.3228666 | -0.213691 | 0.830788 | 0.982994 |
| atp5fa1 | 16976.72923 | -0.076089948 | 0.1041016 | -0.73092 | 0.464828 | 0.923584 |
| vstm4a | 108.1457517 | -0.097195095 | 0.1988978 | -0.488668 | 0.625076 | 0.957354 |
| abila | 1003.527975 | -0.034459594 | 0.0829071 | -0.415641 | 0.677673 | 0.965257 |
| rps15a | 6655.31657 | -0.250185638 | 0.083747 | -2.987399 | 0.002814 | 0.068857 |
| myd88 | 153.0896157 | 0.183311896 | 0.1720726 | 1.0653175 | 0.286732 | 0.845979 |
| asap2a | 353.7894649 | 0.041648459 | 0.1291761 | 0.3224161 | 0.747137 | 0.97419 |
| si:ch73-265h17.1 | 7.551498882 | -0.168037114 | 0.7158308 | -0.234744 | 0.814407 | NA |
| myo3a | 185.9129441 | 0.114372113 | 0.1560231 | 0.7330462 | 0.46353 | 0.92286 |
| pax3a | 26.83469037 | -0.340676505 | 0.3771283 | -0.903344 | 0.366343 | 0.887239 |
| eif4bb | 2286.369006 | -0.127206495 | 0.0734732 | -1.731332 | 0.083393 | 0.556666 |
| smad3b | 171.9429656 | 0.042584509 | 0.1596148 | 0.2667955 | 0.789627 | 0.977238 |
| ppmlna | 141.5134406 | 0.792629744 | 0.1982331 | 3.9984738 | 6.38E-05 | 0.00338 |
| rbm22 | 608.8958608 | -0.180486228 | 0.1011595 | -1.784174 | 0.074395 | 0.531273 |
| rpl2211 | 2713.282516 | -0.331750202 | 0.1001182 | -3.313585 | 0.000921 | 0.029142 |
| prmt1 | 3298.370241 | 0.045557187 | 0.1054684 | 0.4319509 | 0.665777 | 0.964736 |
| wdr54 | 310.9527742 | -0.077136231 | 0.1295138 | -0.595583 | 0.551454 | 0.946978 |
| nqol | 778.144595 | -0.007538883 | 0.0944326 | -0.079833 | 0.93637 | 0.992702 |
| jak3 | 24.67801901 | 0.026303519 | 0.3792649 | 0.069354 | 0.944708 | 0.993409 |
| bin2b | 124.6404765 | 0.226155269 | 0.2093866 | 1.0800846 | 0.280104 | 0.843423 |
| igf2bp3 | 1560.788669 | 0.041592884 | 0.0787999 | 0.5278294 | 0.597618 | 0.95534 |
| dpydb | 709.3601545 | -0.281184333 | 0.1104293 | -2.546284 | 0.010888 | 0.180962 |
| fezfl | 206.7184128 | -0.061363268 | 0.163882 | -0.374436 | 0.70808 | 0.968664 |
| ptgs2b | 320.6284335 | 0.167324285 | 0.3747261 | 0.4465242 | 0.655219 | 0.961614 |

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| scamp2 | 696.5951717 | -0.014924981 | 0.1064527 | -0.140203 | 0.8885 | 0.989291 |
| claspla | 1075.563047 | 0.070870218 | 0.0858521 | 0.8254923 | 0.409092 | 0.901769 |
| xpo4 | 524.294957 | -0.141254423 | 0.1052892 | -1.341585 | 0.179731 | 0.741062 |
| fmodb | 59.26623736 | 0.346872688 | 0.262274 | 1.3225585 | 0.185982 | 0.75038 |
| kcnh6b | 24.58801001 | 0.3790134 | 0.4093576 | 0.9258735 | 0.354512 | 0.882105 |
| traf3ip1 | 59.82232373 | -0.102752328 | 0.2522039 | -0.407418 | 0.683701 | 0.965679 |
| b4gal t6 | 932.7500463 | 0.099815108 | 0.0913411 | 1.0927731 | 0.274493 | 0.839136 |
| cp | 649.3569842 | -0.19457168 | 0.3796381 | -0.512519 | 0.608288 | 0.956718 |
| qars | 1008.342107 | 0.183121252 | 0.0915978 | 1.999189 | 0.045588 | 0.418697 |
| gpr183a | 10.18334145 | -0.015150499 | 0.601732 | -0.025178 | 0.979913 | NA |
| srpx | 764.787834 | 0.039066658 | 0.0998429 | 0.3912811 | 0.695589 | 0.96736 |
| radx | 19.14479226 | 0.400947553 | 0.4384267 | 0.9145145 | 0.360447 | 0.885686 |
| zgc:56231 | 4.517547615 | 0.994466447 | 0.9500911 | 1.0467064 | 0.295235 | NA |
| acer1 | 78.15355015 | -0.397118273 | 0.2320487 | -1.711358 | 0.087015 | 0.565255 |
| clql3a | 25.05747316 | -0.20211581 | 0.3759571 | -0.537603 | 0.590851 | 0.954193 |
| slc5a3a | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| rnf2 | 1753.138008 | -0.131426775 | 0.07529 | -1.745607 | 0.080879 | 0.550801 |
| lpar5a | 4.203063818 | 0.613822546 | 1.0389519 | 0.5908094 | 0.554648 | NA |
| sept4a | 324.0083652 | 0.017917559 | 0.1338643 | 0.1338486 | 0.893522 | 0.989291 |
| lrrfip2 | 434.2181959 | -0.07298256 | 0.1185701 | -0.615522 | 0.53821 | 0.943336 |
| ppp4r4 | 170.3239736 | -0.268041416 | 0.1565792 | -1.711858 | 0.086923 | 0.565027 |
| igsf9b | 287.8142436 | -0.157300726 | 0.1327761 | -1.184706 | 0.236134 | 0.805191 |
| epnl | 1404.245842 | -0.01802851 | 0.0943675 | -0.191046 | 0.84849 | 0.985174 |
| sirt4 | 99.1950784 | 0.133321304 | 0.2167179 | 0.6151836 | 0.538434 | 0.943336 |
| ndrg1b | 2029.337837 | -0.336698313 | 0.0869961 | -3.870268 | 0.000109 | 0.005269 |
| npsn | 157.9864483 | -0.20461485 | 0.208991 | -0.97906 | 0.32755 | 0.872701 |
| scara5 | 134.8630398 | 0.12150268 | 0.176532 | 0.6882757 | 0.491279 | 0.931926 |
| eaf2 | 374.9667193 | -0.020970533 | 0.1183537 | -0.177185 | 0.859363 | 0.985773 |
| clu | 984.3327628 | -0.108132255 | 0.1038174 | -1.041562 | 0.297615 | 0.85401 |
| tent5c | 160.1582312 | 0.266564775 | 0.1581372 | 1.6856547 | 0.091862 | 0.57849 |
| rnf11a | 497.3921826 | -0.191615885 | 0.1067197 | -1.795506 | 0.072573 | 0.52617 |
| trabd | 218.3391986 | 0.079452079 | 0.1516116 | 0.52405 | 0.600244 | 0.956045 |
| gucala | 26.4621021 | 0.685192819 | 0.3798381 | 1.8039077 | 0.071246 | 0.522712 |
| atpla2a | 1867.115221 | 0.420994906 | 0.0913867 | 4.6067422 | 4.09E-06 | 0.000344 |
| p2rx3a | 31.2436411 | 0.7164833 | 0.3631578 | 1.9729255 | 0.048504 | 0.433449 |
| hsp90aa1.1 | 799.4950884 | 0.606233598 | 0.0936732 | 6.4717935 | 9.68E-11 | 2.34E-08 |
| bzwl a | 3182.956764 | 0.055727211 | 0.0735143 | 0.7580457 | 0.448424 | 0.917768 |
| prg4a | 28.88745106 | 0.57141622 | 0.3775975 | 1.5132944 | 0.130205 | 0.662797 |
| sael | 934.2178181 | -0.042688135 | 0.1052336 | -0.405651 | 0.684999 | 0.966146 |
| cxcr5 | 6.844348586 | 0.070134917 | 0.7132977 | 0.0983249 | 0.921674 | NA |
| dv11a | 37.88041769 | -0.006001416 | 0.3543434 | -0.016937 | 0.986487 | 0.996965 |
| rpl2l | 8582.898836 | -0.175029613 | 0.0762883 | -2.294318 | 0.021772 | 0.279561 |
| per3 | 1926.590315 | 0.007473788 | 0.0743211 | 0.1005607 | 0.919899 | 0.991857 |
| si:ch211-282j22.3 | 133.6976816 | -0.102547649 | 0.1783683 | -0.574921 | 0.565345 | 0.948739 |
| scamp4 | 685.6713835 | 0.123811611 | 0.0957017 | 1.2937248 | 0.19576 | 0.76113 |
| mmgt1 | 738.4154793 | 0.048477946 | 0.1073744 | 0.4514851 | 0.65164 | 0.960708 |
| pdhalb | 144.9318668 | 0.268986947 | 0.1742517 | 1.543669 | 0.122669 | 0.650831 |
| mmp25b | 49.73655354 | -0.111128103 | 0.2849355 | -0.390011 | 0.696528 | 0.96736 |
| spopla | 329.5308318 | -0.0970161 | 0.1357005 | -0.714928 | 0.474653 | 0.925287 |
| aqp4 | 5.542848337 | -0.013514283 | 0.8207689 | -0.016465 | 0.986863 | NA |
| ezh2 | 533.5146235 | 0.203528215 | 0.1177813 | 1.7280184 | 0.083985 | 0.557646 |
| slc25a25a | 621.2973247 | 0.353577466 | 0.099729 | 3.545382 | 0.000392 | 0.014572 |
| pard3ab | 327.0806108 | -0.137041731 | 0.1296131 | -1.057314 | 0.290368 | 0.846262 |
| tex9 | 63.93333284 | -0.100681171 | 0.2450661 | -0.410833 | 0.681195 | 0.965476 |

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| foxn4 | 303.6712303 | -0.126545189 | 0.1462127 | -0.865487 | 0.386771 | 0.89551 |
| slc7a6os | 850.1235557 | 0.080298143 | 0.0966589 | 0.8307374 | 0.406122 | 0.901305 |
| mtmr10 | 278.5994464 | 0.117323862 | 0.1293625 | 0.9069386 | 0.364439 | 0.886564 |
| zgc:112294 | 49.33630628 | 0.178523622 | 0.3059152 | 0.5835723 | 0.559508 | 0.948478 |
| kctd9b | 294.4699694 | -0.079486773 | 0.136931 | -0.580488 | 0.561586 | 0.948728 |
| sarml | 424.3331149 | 0.118565335 | 0.1273991 | 0.9306605 | 0.352029 | 0.880844 |
| themis | 5.115703613 | 0.647519033 | 0.8773865 | 0.7380089 | 0.460509 | NA |
| clic2 | 138.8505469 | 0.227578869 | 0.1700111 | 1.338612 | 0.180697 | 0.741776 |
| hoxb6a | 176.7483146 | 0.206462405 | 0.1583991 | 1.3034318 | 0.192427 | 0.756795 |
| slc20a1b | 4918.65391 | 0.131357023 | 0.0780967 | 1.6819783 | 0.092573 | 0.579468 |
| arhgap42b | 14.58836681 | -0.259445759 | 0.4934243 | -0.525807 | 0.599023 | 0.955806 |
| ppmlk | 575.6605924 | -0.292659982 | 0.1002817 | -2.918378 | 0.003519 | 0.079772 |
| insigl | 975.6822398 | 0.046577114 | 0.0974407 | 0.4780045 | 0.632647 | 0.957356 |
| fbxo36a | 5.693566548 | 0.578595846 | 0.877211 | 0.6595857 | 0.50952 | NA |
| trim16 | 213.3683187 | -0.183048876 | 0.1535384 | -1.192203 | 0.233182 | 0.801623 |
| gngt2a | 819.8097519 | -0.160849743 | 0.1118463 | -1.438132 | 0.150397 | 0.698669 |
| tjapl | 653.9543708 | -0.184083013 | 0.1268713 | -1.450943 | 0.146796 | 0.693524 |
| il17d | 3.539432946 | 0.175466513 | 1.0211105 | 0.1718389 | 0.863564 | NA |
| crygs4 | 0.854974378 | 0.638273715 | 2.0970274 | 0.3043707 | 0.760845 | NA |
| msil | 1370.427507 | -0.039567897 | 0.0794948 | -0.497742 | 0.618666 | 0.957354 |
| npffr113 | 13.00732743 | 0.545107397 | 0.5438938 | 1.0022313 | 0.316232 | 0.866931 |
| chchd10 | 838.1701423 | 0.10640694 | 0.0999492 | 1.0646099 | 0.287053 | 0.845979 |
| 6-Sep | 2313.813396 | 0.02154524 | 0.0740475 | 0.2909652 | 0.771078 | 0.975687 |
| ttyh21 | 519.4826385 | -0.098175343 | 0.1068618 | -0.918713 | 0.358245 | 0.884398 |
| scin | 267.7354395 | -0.22227091 | 0.1367832 | -1.624987 | 0.104165 | 0.611388 |
| CABZ01073795.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| xrcc4 | 115.2270104 | 0.046220218 | 0.1860418 | 0.2484399 | 0.803794 | 0.979643 |
| zgc:101716 | 53.45447581 | -0.08666435 | 0.2713167 | -0.319421 | 0.749407 | 0.97419 |
| dnaja2b | 2020.588612 | 0.022102768 | 0.0782429 | 0.2824891 | 0.777568 | 0.975942 |
| acs14b | 419.7757772 | -0.032689785 | 0.1275237 | -0.256343 | 0.797686 | 0.978668 |
| nod2 | 69.52476963 | 0.062850909 | 0.2343098 | 0.2682385 | 0.788516 | 0.976703 |
| capn12 | 282.738652 | 0.544883177 | 0.1554383 | 3.5054634 | 0.000456 | 0.01663 |
| flj13639 | 93.51511 | 0.422817 | 0.2240228 | 1.8873839 | 0.059109 | 0.475427 |
| epha41 | 218.2520275 | 0.0239252 | 0.141295 | 0.1693279 | 0.865539 | 0.986465 |
| sox19a | 858.1079717 | 0.063146675 | 0.1024369 | 0.6164446 | 0.537601 | 0.943336 |
| pnpla6 | 1125.668006 | -0.385740618 | 0.2101565 | -1.835493 | 0.066433 | 0.504618 |
| tlk2 | 828.533638 | 0.008922763 | 0.0965025 | 0.0924614 | 0.926331 | 0.992702 |
| zgc:55621 | | 0 NA | NA | NA | NA | NA |
| ppplr12a | 1087.382531 | -0.035956605 | 0.0835084 | -0.430575 | 0.666778 | 0.964736 |
| thbs1b | 5896.502469 | 0.304671844 | 0.06944 | 4.3875563 | 1.15E-05 | 0.000811 |
| homer3b | 520.6962678 | 0.087324008 | 0.1023722 | 0.8530048 | 0.393657 | 0.898242 |
| dla | 577.2459883 | -0.138509155 | 0.1103286 | -1.255424 | 0.209325 | 0.776293 |
| cdc25b | 442.9009739 | 0.064935911 | 0.1163037 | 0.5583308 | 0.576619 | 0.950611 |
| tfeb | 221.4330691 | 0.077625478 | 0.1474336 | 0.5265115 | 0.598533 | 0.955488 |
| slc7a14a | 726.1467258 | 0.193695424 | 0.1077413 | 1.7977827 | 0.072211 | 0.525546 |
| memol | 400.948965 | 0.170530112 | 0.1125812 | 1.51473 | 0.129841 | 0.662436 |
| churc1 | 182.1495324 | -0.475930883 | 0.1576408 | -3.019085 | 0.002535 | 0.063623 |
| fshb | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| kras | 112.1575549 | 0.19604057 | 0.2004092 | 0.9782015 | 0.327975 | 0.872701 |
| amt | 340.7639137 | -0.243658697 | 0.1307164 | -1.864026 | 0.062318 | 0.487498 |
| DDX17 | 1977.797223 | -0.269226811 | 0.0747366 | -3.602344 | 0.000315 | 0.0123 |
| cdkn1ca | 315.140921 | 0.268178708 | 0.143083 | 1.8742881 | 0.060891 | 0.482482 |
| mettl13 | 153.1497328 | -0.018946235 | 0.1681527 | -0.112673 | 0.91029 | 0.990702 |
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| HTRA3 | 99.83442323 | -0.139249724 | 0.2185028 | -0.63729 | 0.523936 | 0.939336 |
| cacnalfa | 42.03723224 | -0.323573997 | 0.310649 | -1.041607 | 0.297594 | 0.85401 |
| sytl4a | 16.6681055 | 0.674073112 | 0.4732559 | 1.4243311 | 0.154351 | 0.70398 |
| abcb4 | 394.9317915 | -0.18946567 | 0.1307185 | -1.449417 | 0.147221 | 0.69409 |
| BX957278.1 | 83.5419369 | -0.090625496 | 0.2235165 | -0.405453 | 0.685144 | 0.966146 |
| pomgnt2 | 112.6375351 | -0.020154198 | 0.1947909 | -0.103466 | 0.917593 | 0.991623 |
| rapgef6 | 393.6007352 | -0.07891907 | 0.1426186 | -0.553357 | 0.580019 | 0.951257 |
| cbsb | 1232.486901 | 0.042225925 | 0.0813172 | 0.5192742 | 0.60357 | 0.956045 |
| kif11 | 1203.56477 | -0.121642751 | 0.0853209 | -1.425708 | 0.153953 | 0.702738 |
| ndella | 831.4834973 | 0.028696716 | 0.0880468 | 0.3259258 | 0.74448 | 0.974094 |
| sh3glb1b | 316.8407702 | 0.012518336 | 0.1310614 | 0.095515 | 0.923906 | 0.992628 |
| mpp2b | 915.7736871 | 0.105746916 | 0.0916544 | 1.153757 | 0.2486 | 0.817939 |
| glmb | 229.8171708 | 0.236033525 | 0.1418977 | 1.6634062 | 0.096231 | 0.590771 |
| fkbp7 | 245.8583744 | 0.303028771 | 0.1536769 | 1.9718569 | 0.048626 | 0.433734 |
| psma8 | 2923.742789 | -0.025704083 | 0.0800468 | -0.321113 | 0.748125 | 0.97419 |
| rab34b | 48.89895294 | -0.232124544 | 0.2781981 | -0.834386 | 0.404064 | 0.901191 |
| trmt1 | 183.9930992 | -0.014623892 | 0.1648877 | -0.08869 | 0.929328 | 0.992702 |
| zdhhc3a | 87.74061747 | -0.052967051 | 0.2219606 | -0.238633 | 0.81139 | 0.981081 |
| gtf2a1 | 865.4085867 | 0.022859476 | 0.089192 | 0.2562951 | 0.797723 | 0.978668 |
| hnrnpala | 7814.655518 | -0.092723638 | 0.0930638 | -0.996345 | 0.319082 | 0.867746 |
| pdlim3a | 24.42373501 | -0.100306497 | 0.416487 | -0.240839 | 0.80968 | 0.980648 |
| zgc:92907 | 70.76856614 | 0.167324346 | 0.2363893 | 0.7078339 | 0.479048 | 0.926978 |
| fgfr1a | 1079.838677 | 0.042072486 | 0.0989037 | 0.4253885 | 0.670554 | 0.965257 |
| pgbd5 | 44.10976039 | 0.057342381 | 0.2924644 | 0.1960662 | 0.844558 | 0.985174 |
| slc17a9b | 164.6075692 | 0.188037965 | 0.1594721 | 1.1791277 | 0.238347 | 0.807449 |
| fbxo9 | 963.0147624 | -0.062116141 | 0.0953988 | -0.651121 | 0.514969 | 0.937646 |
| camk2b1 | 2940.38999 | 0.020177339 | 0.0747447 | 0.2699499 | 0.787199 | 0.976596 |
| glra3 | 407.0468497 | 0.113062771 | 0.1346451 | 0.8397093 | 0.401071 | 0.90084 |
| ddx11 | 147.1357836 | -0.106147642 | 0.1744926 | -0.608322 | 0.542974 | 0.944974 |
| zgc:91968 | 169.3630232 | 0.103957229 | 0.1637422 | 0.6348835 | 0.525504 | 0.94013 |
| wdr3 | 823.2690442 | -0.299631871 | 0.0987187 | -3.03521 | 0.002404 | 0.061172 |
| si:dkey-42123.2 | 3.046851276 | -0.627152543 | 1.1344861 | -0.552808 | 0.580395 | NA |
| si:ch211-288d18.1 | 507.5914828 | -0.144827416 | 0.1018365 | -1.422156 | 0.154981 | 0.704624 |
| drd2b | 51.74981565 | 0.127813154 | 0.281672 | 0.4537659 | 0.649997 | 0.960708 |
| ccna2 | 935.648923 | -0.061893748 | 0.0943276 | -0.656157 | 0.511723 | 0.936253 |
| chrna10a | 50.29172855 | 0.12706709 | 0.2802959 | 0.4533319 | 0.65031 | 0.960708 |
| pptc7a | 1028.409718 | 0.042172755 | 0.0875607 | 0.4816402 | 0.630062 | 0.957354 |
| snrpb | 2453.683551 | -0.3358609 | 0.0805105 | -4.171639 | 3.02E-05 | 0.001759 |
| dpysl5a | 2340.065017 | 0.115584899 | 0.0844455 | 1.3687507 | 0.171077 | 0.729069 |
| uqcrb | 20.11827902 | 0.04209115 | 0.5416611 | 0.0777075 | 0.938061 | 0.99279 |
| rpp14 | 185.7458823 | -0.089379253 | 0.1514379 | -0.590204 | 0.555054 | 0.947449 |
| arhgef18a | 399.3982081 | -0.102491098 | 0.1137203 | -0.901256 | 0.367452 | 0.887458 |
| sema3fa | 909.2972153 | 0.056546739 | 0.0935939 | 0.6041709 | 0.54573 | 0.945526 |
| cahz | 1202.5711 | 0.191343966 | 0.0952755 | 2.0083219 | 0.044609 | 0.41583 |
| ndrg2 | 4537.364934 | 0.138801389 | 0.0725094 | 1.9142525 | 0.055588 | 0.461579 |
| si:ch211-12m10.1 | 1363.29004 | 0.056147581 | 0.0874431 | 0.6421041 | 0.520806 | 0.939056 |
| atp6vld | 2691.148842 | -0.175126559 | 0.0781741 | -2.240213 | 0.025077 | 0.306095 |
| acvr2aa | 1908.594624 | 0.013985184 | 0.0759787 | 0.1840671 | 0.853961 | 0.985174 |
| fgfr1b | 238.3716772 | -0.105418245 | 0.161723 | -0.651844 | 0.514502 | 0.937328 |
| dnajc11a | 1081.267409 | -0.148572414 | 0.0819957 | -1.811954 | 0.069993 | 0.516704 |
| rplp21 | 5015.218578 | -0.413031484 | 0.103348 | -3.996511 | 6.43E-05 | 0.003387 |
| akt2 | 2147.205338 | -0.097877036 | 0.0729978 | -1.340822 | 0.179978 | 0.741126 |
| ccdc28b | 142.0756576 | -0.068044316 | 0.1775219 | -0.383301 | 0.701497 | 0.968134 |
| pcytlaa | 205.8258342 | -0.009207071 | 0.1463765 | -0.0629 | 0.949846 | 0.99381 |

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| otx2b | 1349.657911 | -0.079908457 | 0.0831014 | -0.961578 | 0.336262 | 0.876088 |
| ppplr14aa | 155.5577306 | 0.124730641 | 0.1695206 | 0.7357845 | 0.461862 | 0.922466 |
| ift46 | 354.8870761 | -0.05544026 | 0.1201982 | -0.461241 | 0.644626 | 0.96029 |
| esrpl | 528.7649448 | -0.125141547 | 0.1102984 | -1.134573 | 0.256554 | 0.824839 |
| krri1 | 239.2003353 | -0.034573633 | 0.1536118 | -0.225071 | 0.821924 | 0.982156 |
| rnpc3 | 374.6645228 | -0.11105954 | 0.1159093 | -0.958159 | 0.337982 | 0.876609 |
| enpp2 | 221.5564676 | -0.094984981 | 0.1500167 | -0.633163 | 0.526627 | 0.940528 |
| trpmla | 266.907525 | -0.058040822 | 0.1414534 | -0.410318 | 0.681573 | 0.965476 |
| traip | 85.48391307 | -0.040256193 | 0.2207614 | -0.182352 | 0.855307 | 0.985174 |
| uqcc2 | 444.3861986 | 0.132354325 | 0.1125288 | 1.1761817 | 0.239522 | 0.808091 |
| tlx2 | 234.9844502 | -0.031684834 | 0.1385992 | -0.228608 | 0.819174 | 0.981594 |
| si:dkey-110k5.10 | 12.71807647 | 0.531985701 | 0.5739902 | 0.9268202 | 0.35402 | 0.881994 |
| atf7a | 169.182158 | -0.094918688 | 0.1726483 | -0.549781 | 0.58247 | 0.952117 |
| blzfl | 549.0545795 | -0.050276719 | 0.1032343 | -0.487015 | 0.626247 | 0.957354 |
| nael | 941.5484888 | -0.025464791 | 0.090339 | -0.28188 | 0.778035 | 0.975942 |
| stk3 | 715.1555495 | 0.167949673 | 0.0969929 | 1.7315662 | 0.083351 | 0.556629 |
| adralba | 8.810354836 | 0.283827104 | 0.6311747 | 0.4496807 | 0.652941 | NA |
| ankrd45 | 15.23023151 | -0.310776331 | 0.4796275 | -0.647954 | 0.517015 | 0.938543 |
| arhgap33 | 134.5029618 | 0.075171124 | 0.1948486 | 0.3857924 | 0.69965 | 0.967998 |
| ncaldb | 449.4743255 | 0.401095622 | 0.1064267 | 3.7687517 | 0.000164 | 0.007299 |
| nfatc2ip | 283.9869608 | -0.050076408 | 0.127772 | -0.39192 | 0.695117 | 0.96736 |
| fyna | 1501.880814 | -0.015235668 | 0.0874083 | -0.174305 | 0.861626 | 0.985841 |
| zgc:64106 | 273.6650695 | -0.483699925 | 0.1476577 | -3.275819 | 0.001054 | 0.032299 |
| mnk2a | 266.708569 | 0.214879257 | 0.1405621 | 1.5287142 | 0.126335 | 0.655241 |
| dnasell4.2 | 72.70127768 | -0.12664849 | 0.225789 | -0.560915 | 0.574855 | 0.950037 |
| tnncla | 89.20644978 | 0.166281506 | 0.2322606 | 0.7159264 | 0.474037 | 0.924993 |
| fen1 | 606.2501622 | -0.069514117 | 0.0978526 | -0.710397 | 0.477458 | 0.926857 |
| rps9 | 16967.24699 | -0.324505509 | 0.093607 | -3.466681 | 0.000527 | 0.018573 |
| col2alb | 16304.30597 | 0.171967727 | 0.0809632 | 2.1240236 | 0.033668 | 0.357045 |
| aadat | 29.45802224 | -0.044334043 | 0.3619959 | -0.122471 | 0.902526 | 0.990121 |
| sigmar1 | 357.7744649 | -0.136378386 | 0.1195328 | -1.140928 | 0.2539 | 0.823394 |
| ryrla | 1074.78626 | -0.021736468 | 0.0914855 | -0.237595 | 0.812196 | 0.981081 |
| ptger2a | 47.93634975 | -0.029555666 | 0.3002418 | -0.09844 | 0.921583 | 0.992138 |
| elmsanla | 134.8690032 | -0.485799416 | 0.1726715 | -2.813431 | 0.004902 | 0.102006 |
| fes | 99.86025548 | 0.22090477 | 0.1994603 | 1.1075123 | 0.268072 | 0.83343 |
| gsna | 722.7120653 | 0.082312668 | 0.0952269 | 0.8643845 | 0.387377 | 0.895778 |
| otubl | 704.308565 | 0.068206482 | 0.1029361 | 0.6626097 | 0.507581 | 0.935734 |
| CABZ01044048.1 | 16.63682557 | -0.182580965 | 0.5049894 | -0.361554 | 0.717685 | 0.96909 |
| afglla | 199.2729197 | 0.041299013 | 0.1522941 | 0.2711793 | 0.786253 | 0.976471 |
| calcr1a | 39.86439068 | 0.2140811 | 0.317929 | 0.6733613 | 0.500717 | 0.93428 |
| gnaq | 207.609042 | -0.010838037 | 0.1639685 | -0.066098 | 0.9473 | 0.99381 |
| sirt2 | 580.4922982 | 0.089599546 | 0.1171707 | 0.7646924 | 0.444455 | 0.916726 |
| scube3 | 80.37908478 | 0.201788501 | 0.2196777 | 0.9185663 | 0.358322 | 0.884398 |
| dcunld3 | 313.2963852 | -0.072786996 | 0.1245094 | -0.58459 | 0.558823 | 0.948478 |
| ppmlbb | 2660.960994 | 0.07628493 | 0.0707975 | 1.0775091 | 0.281253 | 0.84357 |
| si:ch211-212o1.2 | 266.1148745 | -0.032627238 | 0.1296545 | -0.251648 | 0.801313 | 0.979377 |
| lpcat1 | 146.2663663 | -0.087536617 | 0.1684673 | -0.519606 | 0.603338 | 0.956045 |
| rcc2 | 2881.145839 | -0.03266637 | 0.0697178 | -0.468551 | 0.639391 | 0.959994 |
| oraila | 102.629136 | 0.247174537 | 0.1982385 | 1.2468544 | 0.212451 | 0.780421 |
| myl4 | 693.0811978 | 0.042486628 | 0.0948911 | 0.447741 | 0.65434 | 0.961305 |
| upbl | 257.3794809 | 0.220768964 | 0.1426051 | 1.548114 | 0.121595 | 0.648265 |
| sema6dl | 689.6337733 | -0.047249728 | 0.096372 | -0.490285 | 0.623932 | 0.957354 |
| ugt2a5 | 164.9680724 | -0.052779701 | 0.1692876 | -0.311775 | 0.755211 | 0.975318 |
| arrb2b | 1856.146063 | -0.085666914 | 0.0796913 | -1.074984 | 0.282382 | 0.843666 |

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| clql4a | 34.76670179 | 0.447056644 | 0.3491182 | 1.2805308 | 0.200359 | 0.766727 |
| atp5pb | 6621.81382 | -0.0349562 | 0.074589 | -0.468651 | 0.639319 | 0.959994 |
| spag7 | 1094.882717 | 0.019775688 | 0.0814231 | 0.2428757 | 0.808102 | 0.980642 |
| sfpq | 4790.734619 | -0.087057372 | 0.0826585 | -1.053217 | 0.292241 | 0.848075 |
| pou6f1 | 542.1054169 | 0.059634047 | 0.1044094 | 0.5711558 | 0.567894 | 0.948761 |
| calcr1b | 9.15920123 | -0.792480448 | 0.6358967 | -1.246241 | 0.212676 | NA |
| abcb11a | 217.8220947 | -1.240285514 | 0.151023 | -8.212562 | 2.17E-16 | 1.22E-13 |
| hoxb10a | 94.77201111 | 0.051174525 | 0.2116483 | 0.2417904 | 0.808943 | 0.980642 |
| si:dkey-23k10.5 | 32.89183108 | -1.132254797 | 0.3508469 | -3.227204 | 0.00125 | 0.036865 |
| sox5 | 1742.942191 | -0.034490468 | 0.0775529 | -0.444735 | 0.656512 | 0.961833 |
| cry1b | 536.2106685 | -0.098657103 | 0.1020545 | -0.96671 | 0.333689 | 0.874933 |
| smarcb1b | 677.2585909 | -0.091958408 | 0.0938622 | -0.979717 | 0.327226 | 0.872658 |
| atxn21 | 774.6083859 | 0.085948714 | 0.1140148 | 0.7538384 | 0.450946 | 0.918761 |
| epha4b | 45.10392866 | 0.104811298 | 0.310571 | 0.3374794 | 0.735756 | 0.972535 |
| si:dkeyp-117h8.2 | 849.9508959 | -0.039759661 | 0.0972549 | -0.408819 | 0.682672 | 0.965476 |
| dennd6b | 393.1470995 | -0.042268156 | 0.1177959 | -0.358825 | 0.719726 | 0.969318 |
| FOXK2 | 991.6986242 | -0.222138398 | 0.0843395 | -2.633859 | 0.008442 | 0.14985 |
| actr1 | 2503.33824 | -0.028315482 | 0.072701 | -0.389479 | 0.696922 | 0.96736 |
| rbm39a | 3245.131746 | -0.037582437 | 0.0832903 | -0.451222 | 0.651829 | 0.960708 |
| mybpc3 | 1355.624217 | 0.230792789 | 0.0829609 | 2.7819465 | 0.005403 | 0.109079 |
| slc26a2 | 352.345657 | 0.187794661 | 0.1187775 | 1.581062 | 0.113864 | 0.632634 |
| scxb | 10.21285159 | 0.169898004 | 0.6008817 | 0.2827479 | 0.77737 | NA |
| syt5b | 2909.909158 | 0.026233671 | 0.0804528 | 0.3260755 | 0.744367 | 0.974094 |
| snrpd1 | 1022.699167 | -0.197942723 | 0.0891345 | -2.220721 | 0.02637 | 0.312638 |
| ftr52p | 12.80386263 | -0.048799743 | 0.5474407 | -0.089142 | 0.928969 | 0.992702 |
| twf1b | 577.37266 | 0.013069678 | 0.1124767 | 0.116199 | 0.907495 | 0.990702 |
| chuk | 912.0952706 | 0.020139467 | 0.0870016 | 0.2314838 | 0.816939 | 0.981594 |
| aldoaa | 12372.66427 | 0.007378003 | 0.0693552 | 0.10638 | 0.915281 | 0.991171 |
| pde6b | 323.1719514 | 0.26538699 | 0.1349061 | 1.9671982 | 0.04916 | 0.435115 |
| sema3b | 400.2556672 | 0.088863935 | 0.1170541 | 0.75917 | 0.447751 | 0.917154 |
| si:ch211-246m6.5 | 94.51182696 | -0.096906769 | 0.2107282 | -0.459866 | 0.645612 | 0.96029 |
| prtfcd1 | 171.0187325 | -0.105167197 | 0.1646221 | -0.63884 | 0.522927 | 0.939336 |
| ttc36 | 81.22469886 | 0.468107281 | 0.2245512 | 2.0846352 | 0.037102 | 0.377011 |
| esrrgb | 15.77672947 | 0.155142157 | 0.5018927 | 0.3091142 | 0.757235 | 0.975374 |
| ctsl1 | 20.80676903 | -0.0346876 | 0.4409745 | -0.078661 | 0.937302 | 0.99279 |
| clocka | 84.78478905 | 0.106759828 | 0.2113375 | 0.5051627 | 0.613445 | 0.95688 |
| zgc:56556 | 101.1714541 | -0.046229784 | 0.1956128 | -0.236333 | 0.813174 | 0.981081 |
| marveld1 | 145.8016505 | 0.244404146 | 0.1720414 | 1.4206126 | 0.155429 | 0.705158 |
| b9d1 | 215.20989 | -0.320127052 | 0.1582027 | -2.023525 | 0.043019 | 0.407353 |
| u2af2b | 2394.653111 | -0.002688636 | 0.0698756 | -0.038477 | 0.969307 | 0.996315 |
| pigo | 540.7425638 | 0.191818284 | 0.1201364 | 1.596671 | 0.110339 | 0.624637 |
| ints13 | 406.2320498 | -0.007007188 | 0.1115328 | -0.062826 | 0.949905 | 0.99381 |
| cpm | 227.7603343 | 0.114426019 | 0.1519691 | 0.7529559 | 0.451476 | 0.918761 |
| dhrrs12 | 561.0220808 | 0.048291678 | 0.1038342 | 0.4650847 | 0.641871 | 0.959994 |
| cttn | 1756.077811 | -0.091466357 | 0.0802632 | -1.13958 | 0.254461 | 0.823475 |
| stag2a | 831.4192886 | -0.065076649 | 0.0907782 | -0.716876 | 0.473451 | 0.924993 |
| tbx6 | 44.37359782 | -0.063952711 | 0.3347117 | -0.191068 | 0.848472 | 0.985174 |
| tent5bb | 228.8655845 | 0.253500855 | 0.1379313 | 1.8378774 | 0.06608 | 0.502802 |
| wars2 | 90.48775771 | -0.095829046 | 0.2215183 | -0.432601 | 0.665305 | 0.964736 |
| micall | 12.88937808 | -0.304962108 | 0.5434181 | -0.561192 | 0.574666 | 0.950037 |
| batf | 4.83452673 | -0.740067727 | 0.9020005 | -0.820474 | 0.411946 | NA |
| pcnx1 | 977.6582478 | 0.007296513 | 0.1020095 | 0.0715277 | 0.942978 | 0.993364 |
| plod2 | 710.1014777 | 0.228241273 | 0.0933229 | 2.4457165 | 0.014456 | 0.218716 |
| pbxiplb | 621.7017504 | 0.098057312 | 0.1017567 | 0.9636447 | 0.335224 | 0.876088 |

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|------------|-------------|--------------|-----------|-----------|----------|----------|
| cetn3 | 255.2606149 | 0.141406991 | 0.1464065 | 0.9658517 | 0.334118 | 0.875263 |
| zgc:100846 | 180.4354044 | 0.044506066 | 0.1591666 | 0.2796193 | 0.77977 | 0.976146 |
| atp5l | 4313.354677 | -0.109595882 | 0.0922137 | -1.188499 | 0.234637 | 0.803509 |
| chn2 | 23.1741752 | -0.143621973 | 0.4111095 | -0.349352 | 0.726825 | 0.970402 |
| map2k5 | 196.9057948 | 0.068104943 | 0.1489247 | 0.4573113 | 0.647447 | 0.960581 |
| aakla | 34.96114877 | -0.032751086 | 0.3364721 | -0.097337 | 0.922459 | 0.99233 |
| inaa | 368.6092439 | 0.457385469 | 0.1226656 | 3.7287196 | 0.000192 | 0.008264 |
| ptk7a | 718.984489 | 0.047805534 | 0.0945363 | 0.5056843 | 0.613078 | 0.95688 |
| galnt8a.2 | 1.820454227 | -0.279786658 | 1.4495387 | -0.193018 | 0.846945 | NA |
| sp8a | 274.2984598 | 0.2079615 | 0.1328624 | 1.5652392 | 0.117527 | 0.641232 |
| ednraa | 447.4201707 | 0.132963688 | 0.1096951 | 1.2121208 | 0.225466 | 0.793022 |
| foxn1 | 43.82572263 | 0.628578507 | 0.3115542 | 2.0175577 | 0.043637 | 0.410116 |
| MFN1 | 37.73731187 | 0.05987885 | 0.3110992 | 0.1924751 | 0.84737 | 0.985174 |
| mrpl19 | 558.9440132 | -0.163816814 | 0.102802 | -1.593518 | 0.111044 | 0.626294 |
| pdca | 210.8538203 | 0.445336416 | 0.1545494 | 2.8815151 | 0.003958 | 0.086474 |
| cry4 | 778.0602527 | -0.278281099 | 0.0955989 | -2.910924 | 0.003604 | 0.081067 |
| tsg101b | 414.44298 | -0.006100353 | 0.1123201 | -0.054312 | 0.956686 | 0.994543 |
| itpr2 | 146.5707551 | -0.332415878 | 0.1766884 | -1.881368 | 0.059922 | 0.478654 |
| txn11 | 1323.587856 | -0.04642378 | 0.079118 | -0.586766 | 0.557361 | 0.948478 |
| spns1 | 1374.291715 | 0.270729876 | 0.0907238 | 2.9841096 | 0.002844 | 0.069229 |
| tpgs2 | 141.0914407 | -0.333210357 | 0.1691747 | -1.969623 | 0.048882 | 0.434811 |
| plp1b | 352.5103422 | 0.442601108 | 0.1239939 | 3.5695386 | 0.000358 | 0.013599 |
| prkcbp11 | 1568.128529 | -0.178211679 | 0.0765837 | -2.327019 | 0.019964 | 0.266381 |
| gyglA | 799.9663341 | -0.040626639 | 0.1096134 | -0.370636 | 0.710909 | 0.968985 |
| bmpr2a | 559.3747453 | -0.052199006 | 0.1127753 | -0.462858 | 0.643466 | 0.959994 |
| slc35e1 | 668.2235813 | 0.15346199 | 0.0950245 | 1.6149726 | 0.106317 | 0.615567 |
| insra | 1326.017589 | -0.050227048 | 0.082544 | -0.608488 | 0.542864 | 0.944974 |
| dlx4a | 177.7240171 | -0.255007706 | 0.1616777 | -1.57726 | 0.114736 | 0.635336 |
| ctnbn11 | 722.7809149 | -0.118708469 | 0.1029447 | -1.153129 | 0.248857 | 0.81797 |
| csrp2 | 442.2239506 | 0.105505508 | 0.1113019 | 0.9479222 | 0.343169 | 0.878434 |
| slc35d1a | 211.8416087 | 0.150282868 | 0.1443403 | 1.0411704 | 0.297796 | 0.85401 |
| fmnl | 13.72813377 | -1.06581564 | 0.5297994 | -2.011734 | 0.044248 | 0.413497 |
| zgc:136908 | 281.6620074 | -0.0434536 | 0.145526 | -0.298597 | 0.765248 | 0.975374 |
| crx | 2431.078052 | -0.064210978 | 0.0845685 | -0.759277 | 0.447687 | 0.917154 |
| bfsp2 | 3470.373126 | 0.172197951 | 0.0763195 | 2.2562775 | 0.024053 | 0.299515 |
| ybey | | 0 NA | NA | NA | NA | NA |
| slc38a7 | 313.6063972 | 0.142749094 | 0.1330818 | 1.0726414 | 0.283432 | 0.84466 |
| mob2b | 617.048184 | 0.055181542 | 0.107475 | 0.5134362 | 0.607646 | 0.956718 |
| cpa6 | 56.7972674 | 0.231205139 | 0.2589059 | 0.8930085 | 0.371853 | 0.892248 |
| hpgd | 241.357374 | -0.04109903 | 0.1372354 | -0.299478 | 0.764575 | 0.975374 |
| glral | 840.7117494 | 0.131706275 | 0.095924 | 1.3730277 | 0.169744 | 0.726965 |
| kdsr | 350.9229203 | -0.073860676 | 0.1211622 | -0.609602 | 0.542126 | 0.944974 |
| hs6st2 | 571.3684781 | 0.017305044 | 0.1008527 | 0.1715874 | 0.863762 | 0.985952 |
| dnaaf1 | 13.51074814 | -0.338685797 | 0.5232083 | -0.647325 | 0.517422 | 0.938592 |
| zgc:100832 | 135.765 | -0.070123093 | 0.1710997 | -0.409838 | 0.681925 | 0.965476 |
| ttc26 | 196.7439519 | 0.073990883 | 0.1533016 | 0.4826491 | 0.629345 | 0.957354 |
| rnf19a | 983.9160576 | -0.10767121 | 0.0863381 | -1.247088 | 0.212365 | 0.780251 |
| polr3gla | 67.90260717 | -0.168093844 | 0.2453615 | -0.685087 | 0.493289 | 0.931926 |
| mettl21a | 34.30761669 | 0.213492552 | 0.3614991 | 0.5905757 | 0.554805 | 0.947449 |
| mtnrlal | 8.125492417 | 0.414438443 | 0.6661674 | 0.6221236 | 0.533861 | NA |
| thbs3b | 168.9181718 | 0.361752248 | 0.1699216 | 2.1289357 | 0.03326 | 0.355427 |
| dcn | 2318.750002 | 0.298541791 | 0.0704902 | 4.2352213 | 2.28E-05 | 0.001407 |
| angpt11a | 334.4328206 | 0.076342649 | 0.1251273 | 0.6101201 | 0.541782 | 0.944974 |
| dmac21 | 131.9600102 | -0.112257066 | 0.1785375 | -0.628759 | 0.529507 | 0.942209 |

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|-------------|-------------|--------------|-----------|-----------|----------|----------|
| kif15 | 379.434948 | -0.035689313 | 0.1156027 | -0.308724 | 0.757532 | 0.975374 |
| apoala | 13026.05938 | 0.197436549 | 0.205437 | 0.9610565 | 0.336524 | 0.876088 |
| meislb | 4117.423222 | -0.072594338 | 0.0674141 | -1.076843 | 0.28155 | 0.84357 |
| c19h1orf109 | 79.00545265 | -0.336306926 | 0.2273939 | -1.478962 | 0.13915 | 0.677963 |
| cngalb | 120.9777766 | 0.171242295 | 0.2066923 | 0.8284891 | 0.407394 | 0.901305 |
| zgc:109965 | 496.8479028 | -0.142675753 | 0.1273448 | -1.120389 | 0.262548 | 0.830166 |
| fbx12 | 169.9356726 | 0.045568181 | 0.1587854 | 0.2869796 | 0.774128 | 0.975687 |
| cyp46a1.1 | 152.2368453 | -1.004990678 | 0.1813791 | -5.540831 | 3.01E-08 | 4.54E-06 |
| sgce | 949.4848574 | 0.075644366 | 0.0851824 | 0.8880279 | 0.374526 | 0.894213 |
| ccn11b | 984.5587328 | 0.150904902 | 0.0866907 | 1.7407276 | 0.081731 | 0.552725 |
| papolg | 1856.372901 | -0.097551342 | 0.0751199 | -1.298609 | 0.194078 | 0.75784 |
| emc7 | 1257.356412 | 0.075037874 | 0.0820832 | 0.914168 | 0.360629 | 0.885686 |
| rab4b | 24.86632554 | 0.275321525 | 0.3792573 | 0.7259493 | 0.46787 | 0.924328 |
| zgc:162872 | 48.17511708 | 0.140777798 | 0.2877213 | 0.4892853 | 0.62464 | 0.957354 |
| cant1a | 443.085922 | -0.299940659 | 0.1119461 | -2.679332 | 0.007377 | 0.135568 |
| scp2a | 1229.829373 | -0.044466437 | 0.0866683 | -0.513065 | 0.607906 | 0.956718 |
| fer | 24.25021592 | -0.019213127 | 0.4226256 | -0.045461 | 0.96374 | 0.995927 |
| gpt2 | 664.3431806 | 0.286880994 | 0.1030881 | 2.7828721 | 0.005388 | 0.109051 |
| CDK18 | 62.23362705 | -0.03774659 | 0.2472177 | -0.152686 | 0.878646 | 0.987881 |
| umps | 276.2681277 | -0.183090356 | 0.1338244 | -1.368139 | 0.171269 | 0.729413 |
| dpf2 | 243.6747341 | 0.032407921 | 0.1452477 | 0.2231217 | 0.823441 | 0.982196 |
| nup35 | 288.8143982 | 0.199737949 | 0.1262218 | 1.5824367 | 0.11355 | 0.631853 |
| psme3 | 644.80364 | 0.023977115 | 0.0996212 | 0.2406829 | 0.809801 | 0.980648 |
| ube2e3 | 1890.215481 | -0.116599257 | 0.0864485 | -1.348772 | 0.17741 | 0.738316 |
| def6a | 9.200782712 | -0.511313697 | 0.6548971 | -0.780754 | 0.434947 | NA |
| rgma | 2646.940576 | 0.060116399 | 0.0721462 | 0.8332577 | 0.404699 | 0.901305 |
| eftud2 | 1530.70197 | -0.078969658 | 0.082313 | -0.959382 | 0.337366 | 0.876394 |
| clcn1b | 51.19235866 | 0.24050811 | 0.2687337 | 0.8949681 | 0.370804 | 0.890813 |
| tmem206 | 71.88842988 | 0.09794981 | 0.2542278 | 0.3852837 | 0.700027 | 0.967998 |
| eif4e1c | 1098.897599 | 0.280101201 | 0.0813003 | 3.4452684 | 0.00057 | 0.019517 |
| katna12 | 9.90845297 | 1.371124574 | 0.6697222 | 2.0473035 | 0.040628 | NA |
| zgc:65851 | 224.2212777 | 0.119252415 | 0.1421181 | 0.839108 | 0.401409 | 0.90084 |
| bcs11 | 238.965117 | -0.076761177 | 0.135469 | -0.566633 | 0.570964 | 0.949079 |
| cnga3b | 40.16379524 | 0.49412699 | 0.318516 | 1.551341 | 0.12082 | 0.645876 |
| sytl3 | 502.6284211 | 0.144262766 | 0.109214 | 1.3209187 | 0.186528 | 0.750917 |
| myoz2a | 246.5245954 | 0.2750619 | 0.1419532 | 1.9376937 | 0.052661 | 0.450394 |
| usp25 | 1200.01476 | -0.025761802 | 0.0857386 | -0.300469 | 0.763819 | 0.975374 |
| zgc:110269 | 196.1940184 | -0.294927204 | 0.1681541 | -1.75391 | 0.079446 | 0.547489 |
| ptpn11b | 246.6466008 | 0.241586412 | 0.1351311 | 1.7877924 | 0.07381 | 0.529749 |
| capn9 | 535.3067825 | -0.204561649 | 0.1035821 | -1.974875 | 0.048282 | 0.432986 |
| nacad | 550.892203 | 0.09005377 | 0.104966 | 0.8579328 | 0.39093 | 0.897643 |
| vipr2 | 61.57977826 | -0.022662752 | 0.2543256 | -0.089109 | 0.928995 | 0.992702 |
| galnt8a.1 | 8.997498262 | -0.77029437 | 0.6539289 | -1.177948 | 0.238817 | NA |
| fbp2 | 1263.592432 | -1.091897573 | 0.0958812 | -11.38802 | 4.80E-30 | 1.05E-26 |
| trim46a | 144.3890892 | 0.01584052 | 0.1799258 | 0.0880392 | 0.929846 | 0.992702 |
| ttc21b | 285.7611573 | -0.002318001 | 0.1306173 | -0.017747 | 0.985841 | 0.996944 |
| rdh10b | 184.1049161 | 0.111645156 | 0.1626418 | 0.6864479 | 0.492431 | 0.931926 |
| naa35 | 861.4732652 | 0.05901889 | 0.0923083 | 0.6393668 | 0.522584 | 0.939331 |
| hsc70 | 1175.217716 | 0.618786293 | 0.1009689 | 6.1284858 | 8.87E-10 | 1.87E-07 |
| pdhala | 4151.689974 | 0.084503144 | 0.0676245 | 1.2495938 | 0.211448 | 0.778917 |
| cox4i11 | 118.3076279 | -0.632857816 | 0.216606 | -2.9217 | 0.003481 | 0.079216 |
| adar | 663.4864453 | -0.041947016 | 0.0979586 | -0.428212 | 0.668497 | 0.96478 |
| kcnk5b | 155.8909948 | 0.508354199 | 0.1677228 | 3.0309191 | 0.002438 | 0.061888 |
| mmp13a | 100.2876542 | -0.028577925 | 0.2477171 | -0.115365 | 0.908156 | 0.990702 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| eya4 | 580.0384622 | 0.106173287 | 0.1011708 | 1.0494458 | 0.293973 | 0.849999 |
| adssl | 1310.509212 | -0.094017948 | 0.0800317 | -1.174758 | 0.240091 | 0.808111 |
| ercc612 | 120.0497877 | -0.082747145 | 0.1848857 | -0.447558 | 0.654472 | 0.961305 |
| coll1a | 32753.84354 | 0.303986352 | 0.1065754 | 2.8523128 | 0.00434 | 0.093084 |
| mgat1a | 410.7377422 | -0.049315192 | 0.1146475 | -0.430146 | 0.667089 | 0.964736 |
| rnf207b | 88.32446759 | 0.367320823 | 0.2093683 | 1.7544246 | 0.079358 | 0.547489 |
| coll1a2 | 16012.18306 | 0.115733682 | 0.0969749 | 1.1934401 | 0.232697 | 0.80121 |
| neflb | 951.8861649 | 0.140249888 | 0.0915893 | 1.5312916 | 0.125697 | 0.654803 |
| fam76b | 1035.404585 | -0.025353157 | 0.0957527 | -0.264778 | 0.791181 | 0.977461 |
| spic | 0.679983498 | -1.527277543 | 2.5551009 | -0.597737 | 0.550016 | NA |
| zgc:113057 | 1.118581941 | -2.434763583 | 2.0644676 | -1.179366 | 0.238252 | NA |
| si:ch211-169p10.1 | 8.631167378 | -0.79246538 | 0.6798098 | -1.165716 | 0.243729 | NA |
| vmp1 | 785.086903 | 0.071798923 | 0.0993917 | 0.7223832 | 0.470059 | 0.924787 |
| rnl5 | 331.4241397 | -0.19265427 | 0.1273675 | -1.512586 | 0.130385 | 0.662797 |
| zgc:77849 | 2322.312733 | -0.154228296 | 0.0783475 | -1.968515 | 0.049009 | 0.435115 |
| rassf4 | 73.81074726 | -0.210466147 | 0.2298378 | -0.915716 | 0.359816 | 0.885611 |
| spintl1b | 589.2834385 | 0.041199251 | 0.1017831 | 0.4047751 | 0.685643 | 0.966307 |
| aacs | 62.18546058 | -0.172548197 | 0.2556256 | -0.675004 | 0.499674 | 0.934065 |
| aurka | 251.968794 | -0.163343022 | 0.145655 | -1.121438 | 0.262102 | 0.830166 |
| mphosph10 | 323.8565449 | -0.171503032 | 0.1277139 | -1.342869 | 0.179314 | 0.740258 |
| GPR62 (1 of many) | 18.80100641 | 0.666648698 | 0.4418961 | 1.5086097 | 0.131399 | 0.664861 |
| per1b | 2258.65797 | 0.035129372 | 0.072055 | 0.4875355 | 0.625879 | 0.957354 |
| rlbpla | 1084.662761 | 0.082508942 | 0.09234 | 0.893534 | 0.371571 | 0.892003 |
| u2af2a | 1365.711287 | 0.030850539 | 0.0843433 | 0.3657734 | 0.714534 | 0.96909 |
| rnpep | 315.0836423 | 0.234198757 | 0.1249776 | 1.8739263 | 0.060941 | 0.482482 |
| sdcbp2 | 2169.000402 | -0.114897515 | 0.0812597 | -1.413955 | 0.157375 | 0.708089 |
| hfc1b | 1812.87192 | -0.035882412 | 0.0848854 | -0.422716 | 0.672503 | 0.965257 |
| slc6a6a | 20.06383268 | -0.268755364 | 0.4820912 | -0.557478 | 0.577201 | 0.950788 |
| epx | 8.933588736 | 0.762742446 | 0.6371652 | 1.1970875 | 0.231272 | NA |
| dnase1 | 2.496544088 | 0.208764915 | 1.2037135 | 0.1734341 | 0.86231 | NA |
| rap1aa | 1124.808803 | 0.068215787 | 0.0930066 | 0.733451 | 0.463283 | 0.922698 |
| ak5 | 358.5591925 | 0.082756834 | 0.1191566 | 0.6945214 | 0.487355 | 0.931584 |
| pdss2 | 245.8934356 | 0.313999652 | 0.1470965 | 2.134651 | 0.03279 | 0.352808 |
| polr3f | 156.9699162 | -0.182733312 | 0.1624183 | -1.125079 | 0.260556 | 0.828546 |
| slkb | 586.9526078 | 0.071768981 | 0.112294 | 0.6391169 | 0.522747 | 0.939336 |
| waca | 1466.352029 | 0.015597612 | 0.0773805 | 0.2015703 | 0.840253 | 0.985029 |
| AL590149.1 | 322.5575348 | 0.120644413 | 0.1238069 | 0.9744563 | 0.32983 | 0.873938 |
| fmnl2a | 51.57364239 | 0.255664755 | 0.2861417 | 0.8934899 | 0.371595 | 0.892003 |
| ptdss1a | 227.0613532 | -0.181104565 | 0.1530407 | -1.183375 | 0.23666 | 0.805854 |
| pdcd10b | 424.2838667 | -0.113408366 | 0.1156905 | -0.980274 | 0.326951 | 0.872658 |
| col5a1 | 8947.404373 | 0.251704645 | 0.0644027 | 3.9082944 | 9.29E-05 | 0.004595 |
| si:dkey-97a13.6 | 31.73373582 | -0.470564078 | 0.3605431 | -1.305154 | 0.191841 | 0.75597 |
| EIF3JA | 433.3832395 | -0.053092288 | 0.1134016 | -0.468179 | 0.639656 | 0.959994 |
| hpxa | 7.149207444 | -0.654652183 | 0.7686859 | -0.851651 | 0.394408 | NA |
| saga | 1119.289906 | 0.169041549 | 0.0943643 | 1.7913724 | 0.073234 | 0.527933 |
| prkag2a | 554.8996679 | 0.055819801 | 0.0999003 | 0.5587551 | 0.576329 | 0.950611 |
| cdc34b | 1016.652441 | -0.09132527 | 0.0958085 | -0.953206 | 0.340486 | 0.87805 |
| zgc:92749 | 32.12167228 | -0.010007364 | 0.334331 | -0.029933 | 0.976121 | 0.996762 |
| cid1b | 26.98113868 | 0.222975542 | 0.3876846 | 0.5751468 | 0.565192 | 0.948739 |
| si:ch211-266d19.4 | 133.4237008 | -0.014400098 | 0.1724608 | -0.083498 | 0.933456 | 0.992702 |
| smad4b | 125.3449309 | -0.239697424 | 0.1839946 | -1.302742 | 0.192663 | 0.756795 |
| atf6 | 1133.125849 | 0.229817007 | 0.0826147 | 2.7817927 | 0.005406 | 0.109079 |
| tfap2b | 1420.607492 | 0.007882581 | 0.0938851 | 0.0839599 | 0.933088 | 0.992702 |
| inhbaa | 140.9100247 | -0.153772638 | 0.1692759 | -0.908414 | 0.363659 | 0.886174 |

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|----------|-------------|--------------|-----------|-----------|----------|----------|
| gtf2e2 | 571.7969484 | -0.010212368 | 0.1060855 | -0.096265 | 0.92331 | 0.992588 |
| rpud4 | 123.9434042 | -0.13931398 | 0.1876815 | -0.742289 | 0.457912 | 0.921978 |
| pfn2l | 5728.958752 | 0.133736667 | 0.0747746 | 1.7885295 | 0.073691 | 0.529749 |
| atp2bla | 1652.806508 | 0.201976186 | 0.0957175 | 2.1101283 | 0.034847 | 0.363434 |
| EIF1B | 9868.765122 | -0.042251633 | 0.0768162 | -0.550036 | 0.582295 | 0.95207 |
| C3A.1 | 4899.546986 | 0.107476056 | 0.2230253 | 0.4819007 | 0.629877 | 0.957354 |
| bbx | 17.07227908 | -0.215210373 | 0.4783476 | -0.449904 | 0.65278 | 0.960708 |
| wee2 | 1.18109702 | -0.359546947 | 1.8242229 | -0.197096 | 0.843752 | NA |
| rbm14a | 992.9310246 | -0.073980998 | 0.0940229 | -0.78684 | 0.431376 | 0.912692 |
| calhm5.2 | 33.90246786 | -0.067567587 | 0.3302257 | -0.20461 | 0.837877 | 0.984701 |
| hcls1 | 276.2232072 | 0.180713787 | 0.130749 | 1.3821432 | 0.166928 | 0.723549 |
| macolb | 883.6153103 | 0.014706703 | 0.0887004 | 0.165802 | 0.868313 | 0.987245 |
| poc1bl | 121.3155778 | -0.250939082 | 0.194506 | -1.290135 | 0.197004 | 0.761944 |
| rer1 | 1029.758589 | 0.118727223 | 0.0915534 | 1.2968085 | 0.194697 | 0.758758 |
| arll3b | 328.9305889 | 0.022335039 | 0.1238208 | 0.1803819 | 0.856853 | 0.985597 |
| smarca1 | 193.9908164 | -0.084219225 | 0.1485407 | -0.566977 | 0.57073 | 0.949061 |
| nucks1b | 2050.656148 | -0.02989988 | 0.0872394 | -0.342734 | 0.731799 | 0.971572 |
| foxa3 | 359.4731113 | -0.215529865 | 0.1240814 | -1.737003 | 0.082387 | 0.553931 |
| plek2 | 223.9974112 | 0.682576353 | 0.3232469 | 2.1116252 | 0.034719 | 0.362665 |
| tmem161a | 520.8136113 | 0.230405533 | 0.1051561 | 2.1910813 | 0.028446 | 0.327409 |
| hnmt | 164.8789736 | -0.500973667 | 0.177389 | -2.824153 | 0.004741 | 0.099196 |
| pfkpb | 537.6040771 | -0.014333388 | 0.1220664 | -0.117423 | 0.906525 | 0.990702 |
| dipk2aa | 73.3250648 | -0.067241086 | 0.2439016 | -0.275689 | 0.782787 | 0.97627 |
| csnk2a2a | 891.7135612 | -0.004103755 | 0.0898725 | -0.045662 | 0.96358 | 0.995927 |
| nop56 | 2181.740745 | -0.159366611 | 0.0891257 | -1.78811 | 0.073758 | 0.529749 |
| dlgap4b | 33.07303079 | -0.303326659 | 0.3469875 | -0.874172 | 0.382025 | 0.895192 |
| itga3b | 371.7177901 | 0.379798353 | 0.1207104 | 3.1463605 | 0.001653 | 0.046434 |
| mettl3 | 208.9319712 | 0.193313932 | 0.1417437 | 1.3638276 | 0.172622 | 0.731348 |
| asah2 | 78.09455046 | -0.532897899 | 0.2587186 | -2.059758 | 0.039422 | 0.389957 |
| foxn3 | 35.97636336 | 0.107524194 | 0.3292309 | 0.326592 | 0.743976 | 0.974094 |
| alg9 | 732.9816685 | 0.013827721 | 0.0941361 | 0.1468907 | 0.883218 | 0.988706 |
| arih2 | 1537.787262 | -0.071870045 | 0.095332 | -0.753892 | 0.450914 | 0.918761 |
| tmprss4b | 29.66825743 | 0.382377866 | 0.3666183 | 1.0429864 | 0.296955 | 0.853798 |
| picalma | 1351.336321 | 0.061346346 | 0.0776 | 0.7905458 | 0.429209 | 0.911406 |
| npepl1 | 1241.160623 | -0.062885356 | 0.0849914 | -0.739903 | 0.459359 | 0.921978 |
| snap23.1 | 735.5376672 | -0.118532953 | 0.1022304 | -1.159468 | 0.246265 | 0.816376 |
| slc4ala | 281.8051091 | 0.282785092 | 0.1653688 | 1.7100272 | 0.087261 | 0.566108 |
| znf143a | 461.8929035 | -0.120840485 | 0.1082634 | -1.116172 | 0.264349 | 0.830245 |
| ammecr1 | 145.3099122 | -0.084213931 | 0.1783053 | -0.472302 | 0.636711 | 0.958679 |
| anos1a | 1133.181481 | 0.115175787 | 0.089472 | 1.2872833 | 0.197996 | 0.763261 |
| ddx49 | 158.8394797 | -0.110956933 | 0.1673332 | -0.66309 | 0.507273 | 0.935734 |
| slc34a2a | 38.59776013 | 1.315978732 | 0.3241309 | 4.0600231 | 4.91E-05 | 0.002688 |
| arhgef4 | 2276.078689 | 0.048860682 | 0.0724432 | 0.6744685 | 0.500013 | 0.934224 |
| ech1 | 338.6304853 | -0.138924722 | 0.1429702 | -0.971704 | 0.331198 | 0.874339 |
| tcea2 | 345.5821143 | 0.113303044 | 0.1167169 | 0.970751 | 0.331672 | 0.874653 |
| EIF2D | 287.4622844 | 0.017928976 | 0.1292019 | 0.1387671 | 0.889634 | 0.989291 |
| mat2b | 445.9304601 | -0.17852354 | 0.1185372 | -1.506055 | 0.132053 | 0.665787 |
| itgb5 | 563.3988215 | 0.145063832 | 0.1037398 | 1.3983426 | 0.16201 | 0.716531 |
| myh2 | 22414.59667 | 0.270403573 | 0.0999399 | 2.7056623 | 0.006817 | 0.127648 |
| tnfsf13b | 18.99502116 | 0.164196013 | 0.4404167 | 0.3728197 | 0.709283 | 0.968736 |
| syap1 | 948.5523837 | -0.070189833 | 0.0890657 | -0.788068 | 0.430657 | 0.912304 |
| scml2 | 733.9796332 | -0.044621526 | 0.0979696 | -0.455463 | 0.648776 | 0.960708 |
| mob1bb | 318.8844296 | 0.199878553 | 0.1305963 | 1.530507 | 0.125891 | 0.654803 |
| rhoub | 841.971884 | 0.13319096 | 0.0881998 | 1.5101055 | 0.131016 | 0.663795 |

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|-----------------|-------------|--------------|-----------|-----------|----------|----------|
| cfll1 | 3074.943398 | 0.049434405 | 0.1023246 | 0.4831134 | 0.629015 | 0.957354 |
| osbp17 | 1227.387489 | 0.280192699 | 0.0815479 | 3.4359265 | 0.000591 | 0.020129 |
| nfla | 795.3084945 | -0.043811333 | 0.0938083 | -0.467031 | 0.640478 | 0.959994 |
| adal | 38.37535784 | 0.256045937 | 0.3255922 | 0.7864008 | 0.431633 | 0.91277 |
| gpia | 5575.278349 | -0.115611289 | 0.0934833 | -1.236705 | 0.216197 | 0.783589 |
| ppfia2 | 604.4840973 | 0.051659703 | 0.1386823 | 0.372504 | 0.709518 | 0.968856 |
| tdg.1 | 996.9575696 | 0.170556075 | 0.0897335 | 1.9006951 | 0.057342 | 0.469987 |
| opcml | 60.49768396 | 0.405104695 | 0.2528429 | 1.602199 | 0.109112 | 0.622856 |
| pibf1 | | 0 NA | NA | NA | NA | NA |
| ubiad1 | 507.4078517 | 0.065879171 | 0.1187278 | 0.5548756 | 0.57898 | 0.951052 |
| or101-1 | 9.957374935 | 0.321386327 | 0.6538438 | 0.4915338 | 0.623049 | NA |
| pole4 | 74.79512173 | 0.07543458 | 0.2357557 | 0.3199692 | 0.748992 | 0.97419 |
| dtbbb | 12.24225332 | 0.227637057 | 0.5717674 | 0.3981288 | 0.690535 | 0.967111 |
| si:ch211-59h6.1 | 35.22095894 | -0.461703836 | 0.3330392 | -1.386335 | 0.165645 | 0.721576 |
| nsun3 | 62.1674877 | -0.190981488 | 0.2587133 | -0.738197 | 0.460394 | 0.921978 |
| erapla | 116.658759 | -0.120292822 | 0.183541 | -0.6554 | 0.51221 | 0.936253 |
| ints6 | 214.5101713 | 0.141319149 | 0.1473893 | 0.9588154 | 0.337652 | 0.876395 |
| mta2 | 3436.252308 | 0.044551518 | 0.0680459 | 0.6547278 | 0.512643 | 0.936253 |
| ndufv2 | 2148.038402 | 0.092849226 | 0.0963073 | 0.9640936 | 0.334999 | 0.875906 |
| abcc12 | 447.7857781 | -0.563458905 | 0.1219036 | -4.622168 | 3.80E-06 | 0.000321 |
| zgc:158412 | 32.97265455 | -0.692667704 | 0.3482279 | -1.989122 | 0.046688 | 0.424613 |
| itpkla | 284.5948513 | -0.722045368 | 0.1295833 | -5.572055 | 2.52E-08 | 3.89E-06 |
| hoxb5a | 696.2209216 | -0.140732317 | 0.0956875 | -1.470749 | 0.141359 | 0.681968 |
| ascc2 | 265.7825411 | 0.019513642 | 0.1431398 | 0.1363258 | 0.891564 | 0.989291 |
| oxctla | 1352.449363 | 0.046257885 | 0.0784937 | 0.5893198 | 0.555647 | 0.947621 |
| mmp15b | 74.6331344 | 0.180010307 | 0.2395817 | 0.7513525 | 0.452441 | 0.919104 |
| mrpl11 | 435.6942059 | -0.189983409 | 0.1166186 | -1.6291 | 0.103292 | 0.609625 |
| bmilb | 476.0790449 | 0.005762885 | 0.1063088 | 0.0542089 | 0.956769 | 0.994543 |
| ywhaba | 13869.92532 | 0.043326516 | 0.0666369 | 0.6501884 | 0.515571 | 0.9377 |
| tubgcp2 | 437.9197467 | 0.001466039 | 0.1137881 | 0.0128839 | 0.98972 | 0.997612 |
| uap111 | 285.7203716 | -0.148677462 | 0.1340397 | -1.109205 | 0.267342 | 0.833191 |
| ndrg3a | 4079.241045 | 0.059327938 | 0.0663179 | 0.8945993 | 0.371001 | 0.891178 |
| gclc | 1019.504254 | -0.166671717 | 0.1119126 | -1.489303 | 0.136408 | 0.673303 |
| dmtn | 363.5643183 | 0.008230003 | 0.1169255 | 0.0703867 | 0.943886 | 0.993364 |
| hiatla | 726.7912302 | 0.020478509 | 0.0952192 | 0.2150671 | 0.829715 | 0.982805 |
| maf1 | 625.3100695 | 0.035534047 | 0.096305 | 0.368974 | 0.712147 | 0.969006 |
| dlx1a | 294.5385224 | -0.12556819 | 0.1242466 | -1.010637 | 0.31219 | 0.864401 |
| pdk1 | 80.34750703 | 0.23222797 | 0.2240855 | 1.0363363 | 0.300045 | 0.856146 |
| prph2la | 85.35005908 | 0.003394031 | 0.2251869 | 0.0150721 | 0.987975 | 0.997369 |
| atplb1a | 6492.026993 | -0.078637674 | 0.0672826 | -1.168767 | 0.242497 | 0.811298 |
| dhx16 | 428.1832035 | -0.122879736 | 0.1145866 | -1.072374 | 0.283552 | 0.84466 |
| dennd3b | 9.631224402 | 0.108760252 | 0.5994864 | 0.1814224 | 0.856036 | NA |
| zgc:55558 | 1511.846243 | 0.054621112 | 0.0834476 | 0.6545558 | 0.512754 | 0.936253 |
| jag1b | 538.4582901 | 0.064276754 | 0.1091141 | 0.5890785 | 0.555809 | 0.947625 |
| nkf3 | 90.36026649 | 0.116236341 | 0.2092535 | 0.555481 | 0.578566 | 0.951052 |
| si:ch211-1f22.1 | 1.804341312 | -0.79774002 | 1.3966279 | -0.57119 | 0.567871 | NA |
| zeblb | 897.2230013 | -0.077319209 | 0.0898708 | -0.860337 | 0.389603 | 0.896421 |
| htr2c12 | 4.276171362 | 0.171508951 | 1.0482094 | 0.1636209 | 0.87003 | NA |
| pde4ca | 227.6805797 | 0.290990495 | 0.1415703 | 2.0554481 | 0.039836 | 0.391511 |
| slc35a3a | 187.3418017 | 0.152430174 | 0.1606891 | 0.9486028 | 0.342823 | 0.878434 |
| phc2b | 715.3891116 | -0.121864179 | 0.0959657 | -1.269872 | 0.20413 | 0.771764 |
| glulc | 32.7935041 | 0.086007373 | 0.3381414 | 0.2543533 | 0.799223 | 0.979293 |
| dhcr24 | 105.3999302 | -0.67274117 | 0.2086386 | -3.224433 | 0.001262 | 0.037142 |
| zgc:172271 | 36.54176542 | 0.613776625 | 0.3449897 | 1.7791157 | 0.075221 | 0.534207 |

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| wbp11a | 68.91346767 | -0.097461475 | 0.2380457 | -0.409423 | 0.682229 | 0.965476 |
| tars | 1954.214893 | -0.011469221 | 0.0732469 | -0.156583 | 0.875573 | 0.987881 |
| hsf4 | 204.1371149 | 0.259207408 | 0.1686159 | 1.537266 | 0.124228 | 0.652801 |
| tmc5 | 102.324285 | -0.73086126 | 0.2076672 | -3.519388 | 0.000433 | 0.015869 |
| colec11 | 29.14392821 | -0.400035236 | 0.3591731 | -1.113767 | 0.265379 | 0.831302 |
| eif4eb | 280.8360973 | 0.137650165 | 0.1359996 | 1.0121364 | 0.311473 | 0.863945 |
| znf76 | 105.1175731 | -0.138449417 | 0.1977229 | -0.700219 | 0.48379 | 0.929461 |
| tmem179aa | 335.1205465 | 0.08854324 | 0.1267925 | 0.6983316 | 0.48497 | 0.93001 |
| crispldlb | 258.5335278 | 0.347708439 | 0.133317 | 2.6081333 | 0.009104 | 0.159622 |
| slc2a3a | 1931.479482 | 0.240586785 | 0.0863306 | 2.7868067 | 0.005323 | 0.108022 |
| gpx8 | 99.6656093 | -0.158668881 | 0.2107093 | -0.753023 | 0.451436 | 0.918761 |
| rpl19 | 9345.740492 | -0.296460283 | 0.079819 | -3.714157 | 0.000204 | 0.008689 |
| map3k15 | 198.1155432 | 0.165592307 | 0.146549 | 1.1299452 | 0.258499 | 0.826711 |
| cadps2 | 267.9109644 | -0.101088957 | 0.1372499 | -0.736532 | 0.461407 | 0.922161 |
| pygmb | 5048.714022 | 0.066316182 | 0.0899324 | 0.7374003 | 0.460879 | 0.921978 |
| ttc5 | 328.2529949 | -0.057442654 | 0.1252954 | -0.458458 | 0.646624 | 0.960362 |
| ndufa10 | 2847.409448 | -0.026830727 | 0.0749808 | -0.357835 | 0.720467 | 0.969318 |
| anxa6 | 895.1162085 | 0.121280982 | 0.0942186 | 1.2872303 | 0.198014 | 0.763261 |
| kif26ba | 996.6133274 | -0.141111061 | 0.1036823 | -1.360995 | 0.173515 | 0.732906 |
| tasorb | 1369.633638 | 0.002600972 | 0.0972266 | 0.0267516 | 0.978658 | 0.996762 |
| cirbpb | 49381.62539 | -0.1501913 | 0.0615943 | -2.438394 | 0.014753 | 0.222347 |
| sh3gl3a | 397.4159034 | 0.20631315 | 0.1141239 | 1.8078001 | 0.070638 | 0.520155 |
| isoc2 | 123.8782436 | -0.034384182 | 0.1788776 | -0.192222 | 0.847568 | 0.985174 |
| ppp6r3 | 1786.17416 | 0.136153217 | 0.0851204 | 1.5995368 | 0.109701 | 0.623766 |
| cwc15 | 176.3255539 | 0.155581965 | 0.1612982 | 0.9645611 | 0.334765 | 0.875699 |
| gabra4 | 14.62992455 | 0.270563333 | 0.4899932 | 0.5521777 | 0.580827 | 0.951731 |
| CABZ01088367.1 | 12.89817512 | -0.533629819 | 0.5396879 | -0.988775 | 0.322773 | 0.870524 |
| gucalb | 56.33699157 | 0.213512321 | 0.264516 | 0.8071812 | 0.419562 | 0.90651 |
| bnip2 | 215.3502017 | 0.395291022 | 0.143979 | 2.745477 | 0.006042 | 0.117821 |
| bmp2a | 78.72231401 | 0.049377298 | 0.2196523 | 0.2247975 | 0.822137 | 0.982186 |
| lin7a | 1239.055723 | 0.138950691 | 0.0865833 | 1.6048205 | 0.108533 | 0.62063 |
| lmna | 414.6177304 | -0.046378775 | 0.1088851 | -0.425942 | 0.67015 | 0.965223 |
| slc8a1a | 26.81765875 | 0.043071946 | 0.3705286 | 0.1162446 | 0.907459 | 0.990702 |
| bhmt | 11348.38868 | 0.078848491 | 0.1010457 | 0.7803252 | 0.4352 | 0.914408 |
| hira | 639.7701927 | -0.055413518 | 0.1130671 | -0.490094 | 0.624067 | 0.957354 |
| syep3 | 5.408925958 | 0.209545457 | 0.8233119 | 0.2545153 | 0.799098 | NA |
| hey2 | 89.15148485 | 0.225394137 | 0.2189167 | 1.0295888 | 0.303203 | 0.85729 |
| atp6v1ba | 4850.685525 | 0.047455189 | 0.064303 | 0.7379931 | 0.460519 | 0.921978 |
| tdrd9 | 28.13210182 | 0.041344387 | 0.360073 | 0.1148222 | 0.908586 | 0.990702 |
| mtrex | 799.3389858 | -0.152121456 | 0.0914086 | -1.664191 | 0.096074 | 0.590174 |
| wfikn2a | 112.6113916 | 0.203246564 | 0.1906403 | 1.0661262 | 0.286367 | 0.845942 |
| supt71 | 69.48762395 | -0.032548317 | 0.2616851 | -0.12438 | 0.901015 | 0.990121 |
| nedd1 | 238.7043475 | -0.096032041 | 0.1362988 | -0.70457 | 0.481078 | 0.927927 |
| cct4 | 4716.529072 | -0.16266412 | 0.0874933 | -1.859161 | 0.063004 | 0.489719 |
| arhgef39 | 85.73472553 | -0.527601649 | 0.2190892 | -2.408159 | 0.016033 | 0.233377 |
| gatala | 8.932222654 | 0.682851863 | 0.6764834 | 1.009414 | 0.312776 | NA |
| rrp15 | 260.4534115 | -0.065965901 | 0.143157 | -0.460794 | 0.644946 | 0.96029 |
| map3k9 | 54.53025363 | -0.033026977 | 0.2686735 | -0.122926 | 0.902166 | 0.990121 |
| zbtb34 | 33.48243425 | -0.078098868 | 0.3351215 | -0.233046 | 0.815725 | 0.981571 |
| abca2 | 531.3925041 | 0.103042348 | 0.1157704 | 0.8900574 | 0.373435 | 0.893659 |
| ube2kb | 1467.152113 | -0.078168032 | 0.0897629 | -0.870828 | 0.383848 | 0.895192 |
| pck1 | 2061.085698 | 0.207637554 | 0.107205 | 1.9368273 | 0.052766 | 0.450909 |
| cyp2a1 | 26.00920377 | -0.538559159 | 0.3717964 | -1.448533 | 0.147468 | 0.694625 |
| svapl | 388.6113041 | 0.085565018 | 0.113052 | 0.7568641 | 0.449131 | 0.91823 |

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| mcm9 | 77.05870016 | -0.233011493 | 0.2398544 | -0.97147 | 0.331314 | 0.874362 |
| hoxb4a | 347.5380275 | 0.106440789 | 0.1226822 | 0.8676138 | 0.385606 | 0.89551 |
| ikzfl | 35.83253005 | 0.360734101 | 0.3370266 | 1.0703431 | 0.284465 | 0.844955 |
| lpgat1 | 910.8111373 | -0.041750256 | 0.1003894 | -0.415883 | 0.677496 | 0.965257 |
| pgml | 2206.952016 | 0.094836278 | 0.0764305 | 1.2408171 | 0.214673 | 0.782493 |
| rxf2 | 500.7222843 | -0.181836041 | 0.1179505 | -1.54163 | 0.123164 | 0.651012 |
| gadd45bb | 231.6566297 | 0.19647756 | 0.1457173 | 1.3483475 | 0.177547 | 0.738343 |
| csnk2a2b | 1049.742601 | 0.00572961 | 0.0852288 | 0.0672262 | 0.946402 | 0.99381 |
| brd1a | 545.6367555 | 0.072817065 | 0.1145906 | 0.6354541 | 0.525132 | 0.940066 |
| tnfb | 72.56852186 | -0.543415435 | 0.2627369 | -2.068287 | 0.038613 | 0.385234 |
| sema3gb | 198.4575588 | 0.154392083 | 0.1495652 | 1.0322728 | 0.301944 | 0.856944 |
| anxa131 | 298.1734225 | 0.244035532 | 0.1254259 | 1.9456554 | 0.051696 | 0.446003 |
| pbx3b | 3043.305483 | -0.021991951 | 0.0788408 | -0.278941 | 0.78029 | 0.97627 |
| vdac2 | 11972.2057 | -0.05571085 | 0.0787705 | -0.707255 | 0.479408 | 0.927091 |
| cd164 | 1787.983687 | -0.297080983 | 0.07517 | -3.952119 | 7.75E-05 | 0.003948 |
| cntn3a.2 | 5.342165981 | 0.345964861 | 0.8537707 | 0.4052199 | 0.685316 | NA |
| casr | | 0 NA | NA | NA | NA | NA |
| adgr14 | 57.7495268 | -0.376527696 | 0.2638887 | -1.426843 | 0.153625 | 0.702578 |
| tpd5212b | 1850.633446 | -0.001347048 | 0.0759714 | -0.017731 | 0.985853 | 0.996944 |
| brox | 364.7705529 | -0.087546265 | 0.1167952 | -0.749571 | 0.453513 | 0.920041 |
| tbck | 378.1643642 | -0.011868864 | 0.1154882 | -0.102771 | 0.918145 | 0.991623 |
| napba | 529.0918784 | 0.079100368 | 0.1088912 | 0.7264167 | 0.467583 | 0.924328 |
| hyoul | 1364.283625 | 0.122516294 | 0.0894654 | 1.369426 | 0.170866 | 0.728484 |
| si:dkey-42i9.6 | 1140.385267 | 0.007452796 | 0.0896718 | 0.0831119 | 0.933763 | 0.992702 |
| vsig8b | 23.39282667 | -0.126574981 | 0.4079719 | -0.310254 | 0.756368 | 0.975374 |
| cilp2 | 91.54896507 | 0.378615178 | 0.2138898 | 1.7701417 | 0.076704 | 0.539626 |
| stimate | 300.6142721 | 0.003812161 | 0.1294614 | 0.0294463 | 0.976509 | 0.996762 |
| cers2a | 68.47806352 | -0.066648771 | 0.2351362 | -0.283448 | 0.776834 | 0.975826 |
| ccm2 | 131.0177356 | 0.296514154 | 0.1735206 | 1.7088125 | 0.087486 | 0.566637 |
| usp9 | 3526.765426 | 0.068794912 | 0.0724963 | 0.9489435 | 0.342649 | 0.878434 |
| zgc:77486 | 331.5624045 | -0.292676516 | 0.12622 | -2.318782 | 0.020407 | 0.268884 |
| gtse1 | 220.8214288 | -0.266599616 | 0.1417512 | -1.880757 | 0.060005 | 0.478654 |
| g6pca.2 | 2135.883196 | 0.333175127 | 0.0917589 | 3.6309849 | 0.000282 | 0.011325 |
| ap4b1 | 184.7223402 | -0.145789327 | 0.1581848 | -0.921639 | 0.356717 | 0.883422 |
| srsf6a | 2141.572929 | -0.174580832 | 0.085356 | -2.045325 | 0.040823 | 0.394957 |
| slc4a4a | 2646.234451 | 0.07146273 | 0.0727165 | 0.9827575 | 0.325727 | 0.871896 |
| vtal | 551.3851743 | -0.170408231 | 0.1096722 | -1.553796 | 0.120233 | 0.645215 |
| polr3g1b | 273.2994219 | -0.210028574 | 0.1394039 | -1.506619 | 0.131908 | 0.665566 |
| lancl1 | 502.0032316 | 0.011811888 | 0.1030512 | 0.1146215 | 0.908745 | 0.990702 |
| slc25a55b | 312.5833516 | -0.089866655 | 0.1535003 | -0.585449 | 0.558246 | 0.948478 |
| enolb | 1455.054761 | 0.236309659 | 0.088618 | 2.6666097 | 0.007662 | 0.139512 |
| tnni2a.3 | 100.1660354 | -0.202088283 | 0.2290329 | -0.882355 | 0.377585 | 0.895192 |
| actn3a | 11681.81288 | 0.418813025 | 0.0815434 | 5.1360736 | 2.81E-07 | 3.42E-05 |
| rrbpla | 1085.444916 | 0.061100094 | 0.090196 | 0.6774143 | 0.498143 | 0.933765 |
| ctss2.2 | 71.63367102 | 0.258916098 | 0.2322546 | 1.1147941 | 0.264939 | 0.830836 |
| si:dkey-246g23.4 | 28.35242357 | 0.286316417 | 0.3766903 | 0.7600844 | 0.447204 | 0.917154 |
| thopl | 1472.440467 | 0.043749705 | 0.0840755 | 0.5203622 | 0.602811 | 0.956045 |
| ppplr131 | 529.3310287 | 0.152612535 | 0.1054965 | 1.4466118 | 0.148006 | 0.695665 |
| zgc:77158 | 121.9902662 | 0.181762582 | 0.1834172 | 0.9909789 | 0.321696 | 0.869375 |
| gucylal | 293.5901894 | 0.018347674 | 0.1318112 | 0.1391966 | 0.889295 | 0.989291 |
| simlb | 19.45181463 | -0.601265977 | 0.446627 | -1.346237 | 0.178226 | 0.739299 |
| klf11b | 697.7583669 | -0.209546371 | 0.1210093 | -1.731656 | 0.083335 | 0.556629 |
| hps4 | 84.94217546 | -0.216126037 | 0.2268072 | -0.952906 | 0.340637 | 0.878134 |
| snrpd3 | 0.650476611 | 1.436325931 | 2.5890223 | 0.5547754 | 0.579048 | NA |

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| pcid2 | 350.2646868 | -0.132002377 | 0.1285539 | -1.026826 | 0.304503 | 0.858905 |
| capns1b | 1603.826713 | -0.024294123 | 0.0828782 | -0.29313 | 0.769422 | 0.975687 |
| fam219ab | 441.5849689 | 0.045310915 | 0.1149661 | 0.3941242 | 0.693489 | 0.96736 |
| anapc16 | 414.4384623 | -0.288838819 | 0.1252465 | -2.306164 | 0.021101 | 0.273793 |
| snx13 | 37.17977286 | 0.343786329 | 0.3263424 | 1.0534529 | 0.292133 | 0.848075 |
| osbp12b | 499.252904 | 0.000353043 | 0.1211181 | 0.0029149 | 0.997674 | 0.999174 |
| arhgef3 | 39.70420386 | -0.180233534 | 0.3227317 | -0.558462 | 0.576529 | 0.950611 |
| spoll | 1.814481193 | -1.399828196 | 1.5816487 | -0.885044 | 0.376133 | NA |
| sulf2b | 3254.494198 | 0.112397376 | 0.0729492 | 1.5407619 | 0.123375 | 0.651258 |
| aldh3b1 | 235.0003673 | -0.087148324 | 0.1428898 | -0.609899 | 0.541929 | 0.944974 |
| abl2 | 510.2382947 | 0.096813566 | 0.1044911 | 0.9265241 | 0.354174 | 0.882044 |
| tbc1d19 | 120.4618624 | 0.19361505 | 0.1811872 | 1.0685914 | 0.285254 | 0.845164 |
| sept5a | 626.6167142 | -0.017191294 | 0.1039124 | -0.16544 | 0.868597 | 0.987245 |
| ttc14 | 380.0501568 | -0.253293445 | 0.1224548 | -2.068465 | 0.038596 | 0.385234 |
| egfra | 461.5137909 | -0.218938697 | 0.1124965 | -1.946183 | 0.051633 | 0.445651 |
| lmo4a | 543.7291842 | 0.003618717 | 0.1003845 | 0.0360486 | 0.971244 | 0.996315 |
| slc12a3 | 358.8535363 | 0.076829214 | 0.1364859 | 0.5629097 | 0.573496 | 0.949869 |
| amy2a | 131.5831375 | -0.502146531 | 0.2267923 | -2.214125 | 0.02682 | 0.31568 |
| cdc14aa | 45.23828103 | 0.226833318 | 0.3054836 | 0.7425383 | 0.457761 | 0.921978 |
| ptpmt1 | 147.0109706 | -0.133941211 | 0.177177 | -0.755974 | 0.449665 | 0.918526 |
| armc1 | 433.7586583 | 0.129318895 | 0.1221484 | 1.0587028 | 0.289735 | 0.846246 |
| fam133b | 458.0921673 | -0.16605296 | 0.1216789 | -1.364681 | 0.172353 | 0.731348 |
| slc5a1 | 274.0743377 | -0.297929415 | 0.1304657 | -2.283585 | 0.022396 | 0.285346 |
| spata20 | 205.0029184 | -0.212536506 | 0.1613862 | -1.316944 | 0.187858 | 0.752419 |
| pi4k2b | 293.7615587 | 0.007461524 | 0.1257199 | 0.0593504 | 0.952673 | 0.993993 |
| sor11 | 1044.859733 | 0.0148489 | 0.0947131 | 0.1567777 | 0.87542 | 0.987881 |
| si:ch211-253p14.2 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| frya | 804.6335983 | 0.189954229 | 0.0896713 | 2.1183381 | 0.034146 | 0.359261 |
| slc16a9a | 353.1311111 | 0.039970146 | 0.1242846 | 0.3216017 | 0.747754 | 0.97419 |
| plekhh2 | 307.3875802 | -0.08429602 | 0.1289515 | -0.653703 | 0.513303 | 0.936525 |
| eif3m | 3232.376279 | -0.237581861 | 0.0868191 | -2.736515 | 0.006209 | 0.119726 |
| XRCC2 | 19.55905002 | 0.100427416 | 0.4272427 | 0.2350594 | 0.814163 | 0.981081 |
| psmb3 | 1939.219319 | 0.014005042 | 0.073737 | 0.1899324 | 0.849362 | 0.985174 |
| ivnslabpb | 2048.499172 | -0.238111703 | 0.0867645 | -2.744346 | 0.006063 | 0.117889 |
| pdf | 89.75439326 | -0.284288431 | 0.2096395 | -1.356082 | 0.175073 | 0.735545 |
| slc31a1 | 724.3943215 | -0.343838577 | 0.1095919 | -3.137444 | 0.001704 | 0.047485 |
| mipb | 3669.664422 | 0.002326532 | 0.0696511 | 0.0334026 | 0.973353 | 0.996315 |
| cul2 | 798.2877232 | 0.027051109 | 0.091531 | 0.2955404 | 0.767581 | 0.975687 |
| psma6b | 717.5127133 | -0.112530478 | 0.0994426 | -1.131613 | 0.257797 | 0.825314 |
| psap | 7019.239659 | -0.075018553 | 0.0760737 | -0.98613 | 0.324069 | 0.870928 |
| pex3 | 217.6097532 | 0.179333636 | 0.1419242 | 1.2635876 | 0.206378 | 0.774011 |
| anxa13 | 1820.172903 | 0.053859009 | 0.0764873 | 0.704156 | 0.481336 | 0.928307 |
| ndfipl | 2441.835474 | 0.118100506 | 0.0725102 | 1.6287425 | 0.103368 | 0.609625 |
| ube2q2 | 1749.70148 | 0.084141807 | 0.0768477 | 1.0949161 | 0.273553 | 0.838253 |
| ern1 | 348.7171241 | 0.043542081 | 0.1350537 | 0.3224056 | 0.747145 | 0.97419 |
| stard8 | 278.5416839 | -0.012643613 | 0.1281441 | -0.098667 | 0.921403 | 0.992138 |
| eif2b4 | 987.3590957 | -0.024014792 | 0.0967459 | -0.248225 | 0.80396 | 0.979643 |
| lrrc45 | 217.3233923 | -0.076242042 | 0.1476659 | -0.516314 | 0.605635 | 0.95651 |
| cwc22 | 830.3965414 | -0.10369967 | 0.0892524 | -1.16187 | 0.245288 | 0.815319 |
| lbr | 1054.623933 | 0.060635089 | 0.0877543 | 0.6909642 | 0.489588 | 0.931926 |
| pdia7 | 1308.289454 | 0.064297121 | 0.0899881 | 0.7145069 | 0.474914 | 0.925399 |
| rrml | 2409.280304 | -0.079705654 | 0.085076 | -0.936876 | 0.348822 | 0.880195 |
| lhx1a | 1323.238481 | -0.015304754 | 0.0841988 | -0.181769 | 0.855764 | 0.985174 |
| ms4a17a.4 | 9.839069868 | -0.018319919 | 0.6182797 | -0.02963 | 0.976362 | NA |

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| abcc2 | 1588.070564 | -0.425964737 | 0.1071824 | -3.974206 | 7.06E-05 | 0.003655 |
| si:dkeyp-93d12.1 | 31.54644964 | -0.121923379 | 0.3576814 | -0.340871 | 0.7332 | 0.971947 |
| smarcad1a | 523.2318381 | 0.127572601 | 0.1068889 | 1.1935062 | 0.232671 | 0.80121 |
| cldn7b | 2713.636239 | 0.000487213 | 0.0834091 | 0.0058412 | 0.995339 | 0.998723 |
| ngfb | 66.43153768 | -0.109514698 | 0.2367585 | -0.462559 | 0.643681 | 0.960014 |
| olfmlb | 1643.656451 | 0.050317254 | 0.0785173 | 0.6408426 | 0.521625 | 0.939056 |
| gabrr2b | 35.13998545 | 0.772026448 | 0.3434062 | 2.2481437 | 0.024567 | 0.302262 |
| rab36 | 33.37120026 | 0.045032886 | 0.3746033 | 0.1202149 | 0.904313 | 0.990306 |
| cldn5b | 352.9866188 | -0.17145067 | 0.1307447 | -1.311339 | 0.189743 | 0.754269 |
| pgamlb | 3742.274027 | 0.03234184 | 0.0826382 | 0.3913667 | 0.695526 | 0.96736 |
| fam184a | 601.3441698 | -0.11205199 | 0.1040902 | -1.076489 | 0.281708 | 0.84357 |
| wdr82 | 1175.218324 | 0.033715513 | 0.0920641 | 0.3662178 | 0.714203 | 0.96909 |
| atp6v1e1a | 317.1713836 | 0.101097916 | 0.125815 | 0.803544 | 0.42166 | 0.90651 |
| osr1 | 213.4648787 | -0.012634082 | 0.1538899 | -0.082098 | 0.934569 | 0.992702 |
| pkd2 | 67.84923127 | 0.278457311 | 0.2584559 | 1.077388 | 0.281307 | 0.84357 |
| pyroxd2 | 382.8889571 | -0.034992746 | 0.1176647 | -0.297394 | 0.766166 | 0.975374 |
| dkk1a | 18.6680356 | -0.517953007 | 0.464176 | -1.115855 | 0.264484 | 0.830245 |
| cfl2 | 1171.097308 | 0.163861788 | 0.1047989 | 1.5635838 | 0.117915 | 0.641446 |
| wasla | 638.9874502 | -0.111627178 | 0.1017973 | -1.096563 | 0.272832 | 0.838096 |
| picalmb | 1907.279014 | 0.033190409 | 0.0781564 | 0.4246664 | 0.67108 | 0.965257 |
| acot8 | 79.60733267 | -0.275894101 | 0.2269909 | -1.215441 | 0.224198 | 0.791484 |
| srp72 | 1225.698269 | -0.175805336 | 0.0925966 | -1.898616 | 0.057615 | 0.470971 |
| med22 | 212.9779163 | 0.062263186 | 0.1617849 | 0.3848517 | 0.700347 | 0.967998 |
| mtdha | 1994.352912 | -0.115705132 | 0.0768989 | -1.504639 | 0.132417 | 0.666729 |
| ercc4 | 205.2587293 | -0.022307121 | 0.144606 | -0.154261 | 0.877404 | 0.987881 |
| ssr3 | 1333.326866 | -0.168156475 | 0.0926402 | -1.815156 | 0.0695 | 0.514708 |
| CABZ01041610.1 | 14.07898536 | 0.508421761 | 0.5051804 | 1.0064162 | 0.314215 | 0.865176 |
| blocls1 | 168.2329091 | -0.083409495 | 0.1631451 | -0.51126 | 0.609169 | 0.956718 |
| pfkma | 1294.448749 | 0.377168294 | 0.0896431 | 4.2074444 | 2.58E-05 | 0.001562 |
| ildr2 | 223.4069033 | 0.054131371 | 0.1494766 | 0.3621394 | 0.717248 | 0.96909 |
| foxplb | 349.3261315 | -0.16702212 | 0.1191033 | -1.40233 | 0.160817 | 0.713963 |
| sst2 | 47.05530451 | 0.205307137 | 0.389469 | 0.5271463 | 0.598092 | 0.955459 |
| myl1 | 13852.24059 | 0.185341273 | 0.0865128 | 2.1423574 | 0.032165 | 0.349081 |
| otpa | 1240.712391 | -0.073556082 | 0.0975006 | -0.754417 | 0.450599 | 0.918761 |
| zgc:55413 | 14.51667131 | -0.064687119 | 0.521637 | -0.124008 | 0.901309 | 0.990121 |
| odf3l2a | 16.74360555 | 0.310262719 | 0.463914 | 0.6687937 | 0.503627 | 0.935304 |
| cdh13 | 1339.473522 | 0.065768971 | 0.080864 | 0.8133287 | 0.41603 | 0.906237 |
| mecp2 | 10.3452359 | 0.204232757 | 0.6462947 | 0.3160056 | 0.751998 | NA |
| zgc:86598 | 1381.74952 | -0.095573409 | 0.0852774 | -1.120735 | 0.2624 | 0.830166 |
| dlst | 3178.99002 | -0.027442464 | 0.0814481 | -0.336932 | 0.736168 | 0.972535 |
| si:dkey-121j17.5 | 69.77119113 | -0.970275269 | 0.2488336 | -3.899293 | 9.65E-05 | 0.004757 |
| sept8b | 454.9212744 | -0.131209106 | 0.1175427 | -1.116268 | 0.264308 | 0.830245 |
| esytlb | 109.3704969 | 0.089953074 | 0.1977709 | 0.4548348 | 0.649228 | 0.960708 |
| rbmx | 1846.666371 | -0.029186904 | 0.0795509 | -0.366896 | 0.713697 | 0.96909 |
| jag2a | 9.67055918 | -0.492760797 | 0.6074876 | -0.811145 | 0.417282 | NA |
| pdlim3b | 88.05227901 | 0.203305846 | 0.2171569 | 0.9362164 | 0.349162 | 0.880195 |
| eyal | 1143.730813 | -0.094665773 | 0.0836515 | -1.131668 | 0.257774 | 0.825314 |
| camk2d2 | 1802.138022 | 0.090769335 | 0.0897318 | 1.0115626 | 0.311747 | 0.864257 |
| rfc2 | 244.6581803 | -0.164208701 | 0.1330435 | -1.234249 | 0.21711 | 0.784302 |
| dlgapla | 17.49695172 | -0.370623868 | 0.5483454 | -0.675895 | 0.499107 | 0.934006 |
| eno2 | 2090.030377 | 0.160528012 | 0.0746158 | 2.1513932 | 0.031445 | 0.343534 |
| med15 | 314.2311669 | -0.072217589 | 0.1265422 | -0.5707 | 0.568203 | 0.948983 |
| brinp2 | 158.2360791 | -0.058750392 | 0.1644481 | -0.357258 | 0.720899 | 0.969534 |
| vac14 | 421.6105728 | 0.007771692 | 0.1125237 | 0.0690671 | 0.944936 | 0.993409 |

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| spaw | 1. 33588621 | -0. 674429397 | 1. 6626744 | -0. 405629 | 0. 685015 | NA |
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| atp5pf | 2451. 309396 | 0. 055382749 | 0. 0861922 | 0. 6425493 | 0. 520517 | 0. 939056 |
| gucy2c | 200. 6866075 | -0. 749010914 | 0. 1607992 | -4. 658052 | 3. 19E-06 | 0. 000278 |
| enla | 30. 65969262 | 0. 176331844 | 0. 3553137 | 0. 4962709 | 0. 619703 | 0. 957354 |
| sh2d5 | 91. 31406201 | -0. 114876223 | 0. 2067718 | -0. 55557 | 0. 578505 | 0. 951052 |
| npmla | 2745. 727596 | -0. 187122826 | 0. 0779153 | -2. 401617 | 0. 016323 | 0. 235941 |
| ormdl1 | 383. 7964994 | 0. 20997639 | 0. 1136435 | 1. 8476757 | 0. 064649 | 0. 497355 |
| rab11a1 | 175. 8350894 | -0. 044250891 | 0. 1584744 | -0. 279231 | 0. 780068 | 0. 976146 |
| stk17b | 177. 1104562 | 0. 065754848 | 0. 1581193 | 0. 4158559 | 0. 677515 | 0. 965257 |
| krt95 | 1. 363667969 | 0. 069617777 | 1. 7253717 | 0. 0403494 | 0. 967815 | NA |
| amh | 5. 614567051 | 1. 258156318 | 0. 8265472 | 1. 5221832 | 0. 127963 | NA |
| optc | 23. 01453252 | -0. 061554004 | 0. 4019278 | -0. 153147 | 0. 878282 | 0. 987881 |
| tmbim4 | 1363. 314075 | 0. 058141733 | 0. 0839732 | 0. 6923842 | 0. 488696 | 0. 931926 |
| luc7l3 | 908. 4876219 | -0. 026843414 | 0. 0896688 | -0. 299362 | 0. 764664 | 0. 975374 |
| ddx4 | 57. 97376513 | 0. 460051619 | 0. 2738315 | 1. 6800537 | 0. 092947 | 0. 580357 |
| slc12a4 | 458. 8044173 | 0. 115804846 | 0. 1086158 | 1. 0661876 | 0. 286339 | 0. 845942 |
| galnt6 | 509. 0109482 | -0. 225077724 | 0. 1025391 | -2. 195042 | 0. 028161 | 0. 325071 |
| selenoo2 | 16. 44993448 | -0. 05058359 | 0. 5205351 | -0. 097176 | 0. 922587 | 0. 99233 |
| smclb | 3. 986040298 | 0. 222753268 | 0. 9418183 | 0. 2365141 | 0. 813034 | NA |
| elavl3 | 1695. 848264 | -0. 157820293 | 0. 0927479 | -1. 701606 | 0. 088829 | 0. 570481 |
| mxe | 1. 818018269 | -0. 180966542 | 1. 4787402 | -0. 122379 | 0. 902599 | NA |
| ppp2r5d | 1057. 845487 | 0. 061391253 | 0. 0905441 | 0. 6780261 | 0. 497755 | 0. 93348 |
| rabgef1 | 849. 0619079 | 0. 041678677 | 0. 0869232 | 0. 4794886 | 0. 631591 | 0. 957356 |
| dgkza | 503. 8573789 | 0. 051433355 | 0. 1090676 | 0. 4715731 | 0. 637232 | 0. 958872 |
| rab3c | 450. 5417837 | -0. 143952198 | 0. 1116847 | -1. 288916 | 0. 197427 | 0. 762635 |
| usf1l | 405. 4482922 | -0. 041500051 | 0. 1138166 | -0. 364622 | 0. 715393 | 0. 96909 |
| arhgef25b | 177. 0273955 | 0. 388190347 | 0. 1552481 | 2. 500451 | 0. 012404 | 0. 19716 |
| yipf1 | 276. 4980873 | -0. 050969242 | 0. 1345649 | -0. 378771 | 0. 704858 | 0. 968134 |
| sstr3 | 7. 505388373 | 1. 462424117 | 0. 7377828 | 1. 9821878 | 0. 047458 | NA |
| ptfla | 45. 83490506 | -0. 309757062 | 0. 2916094 | -1. 062233 | 0. 28813 | 0. 845979 |
| nr6alb | 38. 5461855 | -0. 086927284 | 0. 3504251 | -0. 248062 | 0. 804086 | 0. 979643 |
| ca2 | 557. 2783455 | 0. 104178749 | 0. 1191659 | 0. 8742331 | 0. 381991 | 0. 895192 |
| tacl | 349. 3677634 | 0. 178564839 | 0. 1224929 | 1. 4577561 | 0. 144908 | 0. 688986 |
| trpv6 | 451. 6731181 | 0. 2441315 | 0. 1455572 | 1. 6772203 | 0. 093499 | 0. 581585 |
| ythdf2 | 801. 1618721 | 0. 20010664 | 0. 0929995 | 2. 151696 | 0. 031421 | 0. 343463 |
| nutf21 | 458. 6092235 | -0. 25332452 | 0. 1087594 | -2. 32922 | 0. 019847 | 0. 265495 |
| tmem126a | 347. 4132894 | 0. 045391355 | 0. 1252021 | 0. 3625446 | 0. 716945 | 0. 96909 |
| usp5 | 2338. 117799 | 0. 037518841 | 0. 071787 | 0. 5226409 | 0. 601224 | 0. 956045 |
| cdh6 | 1413. 502938 | 0. 042793078 | 0. 0773051 | 0. 5535612 | 0. 579879 | 0. 951257 |
| pdk3a | 54. 95591531 | -0. 014145364 | 0. 2878897 | -0. 049135 | 0. 960812 | 0. 9956 |
| atg4a | 227. 0471247 | 0. 056757559 | 0. 1376169 | 0. 4124315 | 0. 680023 | 0. 965311 |
| aida | 185. 5633317 | 0. 085912881 | 0. 1664602 | 0. 5161166 | 0. 605773 | 0. 956524 |
| pdfn1 | 647. 1890268 | -0. 078515171 | 0. 1099724 | -0. 713953 | 0. 475256 | 0. 925754 |
| golim4b | 84. 63364729 | -0. 004890176 | 0. 2106751 | -0. 023212 | 0. 981481 | 0. 996944 |
| rfx3 | 216. 6851551 | -0. 161708411 | 0. 1496676 | -1. 08045 | 0. 279942 | 0. 843423 |
| ppplr3cb | 563. 7741446 | 0. 25175885 | 0. 105213 | 2. 3928495 | 0. 016718 | 0. 238173 |
| serpinb1l3 | 439. 575448 | -0. 491802227 | 0. 1335282 | -3. 683133 | 0. 00023 | 0. 009571 |
| eif4e1b | 2. 134591507 | 1. 167970524 | 1. 3957492 | 0. 8368054 | 0. 402702 | NA |
| hnrnpr | 2297. 647407 | -0. 129923027 | 0. 0826985 | -1. 571044 | 0. 116172 | 0. 63841 |
| ctnbl | 9011. 738855 | -0. 035085834 | 0. 0712049 | -0. 492744 | 0. 622193 | 0. 957354 |
| chpt1 | 1160. 753252 | -0. 178760488 | 0. 0892453 | -2. 003024 | 0. 045175 | 0. 417766 |
| rhpn2 | 555. 7203934 | -0. 090946945 | 0. 1089364 | -0. 834863 | 0. 403795 | 0. 900979 |
| exoc3 | 814. 6542701 | -0. 046155204 | 0. 0997179 | -0. 462858 | 0. 643466 | 0. 959994 |

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| slc38a5b | 1980.840048 | -0.179812013 | 0.0823737 | -2.18288 | 0.029045 | 0.330497 |
| adcy2b | 365.7786013 | -0.123154177 | 0.1137796 | -1.082392 | 0.279078 | 0.842806 |
| ilf2 | 3833.017447 | -0.10340504 | 0.0772273 | -1.338969 | 0.180581 | 0.741768 |
| dennd1a | 115.1406231 | -0.090988065 | 0.1915917 | -0.474906 | 0.634854 | 0.9578 |
| slc5a6b | 57.29295923 | -0.060745615 | 0.2589276 | -0.234605 | 0.814516 | 0.981081 |
| si:ch211-212d10.1 | 8.468518367 | -0.141189745 | 0.6618745 | -0.213318 | 0.831079 | NA |
| si:dkeyp-94g1.1 | 2.507124096 | -0.208616168 | 1.3526392 | -0.154229 | 0.877429 | NA |
| dlx3b | 456.3227877 | -0.112270436 | 0.10924 | -1.027741 | 0.304071 | 0.858423 |
| mbtpsi1 | 1317.607291 | -0.023190492 | 0.0919859 | -0.252109 | 0.800957 | 0.979377 |
| aoc2 | 1784.545285 | 0.317784404 | 0.0896805 | 3.5435187 | 0.000395 | 0.014648 |
| svilb | 30.04269453 | -0.119165289 | 0.3542096 | -0.336426 | 0.73655 | 0.972535 |
| ankrd13b | 177.0150677 | 0.100532882 | 0.1529324 | 0.657368 | 0.510944 | 0.936253 |
| itprla | 137.7395108 | 0.134997835 | 0.171351 | 0.7878438 | 0.430788 | 0.91234 |
| zgc:171731 | 1.467810344 | -1.756356131 | 1.7046236 | -1.030348 | 0.302846 | NA |
| colgal12 | 68.51431951 | 0.220584816 | 0.2360894 | 0.9343273 | 0.350135 | 0.880195 |
| fzd9b | 391.4584372 | 0.065156288 | 0.1134401 | 0.5743672 | 0.565719 | 0.948739 |
| acs13b | 1735.302306 | 0.074005124 | 0.0789778 | 0.9370367 | 0.34874 | 0.880195 |
| efna3a | 254.3961717 | 0.032788244 | 0.1411192 | 0.2323443 | 0.816271 | 0.981594 |
| bckdhh | 809.5825303 | 0.015082604 | 0.1002149 | 0.1505026 | 0.880368 | 0.987881 |
| znf710a | 413.2553914 | 0.02259398 | 0.1207229 | 0.1871558 | 0.851539 | 0.985174 |
| tmem26b | 10.44913941 | 0.688520106 | 0.6273325 | 1.0975362 | 0.272407 | NA |
| esco2 | 479.5633877 | -0.100188124 | 0.1083972 | -0.924268 | 0.355347 | 0.882347 |
| rps4x | 19768.2758 | -0.249185519 | 0.0731434 | -3.406807 | 0.000657 | 0.021954 |
| znf622 | 626.5775583 | -0.123170925 | 0.0979296 | -1.25775 | 0.208482 | 0.775404 |
| pgm211 | 175.4504725 | 0.006257277 | 0.1586873 | 0.0394315 | 0.968546 | 0.996315 |
| dync1h1 | 803.4549607 | -0.027657778 | 0.2378015 | -0.116306 | 0.90741 | 0.990702 |
| her1 | 0.488104098 | -2.415107183 | 2.7936704 | -0.864493 | 0.387317 | NA |
| acox1 | 737.8784075 | -0.095168037 | 0.0921522 | -1.032726 | 0.301732 | 0.856944 |
| cacybp | 298.6555091 | -0.128284024 | 0.1331931 | -0.963143 | 0.335476 | 0.876088 |
| rbfox1 | 3686.855157 | 0.022969072 | 0.0677251 | 0.3391514 | 0.734496 | 0.972021 |
| mfzd61 | 45.37997783 | -0.091829891 | 0.2879178 | -0.318945 | 0.749768 | 0.97419 |
| arf2a | 7524.964677 | 0.013044814 | 0.0648051 | 0.201293 | 0.840469 | 0.985042 |
| usp4 | 1221.581311 | 0.21527432 | 0.0845587 | 2.5458578 | 0.010901 | 0.180962 |
| zgc:113220 | 92.90854475 | -0.081069254 | 0.2077261 | -0.39027 | 0.696337 | 0.96736 |
| g3bp2 | 1038.981148 | -0.004298044 | 0.0846489 | -0.050775 | 0.959505 | 0.995187 |
| lrrc4bb | 545.3324471 | -0.034767185 | 0.1218003 | -0.285444 | 0.775304 | 0.975687 |
| ehd1b | 1175.865858 | 0.099834727 | 0.0885352 | 1.1276277 | 0.259477 | 0.827693 |
| uqcrc2a | 2633.716654 | 0.035899197 | 0.0956461 | 0.3753336 | 0.707412 | 0.968664 |
| wnt11r | 943.5614323 | 0.197617705 | 0.0995572 | 1.984967 | 0.047148 | 0.42638 |
| cryball2 | 429.5259701 | 0.176528978 | 0.112381 | 1.5708084 | 0.116227 | 0.63841 |
| cacna2d1a | 271.1186943 | 0.151604766 | 0.1527515 | 0.9924926 | 0.320957 | 0.868715 |
| fh15 | 115.746951 | 0.317486892 | 0.1967605 | 1.6135701 | 0.106621 | 0.615567 |
| hacd2 | 1728.314309 | -0.009239391 | 0.0819012 | -0.112811 | 0.91018 | 0.990702 |
| ranbp1 | 2137.546092 | -0.117872806 | 0.0886454 | -1.329711 | 0.183613 | 0.747284 |
| si:dkeyp-69b9.6 | 1082.650877 | -0.032085387 | 0.0829357 | -0.38687 | 0.698852 | 0.967998 |
| l3mbt11a | 302.6035051 | 0.083666436 | 0.1315109 | 0.6361939 | 0.52465 | 0.939713 |
| prph2b | 4297.737787 | 0.321677655 | 0.0893275 | 3.6011056 | 0.000317 | 0.01233 |
| pihd2 | 21.12442869 | 0.131155089 | 0.4111995 | 0.3189573 | 0.749759 | 0.97419 |
| reep1 | 7.190041156 | -0.177602826 | 0.7194662 | -0.246854 | 0.805022 | NA |
| drd21 | 4.390364507 | 0.103195798 | 0.9955929 | 0.1036526 | 0.917445 | NA |
| hprt11 | 251.2672002 | 0.033583039 | 0.1484151 | 0.2262778 | 0.820985 | 0.981628 |
| rpl8 | 23450.33591 | -0.233909553 | 0.0838451 | -2.789783 | 0.005274 | 0.107431 |
| syng3a | 1174.59714 | 0.102553519 | 0.0807324 | 1.2702897 | 0.203981 | 0.771764 |
| abi2b | 1111.06648 | 0.02011583 | 0.0833426 | 0.2413632 | 0.809274 | 0.980642 |

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| robo2 | 1442.802837 | -0.00881909 | 0.091775 | -0.096095 | 0.923445 | 0.992588 |
| ncbp2 | 362.0891636 | -0.065276902 | 0.1171427 | -0.557243 | 0.577362 | 0.950805 |
| htralb | 267.7892906 | 0.104240722 | 0.1408016 | 0.7403378 | 0.459095 | 0.921978 |
| panx1b | 189.2569459 | -0.004233333 | 0.148686 | -0.028472 | 0.977286 | 0.996762 |
| lamp2 | 794.5773514 | 0.084249307 | 0.0896409 | 0.9398533 | 0.347293 | 0.880123 |
| ndufab1b | 715.9189988 | 0.062620781 | 0.1006637 | 0.622079 | 0.53389 | 0.943276 |
| slc10a2 | 78.14585895 | -1.108631545 | 0.2427938 | -4.566144 | 4.97E-06 | 0.000396 |
| uts1 | 77.55834493 | 0.504138301 | 0.2463889 | 2.0461077 | 0.040746 | 0.394957 |
| p2ry11 | 7.870089529 | -1.050133034 | 0.7537328 | -1.393243 | 0.163546 | NA |
| KCNN2 | 27.26285685 | 0.26241387 | 0.4188312 | 0.6265385 | 0.530962 | 0.942209 |
| tprkb | 47.30287266 | 0.056603398 | 0.2870857 | 0.1971655 | 0.843698 | 0.985174 |
| kif23 | 700.8005094 | -0.119482708 | 0.0913368 | -1.308155 | 0.190821 | 0.755212 |
| znf598 | 723.2589426 | 0.048460013 | 0.0967201 | 0.5010333 | 0.616348 | 0.95688 |
| angpt2a | 30.03628931 | -0.265901339 | 0.359528 | -0.739584 | 0.459552 | 0.921978 |
| svopb | 5.352746236 | -0.524393567 | 0.8487112 | -0.61787 | 0.536661 | NA |
| cnih3 | 182.7598705 | -0.169853452 | 0.1499829 | -1.132485 | 0.25743 | 0.825314 |
| snx33 | 49.25083578 | 0.114882993 | 0.2720709 | 0.4222538 | 0.67284 | 0.965257 |
| diablob | 247.8255539 | -0.154745706 | 0.1517316 | -1.019865 | 0.307793 | 0.861088 |
| ppp3cca | 601.1255944 | 0.118738416 | 0.1055704 | 1.1247321 | 0.260703 | 0.828666 |
| triapl | 166.6121216 | 0.173886495 | 0.1694698 | 1.0260619 | 0.304862 | 0.859575 |
| ccdc82 | 339.0786496 | -0.056467707 | 0.1202528 | -0.469575 | 0.638659 | 0.959628 |
| g6pcb | 4.466523042 | 0.092251977 | 0.9019498 | 0.1022806 | 0.918534 | NA |
| ankhb | 701.6232932 | 0.140891479 | 0.0946237 | 1.4889668 | 0.136496 | 0.673303 |
| ntngla | 300.8268267 | 0.109836307 | 0.1365015 | 0.804653 | 0.42102 | 0.90651 |
| irgel | 7.610606417 | -0.496826131 | 0.6958887 | -0.713945 | 0.475261 | NA |
| lims2 | 190.746158 | 0.209086227 | 0.1539667 | 1.3579966 | 0.174465 | 0.734611 |
| acvr11 | 1168.250075 | 0.038264603 | 0.080636 | 0.4745348 | 0.635119 | 0.957927 |
| tbp | 323.0693896 | 0.055723783 | 0.1282043 | 0.4346481 | 0.663818 | 0.964736 |
| jagn1b | 290.5686982 | -0.064686302 | 0.140858 | -0.45923 | 0.646069 | 0.96029 |
| cdh4 | 1075.457708 | 0.048797053 | 0.0868395 | 0.5619226 | 0.574169 | 0.950037 |
| arhgap4b | 785.9955365 | 0.003635968 | 0.0915281 | 0.0397252 | 0.968312 | 0.996315 |
| dnm11 | 1832.560009 | 0.000154206 | 0.0795597 | 0.0019382 | 0.998454 | 0.999364 |
| ccdc114 | 63.23047282 | 0.413849764 | 0.2465743 | 1.678398 | 0.093269 | 0.580702 |
| tspan18b | 1044.243987 | -0.023156424 | 0.0844059 | -0.274346 | 0.783819 | 0.97627 |
| kif26ab | 760.0960243 | -0.126593568 | 0.0941451 | -1.344665 | 0.178734 | 0.739486 |
| llcamb | 202.8169203 | -0.01982723 | 0.1621041 | -0.122312 | 0.902652 | 0.990121 |
| slc23a1 | 62.24585707 | 0.454266321 | 0.267536 | 1.6979636 | 0.089515 | 0.572876 |
| calm2b | 12309.32592 | -0.089446867 | 0.0761835 | -1.174097 | 0.240356 | 0.808437 |
| grip1 | 721.4175293 | 0.041320049 | 0.0956407 | 0.432034 | 0.665717 | 0.964736 |
| ube2d4 | 33.21177656 | 0.403971208 | 0.3364566 | 1.2006637 | 0.229882 | 0.79764 |
| daam1a | 1103.204187 | -0.063658577 | 0.0845718 | -0.752716 | 0.45162 | 0.918761 |
| esrrd | 7.698704653 | -0.081081308 | 0.7607691 | -0.106578 | 0.915124 | NA |
| c4 | 9.423376676 | 0.242203668 | 0.6270979 | 0.3862294 | 0.699327 | NA |
| txk | 0.356300316 | 0.005884122 | 3.214964 | 0.0018302 | 0.99854 | NA |
| pola2 | 323.1410566 | -0.029564529 | 0.126392 | -0.233911 | 0.815054 | 0.981081 |
| dmrt2a | 235.8853799 | -0.053141414 | 0.145585 | -0.36502 | 0.715097 | 0.96909 |
| gja8b | 267.5983134 | 0.098781572 | 0.1427228 | 0.692122 | 0.488861 | 0.931926 |
| dnajb11 | 1062.586922 | 0.14890895 | 0.0877504 | 1.6969613 | 0.089704 | 0.573763 |
| slc18a2 | 6.401808966 | -0.693027725 | 0.7817929 | -0.88646 | 0.37537 | NA |
| ddx39ab | 3547.836647 | -0.154497208 | 0.1038734 | -1.487361 | 0.136919 | 0.673303 |
| dnasell4.1 | 260.3604716 | -0.2483394 | 0.1632239 | -1.521465 | 0.128143 | 0.658954 |
| gorasp2 | 1057.301958 | -0.004205114 | 0.0944479 | -0.044523 | 0.964487 | 0.995927 |
| rpl27 | 8697.134713 | -0.262065029 | 0.0935206 | -2.802217 | 0.005075 | 0.104214 |
| camkk1b | 284.6766295 | 0.440104034 | 0.1265972 | 3.4764116 | 0.000508 | 0.018073 |

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| sh2d4bb | 11.06970948 | -0.39389348 | 0.5760486 | -0.683785 | 0.494111 | 0.931926 |
| wasa | 7.165984607 | 0.340310202 | 0.7158037 | 0.4754239 | 0.634485 | NA |
| wdr91 | 141.5782563 | -0.027237756 | 0.1800326 | -0.151293 | 0.879744 | 0.987881 |
| fb1n2 | 857.9120105 | 0.21453435 | 0.0931417 | 2.3033124 | 0.021261 | 0.275144 |
| slc50a1 | 40.79836063 | -0.132807851 | 0.3252645 | -0.408307 | 0.683048 | 0.965476 |
| zgc:92664 | 235.1202367 | -0.05934151 | 0.1375714 | -0.431351 | 0.666214 | 0.964736 |
| mknk2b | 3875.341382 | -0.067131949 | 0.0891638 | -0.752906 | 0.451507 | 0.918761 |
| atp6v0a1b | 1740.560362 | 0.188820459 | 0.0865386 | 2.1819225 | 0.029115 | 0.330497 |
| ror1 | 266.5787905 | 0.031827557 | 0.1360343 | 0.2339671 | 0.815011 | 0.981081 |
| mpp3a | 519.0850683 | 0.067036208 | 0.104498 | 0.6415073 | 0.521193 | 0.939056 |
| cb1b | 425.1653852 | -0.097773788 | 0.1100568 | -0.888394 | 0.374329 | 0.893914 |
| pcmt | 833.0193444 | 0.007980198 | 0.0936474 | 0.0852154 | 0.93209 | 0.992702 |
| hnrnpua | 1565.14761 | 0.041645324 | 0.0849283 | 0.4903584 | 0.62388 | 0.957354 |
| rbb41 | 1431.819881 | -0.098475985 | 0.0867743 | -1.134851 | 0.256438 | 0.824773 |
| nsrpl | 244.9990677 | -0.253139616 | 0.1538007 | -1.645894 | 0.099786 | 0.600955 |
| cb111 | 179.3515067 | -0.116190602 | 0.1724205 | -0.673879 | 0.500388 | 0.934237 |
| cd2ap | 813.1400165 | -0.144839762 | 0.0938678 | -1.543019 | 0.122826 | 0.650905 |
| erola | 95.59649091 | -0.746602357 | 0.2073506 | -3.600676 | 0.000317 | 0.01233 |
| pycr3 | 96.86569097 | -0.943399266 | 0.222737 | -4.235485 | 2.28E-05 | 0.001407 |
| prpf19 | 1343.554718 | -0.058323397 | 0.0874295 | -0.66709 | 0.504714 | 0.935617 |
| cdk15 | 429.526024 | 0.071870015 | 0.1147847 | 0.6261291 | 0.53123 | 0.942209 |
| st3gal3b | 81.28849003 | 0.085834982 | 0.2184699 | 0.3928915 | 0.6944 | 0.96736 |
| fzrla | 1003.582298 | -0.165832324 | 0.0903714 | -1.83501 | 0.066504 | 0.50468 |
| adma | 211.4399653 | 0.206685612 | 0.1600842 | 1.2911056 | 0.196667 | 0.761944 |
| mab2112 | 2128.27066 | -0.077134047 | 0.0767602 | -1.00487 | 0.314959 | 0.866054 |
| alpi.1 | 300.6667174 | 0.03280967 | 0.1286118 | 0.2551062 | 0.798641 | 0.978884 |
| plxnc1 | 90.14341769 | 0.040456163 | 0.2230348 | 0.1813894 | 0.856062 | 0.985261 |
| sacml1a | 399.6854517 | -0.094698994 | 0.124441 | -0.760995 | 0.44666 | 0.917154 |
| ube2g1a | 676.935668 | 0.194018788 | 0.1014693 | 1.9120936 | 0.055864 | 0.462781 |
| fam110a | 89.98427741 | -0.167604613 | 0.2306497 | -0.726663 | 0.467432 | 0.924328 |
| pitpnbl | 1629.476039 | 0.129820234 | 0.0802614 | 1.6174669 | 0.105778 | 0.615371 |
| klf12a | 310.9373983 | 0.084877586 | 0.130599 | 0.6499097 | 0.515751 | 0.9377 |
| zc4h2 | 3004.365154 | -0.091816584 | 0.0805233 | -1.140248 | 0.254183 | 0.823394 |
| psmc5 | 2525.612478 | -0.017667682 | 0.0786274 | -0.224701 | 0.822212 | 0.982186 |
| u2af1 | 1840.026931 | -0.188881963 | 0.0793873 | -2.379245 | 0.017348 | 0.243465 |
| comta | 316.0034432 | -0.123952297 | 0.1211369 | -1.023241 | 0.306194 | 0.860027 |
| pgd | 1743.770194 | -0.249488669 | 0.099332 | -2.511664 | 0.012016 | 0.193023 |
| mfge8a | 1127.796279 | 0.048707636 | 0.0878037 | 0.5547334 | 0.579077 | 0.951052 |
| lsg1 | 514.3306899 | -0.22663046 | 0.1087919 | -2.083156 | 0.037237 | 0.377602 |
| fosl1a | 972.5261638 | 0.628038127 | 0.2611075 | 2.4052856 | 0.01616 | 0.234787 |
| fchol | 203.1540142 | -0.190243301 | 0.1514985 | -1.255743 | 0.209209 | 0.776073 |
| st3gal3a | 401.0993348 | 0.041554424 | 0.1185572 | 0.3505011 | 0.725963 | 0.970402 |
| ndufs3 | 1574.83145 | -0.083840423 | 0.0871039 | -0.962533 | 0.335782 | 0.876088 |
| dhx15 | 2350.609596 | -0.066518557 | 0.0735696 | -0.904158 | 0.365911 | 0.887239 |
| thoc7 | 260.2829042 | 0.086128696 | 0.1344262 | 0.6407137 | 0.521709 | 0.939056 |
| foxfl | 313.9417182 | -0.309341803 | 0.1252787 | -2.46923 | 0.01354 | 0.208689 |
| arl312 | 289.2592248 | -0.035936722 | 0.1457821 | -0.24651 | 0.805288 | 0.979883 |
| ppil1 | 322.2868679 | -0.231673092 | 0.1378326 | -1.68083 | 0.092796 | 0.579945 |
| slc24a4a | 25.44867412 | 0.480148777 | 0.4241801 | 1.1319456 | 0.257657 | 0.825314 |
| hdac1 | 6763.3975 | -0.014829761 | 0.0683465 | -0.216979 | 0.828225 | 0.982721 |
| lim2.4 | 2946.019266 | 0.025350334 | 0.094378 | 0.2686044 | 0.788234 | 0.976703 |
| fut8a | 1657.081682 | -0.106776701 | 0.0818391 | -1.304716 | 0.19199 | 0.756256 |
| racgap1 | 407.1302487 | -0.003982055 | 0.1164046 | -0.034209 | 0.972711 | 0.996315 |
| chd11 | 252.058825 | -0.208488706 | 0.137818 | -1.512783 | 0.130335 | 0.662797 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| gpc4 | 1852.004706 | 0.146432639 | 0.072997 | 2.00601 | 0.044855 | 0.416612 |
| ppp2r5ea | 1179.310913 | 0.164908434 | 0.0902915 | 1.8264012 | 0.06779 | 0.509881 |
| iqch | 17.58659681 | 0.792965302 | 0.4695795 | 1.6886711 | 0.091282 | 0.578443 |
| zgc:113518 | 222.4031888 | -0.12323791 | 0.143663 | -0.857827 | 0.390988 | 0.897643 |
| klf3 | 488.8063893 | -0.208274495 | 0.1119697 | -1.860097 | 0.062872 | 0.48946 |
| adam10b | 723.6572751 | -0.101910079 | 0.1122301 | -0.908046 | 0.363854 | 0.886174 |
| pibfl | 596.2442353 | -0.401506628 | 0.0992946 | -4.043591 | 5.26E-05 | 0.002867 |
| mc4r | 26.15623107 | -0.136199444 | 0.4051855 | -0.336141 | 0.736765 | 0.972535 |
| prps1a | 1567.438014 | 0.091481812 | 0.0940288 | 0.9729128 | 0.330597 | 0.87417 |
| CU929145.1 | 0.990234925 | 0.997648457 | 1.9937656 | 0.500384 | 0.616805 | NA |
| slc4a8 | 689.3257623 | 0.274520492 | 0.0943843 | 2.9085399 | 0.003631 | 0.081502 |
| sox6 | 1269.365065 | 0.00340864 | 0.0838605 | 0.0406466 | 0.967578 | 0.996315 |
| gad2 | 3068.053847 | 0.143497155 | 0.0812791 | 1.7654859 | 0.077482 | 0.542062 |
| znf207a | 843.4561869 | -0.074888197 | 0.1013284 | -0.739064 | 0.459868 | 0.921978 |
| psen2 | 309.5856093 | 0.036935795 | 0.1359891 | 0.2716085 | 0.785923 | 0.97627 |
| sl100a1 | 23.18433283 | -0.451507518 | 0.4205054 | -1.073726 | 0.282946 | 0.844523 |
| alpl | 348.3208649 | 0.066332879 | 0.1201229 | 0.5522083 | 0.580806 | 0.951731 |
| fth1a | 10011.66896 | -0.323075159 | 0.0724726 | -4.457891 | 8.28E-06 | 0.000608 |
| phactr4a | 507.8605708 | -0.067993484 | 0.1016594 | -0.668836 | 0.5036 | 0.935304 |
| zic2a | 1118.956174 | -0.126901787 | 0.0851176 | -1.490899 | 0.135988 | 0.672424 |
| zgc:100829 | 574.06076 | -0.100931253 | 0.1176274 | -0.858059 | 0.39086 | 0.897643 |
| fst11a | 216.3320811 | 0.190149535 | 0.141197 | 1.3466969 | 0.178078 | 0.738995 |
| zgc:123305 | 365.7491114 | -0.183585514 | 0.1214482 | -1.511636 | 0.130627 | 0.662797 |
| dnmt3ab | 2055.635292 | -0.037102094 | 0.0772163 | -0.480496 | 0.630875 | 0.957354 |
| zic1 | 1253.934881 | -0.104087997 | 0.0886472 | -1.174183 | 0.240322 | 0.808437 |
| cyp3c1 | 747.7641266 | 0.062945304 | 0.1042669 | 0.6036938 | 0.546047 | 0.945526 |
| itrip | 71.63107818 | -0.052129848 | 0.2297906 | -0.226858 | 0.820534 | 0.981594 |
| ankrd33bb | 16.99766721 | 0.366822171 | 0.4672872 | 0.7850036 | 0.432451 | 0.91326 |
| clql2 | 2.805266554 | 0.528268623 | 1.1526052 | 0.4583257 | 0.646718 | NA |
| si:ch211-220f21.2 | 7.681608807 | -1.037978168 | 0.6949188 | -1.493668 | 0.135262 | NA |
| tubg1 | 741.0041904 | 0.01221112 | 0.0901424 | 0.1354647 | 0.892244 | 0.989291 |
| rasl11b | 248.8204377 | -0.091593799 | 0.1366691 | -0.670187 | 0.502739 | 0.935304 |
| ada2b | 17.52150676 | -0.492463842 | 0.4837855 | -1.017938 | 0.308707 | 0.861088 |
| rgs6 | 78.72330603 | 0.140376786 | 0.2385864 | 0.5883687 | 0.556285 | 0.947902 |
| psmd10 | 164.4219393 | 0.141740926 | 0.1959125 | 0.7234909 | 0.469378 | 0.924505 |
| gemin2 | 240.5342365 | -0.001888118 | 0.1490016 | -0.012672 | 0.98989 | 0.997612 |
| rap2c | 1003.615581 | 0.036105229 | 0.0862999 | 0.4183693 | 0.675677 | 0.965257 |
| tnipl | 2116.846391 | 0.048079742 | 0.0781417 | 0.6152888 | 0.538364 | 0.943336 |
| cal5a | 434.5396239 | 0.332441716 | 0.1192998 | 2.7866086 | 0.005326 | 0.108022 |
| zgc:77112 | 62.87622129 | -0.027218912 | 0.276454 | -0.098457 | 0.921569 | 0.992138 |
| pla2g12b | 1590.007764 | -0.050742532 | 0.1033289 | -0.491078 | 0.623371 | 0.957354 |
| msx3 | 197.345827 | 0.061480192 | 0.15477 | 0.3972358 | 0.691194 | 0.967295 |
| nmd3 | 767.302959 | 0.098564236 | 0.1001168 | 0.9844924 | 0.324873 | 0.871294 |
| si:dkeyp-75b4.9 | | 0 NA | NA | NA | NA | NA |
| gsk3ab | 2193.124606 | -0.089346914 | 0.0807228 | -1.106836 | 0.268365 | 0.833634 |
| bmp6 | 55.7961141 | 0.003565538 | 0.2777269 | 0.0128383 | 0.989757 | 0.997612 |
| dvl3a | 379.1622991 | -0.040613378 | 0.1141294 | -0.355854 | 0.72195 | 0.970024 |
| hsd17b12a | 1357.315232 | -0.044828425 | 0.0922933 | -0.485717 | 0.627168 | 0.957354 |
| kctd5a | 248.6544869 | 0.098923958 | 0.1364989 | 0.7247236 | 0.468622 | 0.924328 |
| ano5a | 25.20854993 | -0.209121331 | 0.3854512 | -0.542536 | 0.587449 | 0.953319 |
| cax2 | 82.61172761 | 0.260421075 | 0.2361238 | 1.1029006 | 0.27007 | 0.834705 |
| aicda | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| aarsd1 | 230.5265813 | -0.126868 | 0.1575026 | -0.805498 | 0.420532 | 0.90651 |
| hps3 | 154.3797417 | 0.192685001 | 0.1755038 | 1.0978964 | 0.27225 | 0.837242 |

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|------------|-------------|--------------|-----------|-----------|----------|----------|
| zap70 | 5.381017058 | 1.394093654 | 0.8763573 | 1.5907823 | 0.111659 | NA |
| tmem50a | 1457.448554 | -0.040713087 | 0.0895522 | -0.45463 | 0.649376 | 0.960708 |
| tspan7 | 1471.145838 | 0.054462043 | 0.0790967 | 0.6885503 | 0.491106 | 0.931926 |
| iah1 | 45.19507258 | 0.045458646 | 0.3093648 | 0.1469419 | 0.883178 | 0.988706 |
| ankrd46b | 547.7265806 | -0.043264729 | 0.1115247 | -0.387939 | 0.698061 | 0.967998 |
| atplb3a | 2560.875453 | 0.079436193 | 0.0719785 | 1.1036094 | 0.269763 | 0.834705 |
| creb3l1 | 268.6390898 | 0.114484278 | 0.1573568 | 0.7275456 | 0.466892 | 0.924328 |
| smcr8b | 164.802158 | 0.064731694 | 0.1966981 | 0.3290916 | 0.742086 | 0.973154 |
| cgnl1 | 415.7093724 | -0.101850335 | 0.1178801 | -0.864016 | 0.387579 | 0.895884 |
| rab22a | 228.9502225 | -0.12125024 | 0.139143 | -0.871408 | 0.383532 | 0.895192 |
| sesn3 | 701.6426868 | -0.009338286 | 0.0961056 | -0.097167 | 0.922594 | 0.99233 |
| vps26b | 504.6716539 | 0.090570369 | 0.1035728 | 0.8744613 | 0.381867 | 0.895192 |
| lemd3 | 781.3614789 | 0.039929902 | 0.0996748 | 0.4006017 | 0.688713 | 0.966672 |
| mov10a | 403.6074573 | -0.071839478 | 0.1166958 | -0.615613 | 0.53815 | 0.943336 |
| EIF4E2RS1 | 563.5992654 | 0.018391243 | 0.0999787 | 0.1839516 | 0.854051 | 0.985174 |
| pnn | 2092.508339 | -0.119942349 | 0.085672 | -1.400018 | 0.161508 | 0.715364 |
| chata | 577.5413786 | 0.197893659 | 0.1120759 | 1.7657109 | 0.077444 | 0.542062 |
| slc25a40 | 195.0023906 | 0.021986935 | 0.14644 | 0.150143 | 0.880652 | 0.987917 |
| mtmr9 | 233.0069573 | 0.129733334 | 0.1432343 | 0.9057423 | 0.365072 | 0.886714 |
| rpl5b | 16184.72136 | -0.295937731 | 0.0957106 | -3.092006 | 0.001988 | 0.053335 |
| socs6b | 430.0520303 | -0.060958834 | 0.1179455 | -0.516839 | 0.605269 | 0.95651 |
| apoa2 | 33076.33788 | 0.076864166 | 0.2304555 | 0.3335315 | 0.738733 | 0.972722 |
| slc22a16 | 276.6771854 | -0.113478172 | 0.1321337 | -0.858813 | 0.390443 | 0.897304 |
| npas1 | 137.6892651 | -0.150286835 | 0.1814813 | -0.828112 | 0.407607 | 0.901327 |
| pax8 | 163.374987 | -0.146639224 | 0.1734428 | -0.845462 | 0.397853 | 0.899672 |
| b2ml | 1025.472999 | -0.066481404 | 0.095044 | -0.699481 | 0.484252 | 0.929579 |
| zc3h15 | 760.8669935 | 0.069770143 | 0.0908675 | 0.7678226 | 0.442593 | 0.916336 |
| mafa | 249.3919957 | -0.033708545 | 0.1331967 | -0.253073 | 0.800211 | 0.979377 |
| ptprea | 221.0097624 | 0.011872918 | 0.1412139 | 0.0840776 | 0.932995 | 0.992702 |
| ptbp2b | 1649.596019 | 0.014161898 | 0.0827312 | 0.1711796 | 0.864083 | 0.98601 |
| stat6 | 86.51496731 | 0.173386929 | 0.2162383 | 0.8018326 | 0.42265 | 0.906865 |
| lzlrl | 623.9282934 | 0.052743697 | 0.1055872 | 0.4995273 | 0.617408 | 0.957354 |
| mxtx2 | 1.204202781 | 0.475444534 | 1.7483234 | 0.2719431 | 0.785666 | NA |
| dcblld1 | 298.3856629 | 0.057463093 | 0.1252368 | 0.4588355 | 0.646352 | 0.960362 |
| slc25a36b | 692.4061988 | -0.273160849 | 0.0988639 | -2.762999 | 0.005727 | 0.113592 |
| rnft1 | 418.456778 | -0.050146017 | 0.1195182 | -0.419568 | 0.674801 | 0.965257 |
| dlat | 2366.748973 | 0.067869894 | 0.0784813 | 0.8647904 | 0.387154 | 0.895778 |
| pwpl | 571.0146129 | -0.127715028 | 0.0990018 | -1.290028 | 0.197041 | 0.761944 |
| stk17al | 148.8027397 | -0.145443621 | 0.1733879 | -0.838834 | 0.401563 | 0.90084 |
| rwddl | 612.1621206 | -0.050971867 | 0.1091122 | -0.467151 | 0.640392 | 0.959994 |
| snapp91b | 3011.134792 | 0.132139357 | 0.0853259 | 1.5486431 | 0.121468 | 0.647929 |
| kptn | 268.8435218 | 0.033338236 | 0.1279152 | 0.2606276 | 0.79438 | 0.977937 |
| slc44a1a | 337.4478029 | -0.220871451 | 0.1229683 | -1.796165 | 0.072468 | 0.526156 |
| matn4 | 10578.72814 | 0.180317053 | 0.0679644 | 2.653109 | 0.007975 | 0.143761 |
| cldnc | 839.6148431 | -0.531612562 | 0.0939454 | -5.658739 | 1.52E-08 | 2.53E-06 |
| ZGC:153311 | 9.757986629 | -0.458348339 | 0.6200427 | -0.739221 | 0.459773 | NA |
| yaf2 | 479.803617 | 0.084053597 | 0.1058148 | 0.7943463 | 0.426994 | 0.910533 |
| rabgef11 | 64.54308506 | -0.103641163 | 0.2572617 | -0.402863 | 0.687049 | 0.966376 |
| phip | 51.92011331 | 0.119217641 | 0.2879185 | 0.4140673 | 0.678825 | 0.965257 |
| rapgef1b | 168.0879552 | -0.095100568 | 0.1603235 | -0.593179 | 0.553061 | 0.947265 |
| COX5B | 7214.241106 | -0.104397998 | 0.0854855 | -1.221236 | 0.221997 | 0.788551 |
| abcc9 | 263.7133329 | 0.154809588 | 0.1289101 | 1.2009117 | 0.229785 | 0.79764 |
| zdhhc16b | 303.3592118 | 0.158081655 | 0.1238305 | 1.2765966 | 0.201745 | 0.767736 |
| hcfcla | 1793.803449 | 0.114981421 | 0.0802817 | 1.4322249 | 0.152079 | 0.700984 |

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| mfsd5 | 185.2319499 | 0.088192389 | 0.15531 | 0.5678475 | 0.570139 | 0.948983 |
| wdhd1 | 309.527145 | -0.138068244 | 0.1268437 | -1.088491 | 0.276378 | 0.839541 |
| nup107 | 1215.046711 | -0.070935068 | 0.0931903 | -0.761185 | 0.446546 | 0.917154 |
| gpcpd1 | 914.0437506 | -0.002065111 | 0.1143661 | -0.018057 | 0.985593 | 0.996944 |
| dbnlb | 1221.883603 | -0.02024131 | 0.0959666 | -0.21092 | 0.832949 | 0.983557 |
| zic5 | 489.0411613 | -0.154340842 | 0.1051121 | -1.468345 | 0.142011 | 0.683406 |
| hacd3 | 415.4290085 | 0.068280919 | 0.1151534 | 0.5929562 | 0.55321 | 0.947265 |
| gins4 | 200.2316334 | -0.195769016 | 0.1583894 | -1.235998 | 0.216459 | 0.783724 |
| gpat3 | 608.7167306 | 0.394712673 | 0.0965922 | 4.0863814 | 4.38E-05 | 0.00242 |
| mhc11aa | 87.47004469 | -0.199123445 | 0.2094542 | -0.950678 | 0.341768 | 0.878134 |
| fibpa | 516.7779896 | -0.011447198 | 0.1034341 | -0.110671 | 0.911877 | 0.991066 |
| rab5b | 263.2366024 | 0.147018638 | 0.1401434 | 1.0490588 | 0.294151 | 0.849999 |
| tlr3 | 8.649500151 | 0.487375384 | 0.6847989 | 0.7117059 | 0.476647 | NA |
| cryz | 217.5632599 | 0.002194337 | 0.140132 | 0.0156591 | 0.987506 | 0.997189 |
| nobl | 299.419325 | 0.017178471 | 0.1282942 | 0.133899 | 0.893482 | 0.989291 |
| cldn151a | 707.4736093 | -1.315153436 | 0.0975693 | -13.47917 | 2.07E-41 | 4.10E-37 |
| spsb4a | 351.7399552 | -0.088365596 | 0.1218155 | -0.725405 | 0.468203 | 0.924328 |
| mbnl3 | 707.3514753 | 0.084426194 | 0.0978956 | 0.8624104 | 0.388462 | 0.896271 |
| smurf1 | 708.3942649 | 0.045136455 | 0.0929188 | 0.4857626 | 0.627135 | 0.957354 |
| rtn2a | 152.8362874 | 0.535606232 | 0.1719358 | 3.1151516 | 0.001839 | 0.050214 |
| bicral | 244.0477876 | -0.087734177 | 0.1375245 | -0.637953 | 0.523504 | 0.939336 |
| qtrt2 | 133.2447053 | -0.136611925 | 0.1765919 | -0.773602 | 0.439166 | 0.916082 |
| htr6 | 13.70858486 | -0.254274593 | 0.5655715 | -0.449589 | 0.653007 | 0.960792 |
| bbs12 | 33.20573074 | -0.772629027 | 0.3482058 | -2.218886 | 0.026494 | 0.313216 |
| exd2 | 303.8042985 | 0.04306656 | 0.1267566 | 0.3397581 | 0.734039 | 0.971993 |
| ptrhdl | 107.2411825 | 0.24313998 | 0.1993975 | 1.2193732 | 0.222703 | 0.789115 |
| ap3m2 | 1002.07488 | 0.075210335 | 0.0911632 | 0.8250079 | 0.409367 | 0.90193 |
| keapla | 254.1944506 | 0.094200745 | 0.1590947 | 0.592105 | 0.55378 | 0.947449 |
| nme6 | 63.33945334 | 0.104800575 | 0.2624215 | 0.3993598 | 0.689628 | 0.966799 |
| mkks | 18.62477444 | -0.247882111 | 0.4527615 | -0.547489 | 0.584043 | 0.952214 |
| slc6a2 | 179.7199682 | 0.255130731 | 0.1553007 | 1.6428171 | 0.100421 | 0.602464 |
| xiap | 407.6032657 | 0.130737889 | 0.1211091 | 1.0795053 | 0.280363 | 0.843423 |
| dag1 | 1949.690584 | 0.181270642 | 0.0872941 | 2.0765512 | 0.037843 | 0.381012 |
| zfp3611a | 1928.059334 | 0.141623745 | 0.0773411 | 1.8311585 | 0.067077 | 0.506251 |
| fam53b | 437.4594244 | -0.039265653 | 0.1150741 | -0.341221 | 0.732938 | 0.971844 |
| gmpr | 887.2293238 | 0.268337668 | 0.0885801 | 3.029321 | 0.002451 | 0.062137 |
| ccdc170 | 13.11137404 | 0.210463953 | 0.5451957 | 0.3860338 | 0.699472 | 0.967998 |
| usp33 | 1306.66815 | 0.092469684 | 0.0844094 | 1.0954902 | 0.273302 | 0.838214 |
| cct3 | 5639.393356 | -0.168334479 | 0.076583 | -2.198067 | 0.027944 | 0.323709 |
| EIF4ENIF1 | 443.1453071 | 0.068988603 | 0.141905 | 0.4861605 | 0.626853 | 0.957354 |
| trim33 | 1034.464599 | -0.041464576 | 0.0938127 | -0.441993 | 0.658494 | 0.962545 |
| SBNO2 | 509.4648389 | -0.133769056 | 0.1252855 | -1.067714 | 0.28565 | 0.845448 |
| trib3 | 721.4129284 | 0.046012801 | 0.1078898 | 0.4264795 | 0.669758 | 0.965223 |
| zgc:112408 | 3.483480383 | -0.159046647 | 1.0297922 | -0.154445 | 0.877259 | NA |
| nup214 | 302.1262794 | -0.11746949 | 0.1588002 | -0.739732 | 0.459463 | 0.921978 |
| zmp:0000001048 | 65.95367516 | 0.35356449 | 0.3100488 | 1.140351 | 0.25414 | 0.823394 |
| mhc11ba | 6.092782264 | -0.052752198 | 0.8137563 | -0.064826 | 0.948313 | NA |
| bcap29 | 161.0619538 | 0.129606411 | 0.160356 | 0.8082417 | 0.418951 | 0.906406 |
| sdr16c5a | 379.5711153 | -0.036415454 | 0.1128761 | -0.322614 | 0.746987 | 0.97419 |
| arl6ip5b | 445.8772096 | 0.115847143 | 0.114526 | 1.0115358 | 0.31176 | 0.864257 |
| psmd13 | 1346.282797 | -0.1055685 | 0.0960279 | -1.099352 | 0.271615 | 0.83659 |
| ralab | 549.9245068 | -0.079937353 | 0.100123 | -0.798392 | 0.424643 | 0.9085 |
| chmp4ba | 620.5718244 | 0.106052795 | 0.1057885 | 1.0024985 | 0.316103 | 0.866931 |
| nudt3a | 205.66064 | -0.177502779 | 0.1481538 | -1.198098 | 0.230879 | 0.799177 |

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| fxr2 | 1560.927453 | 0.162700577 | 0.0762433 | 2.1339646 | 0.032846 | 0.353176 |
| zdhhc5a | 859.2877677 | 0.020406336 | 0.1043832 | 0.1954944 | 0.845006 | 0.985174 |
| eiflad | 222.005532 | -0.126728917 | 0.1523498 | -0.831828 | 0.405506 | 0.901305 |
| clcal | 1.814708353 | 0.186512888 | 1.5197095 | 0.1227293 | 0.902321 | NA |
| zgc:65894 | 3305.527524 | 0.215446661 | 0.066698 | 3.23018 | 0.001237 | 0.036676 |
| upfl | 1773.290866 | -0.076920679 | 0.0890297 | -0.863989 | 0.387594 | 0.895884 |
| tfdplb | 254.3493486 | -0.2688112 | 0.1386475 | -1.938811 | 0.052524 | 0.449813 |
| mrpl46 | 272.2822307 | 0.055533922 | 0.132725 | 0.4184134 | 0.675645 | 0.965257 |
| dock9b | 513.9347242 | -0.045861858 | 0.1028347 | -0.445976 | 0.655614 | 0.96173 |
| med7 | 293.0602969 | 0.041265021 | 0.1241486 | 0.3323842 | 0.739599 | 0.972943 |
| c9 | 2113.576894 | 0.282460164 | 0.2441969 | 1.1566903 | 0.247399 | 0.81686 |
| tmco6 | 93.37999824 | -0.129019237 | 0.2282407 | -0.565277 | 0.571885 | 0.949494 |
| lctlb | 551.7433394 | -0.020072191 | 0.1014547 | -0.197844 | 0.843167 | 0.985174 |
| zgc:92518 | 149.80898 | 0.103889473 | 0.1796952 | 0.5781429 | 0.563168 | 0.948728 |
| ncoa5 | 1309.84308 | -0.03907237 | 0.0849588 | -0.459898 | 0.645589 | 0.96029 |
| dip2bb | 39.74420244 | 0.037852225 | 0.3067988 | 0.123378 | 0.901808 | 0.990121 |
| cap1 | 246.2894182 | 0.054890233 | 0.1394523 | 0.3936129 | 0.693867 | 0.96736 |
| fmo5 | 238.4750574 | -0.245101501 | 0.137864 | -1.77785 | 0.075429 | 0.534788 |
| kpna1 | 1275.524568 | 0.198493578 | 0.0892716 | 2.223479 | 0.026184 | 0.311899 |
| her8a | 140.6429085 | -0.281982904 | 0.172161 | -1.637903 | 0.101442 | 0.605353 |
| gna15.1 | 156.1805126 | -0.203985294 | 0.173505 | -1.175674 | 0.239725 | 0.808111 |
| zbtb8os | 242.168713 | 0.050125191 | 0.1354211 | 0.3701431 | 0.711276 | 0.969006 |
| asns | 396.276767 | 0.046170435 | 0.1117668 | 0.4130962 | 0.679536 | 0.965257 |
| calcocolb | 23.97010765 | 0.231059742 | 0.4059909 | 0.5691255 | 0.569271 | 0.948983 |
| arf2b | 3.135393141 | 0.464836258 | 1.0787995 | 0.4308829 | 0.666554 | NA |
| fam219aa | 20.7557085 | -0.008462454 | 0.4214044 | -0.020082 | 0.983978 | 0.996944 |
| riok1 | 312.1109434 | -0.040614303 | 0.127651 | -0.318167 | 0.750358 | 0.97419 |
| ptchl | 730.9740952 | -0.107414801 | 0.1111107 | -0.966737 | 0.333675 | 0.874933 |
| agt | 1112.874422 | 0.321505405 | 0.1275884 | 2.5198648 | 0.01174 | 0.190597 |
| dhtkd1 | 969.2559156 | 0.213894185 | 0.0854062 | 2.5044352 | 0.012265 | 0.195612 |
| crygm1 | | 0 NA | NA | NA | NA | NA |
| fign11 | 85.01601984 | -0.334160209 | 0.2161175 | -1.546197 | 0.122057 | 0.649408 |
| farp2 | 490.3293564 | 0.058154321 | 0.1034879 | 0.5619429 | 0.574155 | 0.950037 |
| slc7a1 | 22.57960972 | -0.153600873 | 0.4549674 | -0.337609 | 0.735658 | 0.972535 |
| eif3c | 6866.192317 | -0.194459814 | 0.0717523 | -2.710156 | 0.006725 | 0.12641 |
| ythdf1 | 1034.783048 | 0.021539568 | 0.0848075 | 0.2539819 | 0.79951 | 0.979366 |
| vtg3 | 1.852202149 | 0.869537402 | 1.455503 | 0.5974137 | 0.550231 | NA |
| esr2a | 6.744681524 | 1.058429093 | 0.7737921 | 1.3678468 | 0.17136 | NA |
| irf9 | 126.8999088 | -0.488545538 | 0.1922438 | -2.541282 | 0.011045 | 0.18215 |
| fut9a | 574.3048332 | -0.008688076 | 0.0997605 | -0.087089 | 0.9306 | 0.992702 |
| trappc6b | 267.3607213 | -0.043426903 | 0.1403365 | -0.309448 | 0.75698 | 0.975374 |
| cdc42bpab | 308.743468 | -0.263066404 | 0.1248664 | -2.106783 | 0.035136 | 0.364718 |
| anxa5b | 981.2961939 | -0.422584162 | 0.090962 | -4.645719 | 3.39E-06 | 0.000291 |
| galcb | 410.9100046 | -0.000450498 | 0.1172863 | -0.003841 | 0.996935 | 0.999057 |
| eif4a2 | 735.4758243 | -0.153938599 | 0.0969872 | -1.587205 | 0.112466 | 0.627868 |
| ugt5a1 | 24.23391455 | -0.026781561 | 0.3930245 | -0.068142 | 0.945672 | 0.993609 |
| slc17a7a | 311.6182175 | 0.191433861 | 0.124943 | 1.532169 | 0.125481 | 0.654803 |
| ptpn2a | 168.2579662 | 0.035651606 | 0.1659265 | 0.2148639 | 0.829873 | 0.982821 |
| baiap212a | 79.02261466 | -1.132435865 | 0.2594067 | -4.365484 | 1.27E-05 | 0.000877 |
| dkc1 | 1012.103042 | 0.009184957 | 0.0942068 | 0.0974978 | 0.922331 | 0.99233 |
| rab11fip3 | 194.4881364 | 0.205836727 | 0.1530669 | 1.3447505 | 0.178706 | 0.739486 |
| ddc | 220.5306495 | 0.055017638 | 0.165234 | 0.3329681 | 0.739158 | 0.972722 |
| cdk8 | 501.0530282 | 0.11291112 | 0.104782 | 1.0775812 | 0.281221 | 0.84357 |
| apbblip | 171.0998465 | 0.032854197 | 0.1574112 | 0.2087157 | 0.83467 | 0.984067 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| setd3 | 718.5205474 | 0.106902415 | 0.0996284 | 1.073011 | 0.283266 | 0.84466 |
| gtf2h2 | 217.2424461 | 0.069160793 | 0.143143 | 0.4831587 | 0.628983 | 0.957354 |
| rbm8a | 1809.965471 | -0.156456307 | 0.0769772 | -2.032501 | 0.042103 | 0.402974 |
| ctdnepla | 208.424733 | 0.095241461 | 0.1539282 | 0.6187395 | 0.536088 | 0.943336 |
| gata3 | 1570.004568 | -0.143267305 | 0.0852095 | -1.681354 | 0.092694 | 0.579675 |
| helz2 | 10.57283484 | 0.234548431 | 0.6343906 | 0.3697225 | 0.711589 | NA |
| wdcp | 178.4345607 | 0.411364755 | 0.1582374 | 2.5996682 | 0.009331 | 0.162001 |
| klhl4 | 96.73169896 | 0.094014595 | 0.2126133 | 0.4421859 | 0.658355 | 0.962545 |
| suco | 2024.943234 | -0.004632202 | 0.0905846 | -0.051137 | 0.959217 | 0.995097 |
| npas2 | 33.74023418 | 0.006942382 | 0.4000952 | 0.0173518 | 0.986156 | 0.996965 |
| zgc:55888 | 1.356046616 | 0.792643957 | 1.7222439 | 0.4602391 | 0.645345 | NA |
| sash3 | 29.59129399 | -0.376302106 | 0.3690909 | -1.019538 | 0.307948 | 0.861088 |
| mrm3a | 70.28347819 | -0.265192049 | 0.2340864 | -1.132881 | 0.257264 | 0.825314 |
| zgc:154046 | 424.5642956 | 0.254924395 | 0.1165732 | 2.1868187 | 0.028756 | 0.328909 |
| eif5b | 1377.184988 | -0.1768124 | 0.0919068 | -1.923824 | 0.054377 | 0.457162 |
| iqseclb | 1366.074687 | 0.06841719 | 0.0817265 | 0.8371486 | 0.402509 | 0.90084 |
| prlra | 264.7088906 | 0.314087002 | 0.1446963 | 2.1706637 | 0.029957 | 0.335036 |
| mroh1 | 628.1395122 | -0.104520447 | 0.1009416 | -1.035454 | 0.300457 | 0.856251 |
| rgs7a | 503.8020585 | -0.026046866 | 0.1141537 | -0.228174 | 0.819511 | 0.981594 |
| haus4 | 105.3290348 | -0.179393303 | 0.1953143 | -0.918485 | 0.358365 | 0.884398 |
| ckmt1 | 5250.889968 | -0.026099181 | 0.0703995 | -0.370729 | 0.710839 | 0.968985 |
| pimr110 | | 0 NA | NA | NA | NA | NA |
| echdc2 | 164.9260653 | -0.35319836 | 0.1585354 | -2.227883 | 0.025888 | 0.310878 |
| scrn3 | 294.9294589 | -0.130329586 | 0.1367113 | -0.95332 | 0.340428 | 0.87805 |
| mcat | 31.22397708 | -0.286154766 | 0.366095 | -0.781641 | 0.434426 | 0.914254 |
| si:ch211-195b13.1 | 919.6734741 | 0.326730695 | 0.086552 | 3.7749648 | 0.00016 | 0.007176 |
| tprb | 1480.293731 | -0.0793484 | 0.0871169 | -0.910827 | 0.362387 | 0.885944 |
| akr7a3 | 262.0105172 | 0.018697182 | 0.1344187 | 0.1390966 | 0.889374 | 0.989291 |
| znf106a | 1296.42606 | 0.158327329 | 0.0804906 | 1.9670293 | 0.04918 | 0.435115 |
| mgme1 | 211.5823708 | 0.032348201 | 0.1473904 | 0.219473 | 0.826282 | 0.982196 |
| rnf20 | 954.1609687 | 0.035000293 | 0.093319 | 0.3750607 | 0.707615 | 0.968664 |
| gabrb1b | 62.03804675 | -0.075276719 | 0.252246 | -0.298426 | 0.765378 | 0.975374 |
| si:ch73-166o21.1 | 5.06953012 | -0.476320871 | 0.8800689 | -0.541231 | 0.588348 | NA |
| gnaola | 3962.283857 | 0.03615641 | 0.0699864 | 0.5166206 | 0.605421 | 0.95651 |
| acadvl | 3697.99478 | -0.067532259 | 0.0716624 | -0.942367 | 0.346005 | 0.878857 |
| cd9b | 1177.955809 | -0.263479613 | 0.0915867 | -2.876832 | 0.004017 | 0.08719 |
| p2rx1 | 54.32499257 | 0.309223755 | 0.2894633 | 1.0682657 | 0.285401 | 0.845164 |
| trpala | 232.1843835 | -0.114809278 | 0.1353979 | -0.84794 | 0.396471 | 0.899672 |
| pblb | 118.4489958 | -0.194018665 | 0.1808009 | -1.073107 | 0.283223 | 0.84466 |
| atic | 1338.988755 | -0.158893285 | 0.0936809 | -1.696113 | 0.089865 | 0.573834 |
| rchyl | 287.4078431 | -0.141526865 | 0.1263734 | -1.11991 | 0.262752 | 0.830166 |
| mmp11b | 162.7420977 | 0.340334188 | 0.1787019 | 1.9044799 | 0.056848 | 0.467988 |
| sdha | 5406.330803 | -0.017063418 | 0.0762424 | -0.223805 | 0.822909 | 0.982189 |
| zgc:162339 | 121.8875633 | 0.083029421 | 0.1786551 | 0.4647469 | 0.642113 | 0.959994 |
| gadd45gb.1 | 408.0952466 | -0.145429661 | 0.1106473 | -1.314353 | 0.188727 | 0.753461 |
| rxfank | 15.30589444 | -0.686349486 | 0.4910359 | -1.397758 | 0.162186 | 0.716781 |
| psat1 | 1064.51547 | -0.102611875 | 0.0925193 | -1.109086 | 0.267393 | 0.833191 |
| lrrc4cb | 303.0040486 | -0.012331523 | 0.1377334 | -0.089532 | 0.928659 | 0.992702 |
| rgs7bpb | 248.4539917 | 0.162334438 | 0.1394397 | 1.1641908 | 0.244347 | 0.813858 |
| angel2 | 353.2390721 | 0.105243202 | 0.1230892 | 0.8550156 | 0.392543 | 0.897688 |
| slc35f6 | 718.1879504 | 0.064732484 | 0.0973835 | 0.6647169 | 0.506232 | 0.935724 |
| slcolc1 | 122.6968391 | 0.043062707 | 0.191624 | 0.224725 | 0.822193 | 0.982186 |
| abcc6a | 62.17500112 | 0.009424945 | 0.2560462 | 0.0368095 | 0.970637 | 0.996315 |
| ipo9 | 738.374614 | 0.006590264 | 0.1014373 | 0.0649688 | 0.948199 | 0.99381 |

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| tbca | 805.546915 | -0.071424269 | 0.0954679 | -0.74815 | 0.45437 | 0.920544 |
| znf292a | 431.6730818 | -0.061846965 | 0.1228864 | -0.503285 | 0.614764 | 0.95688 |
| scamp3 | 704.4767871 | 0.054889351 | 0.0940053 | 0.5838965 | 0.55929 | 0.948478 |
| sgtb | 154.4275057 | 0.161699983 | 0.174269 | 0.9278757 | 0.353472 | 0.881844 |
| tfa | 16546.30535 | 0.265466161 | 0.0913066 | 2.9074147 | 0.003644 | 0.081518 |
| cishb | 54.85639429 | 0.049657875 | 0.2732275 | 0.1817455 | 0.855782 | 0.985174 |
| plekho2 | 192.012359 | 0.166332066 | 0.1550726 | 1.0726076 | 0.283447 | 0.84466 |
| aqr | 831.197809 | -0.08306317 | 0.1001393 | -0.829476 | 0.406835 | 0.901305 |
| huwel | 4461.302595 | -0.027082418 | 0.100397 | -0.269753 | 0.78735 | 0.976596 |
| srsf6b | 3944.746169 | -0.113439463 | 0.0718035 | -1.57986 | 0.114139 | 0.633095 |
| zebla | 19.35235049 | -0.264419163 | 0.4395405 | -0.601581 | 0.547453 | 0.945526 |
| zgc:152891 | 26.83771295 | 0.277547853 | 0.3764886 | 0.7372013 | 0.461 | 0.922038 |
| crybb1l2 | 36544.6359 | -0.038588694 | 0.0653393 | -0.59059 | 0.554795 | 0.947449 |
| mtmr6 | 561.9892423 | -0.098303416 | 0.1018045 | -0.96561 | 0.334239 | 0.875298 |
| prkacab | 993.2124654 | 0.101145625 | 0.0853046 | 1.1856999 | 0.235741 | 0.804824 |
| ints3 | 584.2263865 | 0.029523573 | 0.1011032 | 0.2920141 | 0.770276 | 0.975687 |
| cascl | 22.43180172 | 0.505595925 | 0.4196605 | 1.2047737 | 0.228291 | 0.795541 |
| abcg2d | 44.49277136 | -0.329900635 | 0.2932526 | -1.124971 | 0.260601 | 0.828546 |
| vtg6 | 0.339758314 | 0.005883863 | 3.2682461 | 0.0018003 | 0.998564 | NA |
| rimkla | 7160.859677 | -0.156728417 | 0.0796429 | -1.967888 | 0.049081 | 0.435115 |
| tcirgla | 248.5350507 | -0.239910653 | 0.1340313 | -1.78996 | 0.07346 | 0.528705 |
| glipr2l | 123.0465232 | -0.015120401 | 0.1781774 | -0.084862 | 0.932371 | 0.992702 |
| neurod2 | 166.9563425 | -0.097035419 | 0.1777618 | -0.545873 | 0.585153 | 0.952487 |
| sf3b5 | 831.0586893 | -0.038381829 | 0.101248 | -0.379087 | 0.704623 | 0.968134 |
| pon2 | 208.0742489 | 0.033434723 | 0.1480718 | 0.2258008 | 0.821356 | 0.981845 |
| smad7 | 223.1173672 | 0.021956566 | 0.1459205 | 0.1504693 | 0.880394 | 0.987881 |
| farsb | 930.7120347 | -0.011885405 | 0.0928107 | -0.128061 | 0.898101 | 0.990121 |
| fam102ab | 53.47208784 | 0.029873295 | 0.2641844 | 0.1130775 | 0.909969 | 0.990702 |
| rnf128a | 1073.620902 | -0.078152194 | 0.0865095 | -0.903394 | 0.366317 | 0.887239 |
| rhobtb4 | 27.52138641 | -0.116499944 | 0.3650685 | -0.319118 | 0.749637 | 0.97419 |
| smarcel | 3870.11107 | -0.042828248 | 0.0731191 | -0.585732 | 0.558055 | 0.948478 |
| gysl | 1118.860209 | 0.074141469 | 0.0923523 | 0.8028114 | 0.422084 | 0.90651 |
| dnajb9b | 12.79896174 | -0.260775367 | 0.5282247 | -0.493683 | 0.62153 | 0.957354 |
| eif3g | 2078.42831 | -0.179958866 | 0.0744318 | -2.417767 | 0.015616 | 0.229092 |
| fbxol5 | 7.379408691 | 0.993558481 | 0.7089492 | 1.4014523 | 0.161079 | NA |
| wdr5 | 1420.21003 | 0.038773861 | 0.0840306 | 0.4614252 | 0.644494 | 0.96029 |
| bckdk | 1270.554227 | 0.129938018 | 0.0787638 | 1.6497181 | 0.099001 | 0.598346 |
| zp3e | 8.491664171 | -0.046092154 | 0.6422365 | -0.071768 | 0.942786 | NA |
| ace2 | 482.3314359 | -0.345023405 | 0.1192246 | -2.893895 | 0.003805 | 0.08416 |
| si:dkey-94f20.4 | 50.433148 | 0.360246376 | 0.2774995 | 1.2981876 | 0.194223 | 0.758049 |
| ttyh2 | 55.23131648 | 0.008111241 | 0.2680454 | 0.0302607 | 0.975859 | 0.996762 |
| hmcn1 | 497.9547028 | -0.243107427 | 0.1107325 | -2.195447 | 0.028132 | 0.325071 |
| itgb2 | 78.38602551 | 0.334405755 | 0.2393989 | 1.3968561 | 0.162457 | 0.717058 |
| neurog3 | 2.194007624 | -0.64329868 | 1.3164545 | -0.48866 | 0.625082 | NA |
| slc16a1a | 207.629015 | -0.232095687 | 0.1465542 | -1.583685 | 0.113266 | 0.631061 |
| MCUR1 | 135.4313012 | -0.276952774 | 0.1838159 | -1.506685 | 0.131891 | 0.665566 |
| tmem214 | 1248.485644 | 0.006452275 | 0.0793382 | 0.0813262 | 0.935183 | 0.992702 |
| snx27b | 225.5881132 | 0.089444603 | 0.1498094 | 0.5970559 | 0.55047 | 0.946549 |
| pmpcb | 307.1411682 | -0.082226621 | 0.1306741 | -0.629249 | 0.529186 | 0.942209 |
| bcar3 | 466.941049 | -0.127927188 | 0.1110735 | -1.151734 | 0.24943 | 0.819036 |
| ssrplb | 314.6762689 | 0.028087376 | 0.1214881 | 0.2311944 | 0.817164 | 0.981594 |
| lin28a | 55.02026638 | -0.265264389 | 0.2645979 | -1.002519 | 0.316093 | 0.866931 |
| myo10 | 777.0117534 | 0.013205562 | 0.0911673 | 0.1448498 | 0.88483 | 0.988838 |
| dennd5a | 273.1749977 | -0.004666676 | 0.1339154 | -0.034848 | 0.972201 | 0.996315 |

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|-----------------|-------------|--------------|-----------|-----------|----------|----------|
| nr4a2a | 635.299841 | -0.046839068 | 0.1042645 | -0.449233 | 0.653263 | 0.960919 |
| scamp21 | 194.9994754 | 0.192082897 | 0.1494051 | 1.2856517 | 0.198565 | 0.763597 |
| ywhae2 | 2459.38518 | 0.130504266 | 0.0743413 | 1.755474 | 0.079178 | 0.547489 |
| ak7b | 34.72605863 | -0.000282075 | 0.321329 | -0.000878 | 0.9993 | 0.999704 |
| sqor | 514.7224431 | -0.274201751 | 0.1288192 | -2.128578 | 0.033289 | 0.355433 |
| svilc | 612.5323686 | 0.268015101 | 0.1101036 | 2.4342083 | 0.014924 | 0.223742 |
| ikbkg | 587.4582685 | -0.074527174 | 0.0994798 | -0.749169 | 0.453755 | 0.920074 |
| zgc:152670 | 0.863695607 | 1.965711988 | 2.22386 | 0.8839189 | 0.37674 | NA |
| slc27a4 | 31.0586259 | -0.694844173 | 0.3497446 | -1.986719 | 0.046954 | 0.425314 |
| adsl | 888.0203608 | 0.079645256 | 0.0996245 | 0.7994546 | 0.424027 | 0.908025 |
| zmynd12 | 9.676535717 | -0.269526576 | 0.6243926 | -0.431662 | 0.665987 | NA |
| large2 | 1053.131373 | -0.028899579 | 0.0942112 | -0.306753 | 0.759031 | 0.975374 |
| chordc1b | 296.5629254 | -0.021202256 | 0.1277063 | -0.166024 | 0.868138 | 0.987245 |
| mespaa | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| bud31 | 729.0984678 | -0.089688672 | 0.0940873 | -0.953249 | 0.340464 | 0.87805 |
| asb12a | 264.053498 | -0.241503433 | 0.1345589 | -1.794779 | 0.072689 | 0.52617 |
| emc8 | 507.5770407 | 0.104248955 | 0.1197754 | 0.8703706 | 0.384098 | 0.895192 |
| vaspb | 2288.298622 | -0.002152531 | 0.0718152 | -0.029973 | 0.976088 | 0.996762 |
| nr2e1 | 282.45249 | -0.114520614 | 0.1379738 | -0.830017 | 0.406529 | 0.901305 |
| kcnalb | 3.586196321 | 0.547534267 | 1.0285946 | 0.532313 | 0.594509 | NA |
| fam8a1a | 29.78580582 | 0.121248224 | 0.3516603 | 0.344788 | 0.730254 | 0.971335 |
| kctd10 | 795.2072749 | 0.032032162 | 0.0935924 | 0.3422518 | 0.732161 | 0.971665 |
| vps37a | 656.4077311 | -0.017615655 | 0.0998362 | -0.176446 | 0.859944 | 0.985773 |
| mafba | 638.1805409 | 0.045910288 | 0.1043655 | 0.439899 | 0.66001 | 0.963432 |
| ilvbl | 581.7615923 | -0.156724304 | 0.1036477 | -1.512086 | 0.130512 | 0.662797 |
| pdzklipl | 172.5422038 | -0.135406016 | 0.1549126 | -0.87408 | 0.382075 | 0.895192 |
| myof1 | 235.5862865 | 0.176984247 | 0.1369845 | 1.2920021 | 0.196356 | 0.761835 |
| zgc:63587 | 948.1088418 | 0.019328663 | 0.1003995 | 0.1925176 | 0.847337 | 0.985174 |
| pla2g4ab | 7.827990996 | -0.268957477 | 0.7473282 | -0.359892 | 0.718928 | NA |
| brd9 | 563.3131839 | -0.083330258 | 0.1009943 | -0.825098 | 0.409316 | 0.901918 |
| cables2b | 30.24686556 | 0.221479277 | 0.3535186 | 0.6264997 | 0.530987 | 0.942209 |
| wnt10a | 10.20982516 | -0.07777377 | 0.6008434 | -0.129441 | 0.897009 | NA |
| kif3ca | 185.3227548 | 0.302164457 | 0.1630659 | 1.853021 | 0.063879 | 0.493997 |
| sinup | 0.473170125 | -0.833888596 | 2.9014002 | -0.287409 | 0.773799 | NA |
| slc3a1 | 102.6103532 | -0.494426371 | 0.2161215 | -2.287724 | 0.022154 | 0.283074 |
| nr2f1b | 410.5194322 | 0.084321311 | 0.1184992 | 0.711577 | 0.476727 | 0.926808 |
| si:dkey-29p10.4 | 76.2592327 | 0.065337258 | 0.2256914 | 0.2894983 | 0.7722 | 0.975687 |
| dlx2b | 80.23546142 | -0.085755169 | 0.2193393 | -0.39097 | 0.695819 | 0.96736 |
| npc1 | 2122.251091 | 0.028189399 | 0.078588 | 0.3586986 | 0.719821 | 0.969318 |
| zpax2 | 2.985198621 | 0.675276084 | 1.0940658 | 0.6172171 | 0.537092 | NA |
| cnna | 5.360834459 | -0.934114195 | 0.834904 | -1.118828 | 0.263213 | NA |
| foxf2a | 343.0821971 | -0.225509077 | 0.1298618 | -1.736532 | 0.08247 | 0.554303 |
| elp2 | 307.3123832 | 0.100183167 | 0.1219846 | 0.8212771 | 0.411488 | 0.903483 |
| plxnb1b | 998.8274171 | 0.131469507 | 0.090998 | 1.4447521 | 0.148528 | 0.696298 |
| pabpcla | 12349.2733 | -0.184623238 | 0.0815846 | -2.262966 | 0.023638 | 0.296445 |
| otud7b | 58.87215296 | -0.184403192 | 0.2781636 | -0.662931 | 0.507375 | 0.935734 |
| megf10 | 238.0099275 | 0.209402164 | 0.1393875 | 1.5023027 | 0.133019 | 0.667628 |
| fbxw11b | 1446.884954 | 0.078964901 | 0.0792298 | 0.9966572 | 0.318931 | 0.867746 |
| npy8ar | 1.364726559 | 1.599180424 | 1.7155395 | 0.9321735 | 0.351247 | NA |
| eif5a | 14139.6226 | -0.186184312 | 0.0693384 | -2.685155 | 0.00725 | 0.134075 |
| traf5 | 17.22404726 | 0.061305131 | 0.4542957 | 0.1349454 | 0.892655 | 0.989291 |
| garem | 318.969594 | 0.072220612 | 0.1389921 | 0.5196024 | 0.603341 | 0.956045 |
| chd6 | 902.658411 | 0.173407159 | 0.0935128 | 1.8543686 | 0.063686 | 0.493277 |
| prx | 1123.273618 | 0.230171984 | 0.1011249 | 2.2761168 | 0.022839 | 0.289129 |

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|----------------|-------------|--------------|-----------|-----------|----------|----------|
| smt1b | 5.605107253 | 0.027539366 | 0.8149955 | 0.0337908 | 0.973044 | NA |
| kcnk1b | 9.601136086 | -0.692596581 | 0.6214646 | -1.114459 | 0.265082 | NA |
| tmed1b | 145.0795276 | -0.18830047 | 0.1794318 | -1.049427 | 0.293982 | 0.849999 |
| gdpd1 | 892.7810169 | 0.213285507 | 0.0887665 | 2.4027704 | 0.016271 | 0.235374 |
| scml4 | 41.10096493 | 0.321471027 | 0.315132 | 1.0201154 | 0.307674 | 0.861088 |
| eapp | 185.2192522 | -0.005435162 | 0.1489288 | -0.036495 | 0.970888 | 0.996315 |
| opnlsw2 | 11787.23073 | 0.23263115 | 0.083881 | 2.7733474 | 0.005548 | 0.111157 |
| gnai2b | 963.8880407 | -0.046321265 | 0.0854113 | -0.542332 | 0.58759 | 0.953319 |
| fabp11a | 1287.978435 | -0.11392552 | 0.102022 | -1.116676 | 0.264133 | 0.830245 |
| gpsm2 | 549.3367951 | 0.111057494 | 0.1098661 | 1.010844 | 0.312091 | 0.864401 |
| lmbird2b | 835.176304 | 0.063615842 | 0.0977333 | 0.6509124 | 0.515103 | 0.937646 |
| celal.6 | 492.5934285 | -0.325200617 | 0.2629868 | -1.236566 | 0.216248 | 0.783589 |
| larp7 | 251.6850753 | 0.005165303 | 0.1567493 | 0.0329526 | 0.973712 | 0.996315 |
| bag5 | 81.12416558 | -0.114564366 | 0.2356235 | -0.486218 | 0.626813 | 0.957354 |
| fl1r.1 | 1333.152093 | -0.161999578 | 0.0778698 | -2.080391 | 0.03749 | 0.378999 |
| kdr | 83.30212381 | 0.182969051 | 0.2305591 | 0.7935884 | 0.427435 | 0.91075 |
| cdkl1 | 140.5414503 | 0.184530545 | 0.1773559 | 1.0404537 | 0.298129 | 0.85401 |
| zgc:77929 | 222.5899011 | -0.091313572 | 0.1552948 | -0.588002 | 0.556531 | 0.94804 |
| kidins220b | 7771.943724 | 0.046863909 | 0.0707015 | 0.6628414 | 0.507432 | 0.935734 |
| uts2b | 8.809704998 | 1.092840121 | 0.6929814 | 1.5770122 | 0.114793 | NA |
| epha2a | 410.0580767 | 0.197696566 | 0.1211563 | 1.6317477 | 0.102733 | 0.609031 |
| rsph9 | 32.35709848 | -0.129691727 | 0.3675155 | -0.352888 | 0.724173 | 0.970402 |
| mettl8 | 38.24575892 | 0.035149739 | 0.3276517 | 0.1072777 | 0.914569 | 0.991119 |
| slc23a2 | 18.06350494 | 0.431873242 | 0.4866214 | 0.8874933 | 0.374813 | 0.894316 |
| prdm4 | 280.4319453 | -0.119031043 | 0.1343397 | -0.886045 | 0.375593 | 0.894316 |
| rhbdf1b | 118.2797656 | -0.12553443 | 0.213891 | -0.586908 | 0.557265 | 0.948478 |
| sema3d | 620.8739864 | 0.235737722 | 0.0964478 | 2.4441995 | 0.014517 | 0.21947 |
| b9d2 | 67.81310808 | -0.112833145 | 0.2426029 | -0.465094 | 0.641864 | 0.959994 |
| sobpb | 337.9225772 | 0.084911663 | 0.1355749 | 0.6263082 | 0.531113 | 0.942209 |
| gstt1b | 386.6721075 | 0.023669588 | 0.1213222 | 0.1950969 | 0.845317 | 0.985174 |
| unc13ba | 67.86639963 | 0.323105407 | 0.2457028 | 1.3150256 | 0.188501 | 0.753276 |
| smarcc1a | 2640.289945 | 0.005378219 | 0.1010849 | 0.053205 | 0.957569 | 0.99467 |
| slc44a5a | 8.270187561 | -0.860188336 | 0.6949826 | -1.237712 | 0.215823 | NA |
| klf1 | 8.386535638 | 0.876694464 | 0.6694712 | 1.3095328 | 0.190354 | NA |
| apmap | 1224.423395 | -0.023426737 | 0.0933484 | -0.25096 | 0.801845 | 0.979492 |
| pat11 | 1474.915777 | 0.01049894 | 0.0769232 | 0.136486 | 0.891437 | 0.989291 |
| crocc2 | 49.82091718 | 0.201241755 | 0.289828 | 0.6943489 | 0.487463 | 0.931584 |
| phf2011 | 488.0001218 | 0.061066973 | 0.1057621 | 0.5773996 | 0.56367 | 0.948739 |
| sphkap | 644.0500814 | 0.016568236 | 0.1000472 | 0.1656042 | 0.868468 | 0.987245 |
| mindy2 | 96.53180946 | 0.115829832 | 0.1989435 | 0.5822248 | 0.560415 | 0.948728 |
| adcy3b | 22.30014471 | 0.694546553 | 0.4416648 | 1.572565 | 0.11582 | 0.637943 |
| eif4ba | 657.7953028 | 0.045291569 | 0.0956292 | 0.4736163 | 0.635774 | 0.958142 |
| mylz3 | 42033.62551 | 0.147872009 | 0.0911378 | 1.6225106 | 0.104694 | 0.612652 |
| hal | 336.3987075 | -0.154472206 | 0.1666449 | -0.926954 | 0.35395 | 0.881976 |
| eif3i | 4292.46027 | -0.225637225 | 0.0763452 | -2.955485 | 0.003122 | 0.073687 |
| camk1db | 558.2664411 | 0.12044281 | 0.112362 | 1.0719181 | 0.283757 | 0.84466 |
| nup50 | 1025.88008 | -0.045778497 | 0.091924 | -0.498004 | 0.618481 | 0.957354 |
| ncam2 | 889.9971416 | 0.052471942 | 0.0906151 | 0.5790642 | 0.562546 | 0.948728 |
| zgc:l10699 | 56.3316431 | 0.037636715 | 0.2630049 | 0.1431027 | 0.886209 | 0.988936 |
| ifi45 | 23.38600063 | 0.225496156 | 0.3972231 | 0.5676813 | 0.570251 | 0.948989 |
| cel.1 | 345.7492619 | -0.3312137 | 0.131536 | -2.518045 | 0.011801 | 0.191113 |
| tgfbr1a | 17.62279235 | 0.105091515 | 0.4540154 | 0.2314713 | 0.816949 | 0.981594 |
| rock2a | 696.5395271 | -0.0992995 | 0.093427 | -1.062857 | 0.287847 | 0.845979 |
| si:ch211-1o7.3 | 10.06796382 | 0.532308536 | 0.5957581 | 0.8934978 | 0.371591 | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| ctdpl | 275.8454025 | -0.220521934 | 0.1399358 | -1.57588 | 0.115054 | 0.635519 |
| ccnt1 | 70.15445595 | 0.602373718 | 0.2404926 | 2.5047496 | 0.012254 | 0.195612 |
| kif25 | 144.8462086 | -0.320476531 | 0.1715631 | -1.86798 | 0.061765 | 0.485049 |
| prkag3a | 60.32127826 | 0.412241329 | 0.2567372 | 1.6056937 | 0.108341 | 0.620165 |
| fgfla | 25.96978037 | 0.109111386 | 0.3824699 | 0.285281 | 0.775429 | 0.975687 |
| banp | 234.0742881 | -0.117067263 | 0.1405616 | -0.832854 | 0.404927 | 0.901305 |
| itk | 1.135343319 | 3.640271539 | 2.1311155 | 1.7081531 | 0.087608 | NA |
| reep3a | 259.4689785 | -0.11880601 | 0.1357327 | -0.875294 | 0.381414 | 0.895192 |
| mccc2 | 1948.602028 | 0.007274498 | 0.0796432 | 0.0913386 | 0.927224 | 0.992702 |
| si:ch211-195b15.7 | 23.88455635 | 0.393089656 | 0.3987985 | 0.9856849 | 0.324288 | 0.870928 |
| nit2 | 271.5708533 | 0.09990383 | 0.1302167 | 0.7672121 | 0.442955 | 0.916336 |
| fat1a | 3022.14534 | 0.020883548 | 0.0700138 | 0.2982777 | 0.765491 | 0.975374 |
| ccdc6b | 302.2358054 | -0.113226454 | 0.129117 | -0.876929 | 0.380525 | 0.895192 |
| ccng2 | 1355.721805 | -0.249779009 | 0.0816402 | -3.059511 | 0.002217 | 0.05751 |
| rpp40 | 100.6156208 | 0.157862641 | 0.1955115 | 0.8074339 | 0.419417 | 0.906454 |
| sys1 | 281.4552803 | -0.032845226 | 0.1260648 | -0.260542 | 0.794445 | 0.977937 |
| pnpo | 356.8979465 | 0.087722404 | 0.1299247 | 0.6751788 | 0.499562 | 0.934006 |
| tlx3b | 95.11733921 | 0.095819395 | 0.2128772 | 0.4501158 | 0.652627 | 0.960708 |
| alg6 | 304.5938654 | -0.06014239 | 0.1258629 | -0.477841 | 0.632764 | 0.957356 |
| krt4 | 86679.40241 | -0.053501526 | 0.0822386 | -0.650565 | 0.515327 | 0.9377 |
| pdc6 | 2564.48967 | 0.173977875 | 0.0873763 | 1.9911337 | 0.046466 | 0.423616 |
| rnfl67 | 166.0294432 | 0.100948827 | 0.1757374 | 0.57443 | 0.565677 | 0.948739 |
| cdh7b | 9.665998011 | -0.178520614 | 0.6617611 | -0.269766 | 0.78734 | NA |
| rgs13 | 25.63765606 | 0.415071554 | 0.4093507 | 1.0139755 | 0.310594 | 0.86284 |
| zgc:112163 | 34.96735355 | 0.103394728 | 0.3378924 | 0.3059989 | 0.759605 | 0.975374 |
| gmppb | 1057.654232 | -0.045427051 | 0.0900822 | -0.504285 | 0.614061 | 0.95688 |
| sephs2 | 1357.444876 | 0.079991373 | 0.0841071 | 0.9510653 | 0.341571 | 0.878134 |
| braf | 383.300722 | -0.02437598 | 0.1236731 | -0.1971 | 0.843749 | 0.985174 |
| snrkb | 320.0574662 | 0.23146305 | 0.1301034 | 1.7790694 | 0.075228 | 0.534207 |
| nova2 | 4323.961055 | -0.173207893 | 0.0684729 | -2.529584 | 0.01142 | 0.186316 |
| utp4 | 434.419762 | -0.183702303 | 0.1104787 | -1.662784 | 0.096356 | 0.59086 |
| mmp2 | 3701.501008 | 0.370922988 | 0.0756256 | 4.9047255 | 9.36E-07 | 9.54E-05 |
| dnajc5gb | 332.5692357 | -0.058332368 | 0.1269762 | -0.459396 | 0.64595 | 0.96029 |
| utp25 | 389.168468 | -0.051743324 | 0.1348517 | -0.383706 | 0.701197 | 0.968134 |
| paqr3a | 209.8645157 | 0.116714883 | 0.1484347 | 0.7863044 | 0.431689 | 0.91277 |
| lrrc40 | 190.0504694 | -0.043285374 | 0.1490361 | -0.290435 | 0.771483 | 0.975687 |
| ppplr14ab | 157.297746 | 0.102796373 | 0.1774928 | 0.5791581 | 0.562482 | 0.948728 |
| si:ch211-106h11.1 | 94.11801521 | -0.022975457 | 0.2269814 | -0.101222 | 0.919374 | 0.991639 |
| si:ch73-151m17.5 | 4.263712467 | -0.542464614 | 1.0023179 | -0.54121 | 0.588363 | NA |
| phb2b | 720.2583224 | 0.132444116 | 0.1090619 | 1.2143945 | 0.224597 | 0.791954 |
| ak51 | 75.87142378 | -0.09928795 | 0.2380418 | -0.417103 | 0.676603 | 0.965257 |
| sec63 | 1049.367946 | -0.046546339 | 0.085755 | -0.542783 | 0.58728 | 0.953319 |
| g3bp1 | 1898.713832 | 0.182514125 | 0.0744076 | 2.4528975 | 0.014171 | 0.214979 |
| grm6a | 5.195400888 | -0.343213929 | 0.8690009 | -0.394952 | 0.692878 | NA |
| smc2 | 1030.946853 | -0.104775827 | 0.0851539 | -1.230428 | 0.218537 | 0.785734 |
| arhgap29b | 472.8347174 | -0.142635773 | 0.1084332 | -1.315425 | 0.188367 | 0.75324 |
| pik3cg | 95.63063457 | -0.214256647 | 0.2140054 | -1.001174 | 0.316743 | 0.867129 |
| srrt | 1569.029437 | -0.062943047 | 0.0808748 | -0.778278 | 0.436405 | 0.914408 |
| mdh1aa | 7018.474554 | -0.07241352 | 0.0858168 | -0.843815 | 0.398773 | 0.900446 |
| slc16a12a | 78.87378343 | 0.234369916 | 0.2321643 | 1.0095002 | 0.312735 | 0.864656 |
| atp5mc3a | 2027.69609 | -0.02681481 | 0.0981149 | -0.2733 | 0.784623 | 0.97627 |
| rorcb | 310.1822484 | -0.129891649 | 0.1222474 | -1.062531 | 0.287995 | 0.845979 |
| hsl17b10 | 763.9465514 | -0.013048128 | 0.0993701 | -0.131308 | 0.895531 | 0.989814 |
| zgc:158689 | 6.265280117 | -0.008930827 | 0.7435444 | -0.012011 | 0.990417 | NA |

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|------------------|-------------|--------------|-----------|-----------|----------|----------|
| chrnb2 | 496.2334649 | 0.034902048 | 0.1098875 | 0.3176161 | 0.750776 | 0.97419 |
| sdr16c5b | 692.3461077 | -0.297087019 | 0.0984855 | -3.016554 | 0.002557 | 0.064039 |
| bcor | 1844.592744 | -0.120353745 | 0.1006911 | -1.195277 | 0.231979 | 0.800126 |
| tgml | 117.6271293 | 0.255906877 | 0.1898047 | 1.3482644 | 0.177573 | 0.738343 |
| gsk3ba | 1862.289477 | 0.083083875 | 0.0832912 | 0.9975107 | 0.318517 | 0.867746 |
| stard3 | 413.1960477 | -0.064938032 | 0.1136575 | -0.571348 | 0.567763 | 0.948739 |
| si:ch211-210c8.6 | 185.5005436 | -0.072797903 | 0.1593468 | -0.456852 | 0.647778 | 0.960708 |
| pigs | 366.3096335 | 0.03175699 | 0.1183015 | 0.2684412 | 0.78836 | 0.976703 |
| gata5 | 266.8410551 | -0.368754473 | 0.1382161 | -2.667956 | 0.007631 | 0.13921 |
| mical12b | 119.3085583 | -0.040409087 | 0.2159075 | -0.187159 | 0.851536 | 0.985174 |
| brfla | 106.5205217 | -0.249423617 | 0.1936076 | -1.288295 | 0.197643 | 0.762928 |
| cand1 | 1634.566441 | 0.031110382 | 0.0746557 | 0.416718 | 0.676885 | 0.965257 |
| syvn1 | 637.9351172 | 0.015019608 | 0.0971011 | 0.15468 | 0.877074 | 0.987881 |
| srsflb | 1983.443664 | -0.087550535 | 0.0841294 | -1.040665 | 0.298031 | 0.85401 |
| copz1 | 1256.160268 | -0.011990025 | 0.0837645 | -0.14314 | 0.88618 | 0.988936 |
| prepl | 80.51178019 | -0.173209483 | 0.2229309 | -0.776965 | 0.43718 | 0.914408 |
| rgs5b | 97.95817364 | 0.037115737 | 0.2288756 | 0.1621656 | 0.871175 | 0.987754 |
| dnajc3b | 508.3536378 | 0.186359784 | 0.1100783 | 1.6929742 | 0.09046 | 0.576277 |
| kcnip3b | 120.6212338 | 0.053739912 | 0.1911449 | 0.2811475 | 0.778597 | 0.975942 |
| rdh1 | 160.4822391 | -0.295736205 | 0.1647801 | -1.794732 | 0.072696 | 0.52617 |
| bgna | 55.49905287 | -0.442233473 | 0.2589017 | -1.708114 | 0.087615 | 0.566637 |
| zbtb11 | 621.711515 | -0.118830037 | 0.101129 | -1.175035 | 0.239981 | 0.808111 |
| tcp1 | 4694.085483 | -0.11863178 | 0.0704542 | -1.683815 | 0.092218 | 0.57849 |
| tln2a | 586.426195 | 0.119600999 | 0.1093351 | 1.0938935 | 0.274002 | 0.838846 |
| casp3a | 1727.696096 | -0.132222245 | 0.076498 | -1.728441 | 0.083909 | 0.557501 |
| pdssl | 477.0278531 | 0.045158638 | 0.1066742 | 0.4233321 | 0.672053 | 0.965257 |
| her7 | 2.31319428 | -0.77869527 | 1.3558072 | -0.574341 | 0.565737 | NA |
| cx36.7 | 1.030311776 | 0.994458412 | 1.953155 | 0.5091549 | 0.610644 | NA |
| xrcc3 | 50.95375406 | 0.140146349 | 0.2736525 | 0.5121326 | 0.608558 | 0.956718 |
| ncoa2 | 1559.694595 | -0.036522567 | 0.0799214 | -0.456981 | 0.647685 | 0.960645 |
| ints6l | 85.76052591 | 0.343642348 | 0.2148178 | 1.5996924 | 0.109667 | 0.623766 |
| ptk6a | 40.13320289 | -0.283680855 | 0.3364643 | -0.843123 | 0.39916 | 0.900683 |
| tp73 | 23.88767788 | 0.403961442 | 0.3885227 | 1.039737 | 0.298462 | 0.85439 |
| sfxn2 | 587.3321764 | -0.117058456 | 0.1144243 | -1.023021 | 0.306298 | 0.860027 |
| cyp39a1 | 25.55104539 | 0.008727464 | 0.3889865 | 0.0224364 | 0.9821 | 0.996944 |
| rsph14 | 21.90550172 | 0.248554067 | 0.4234544 | 0.5869678 | 0.557225 | 0.948478 |
| zgc:172106 | 1.055856997 | 2.296593324 | 2.1028377 | 1.0921401 | 0.274772 | NA |
| zgc:77739 | 77.3872871 | -0.103598823 | 0.2213731 | -0.467983 | 0.639797 | 0.959994 |
| vps13d | 476.9884305 | -0.021993269 | 0.1070812 | -0.205389 | 0.837268 | 0.984645 |
| dse | 407.7380403 | 0.17636229 | 0.1256329 | 1.403791 | 0.160381 | 0.71328 |
| tssk6 | | 0 NA | NA | NA | NA | NA |
| ubpl | 199.1073298 | 0.053986439 | 0.1574008 | 0.3429871 | 0.731608 | 0.971557 |
| ecil | 499.1971041 | -0.221201711 | 0.1154117 | -1.916631 | 0.055285 | 0.46072 |
| nkx2.5 | 26.78151143 | -0.357344456 | 0.3802224 | -0.93983 | 0.347305 | 0.880123 |
| vrk1 | 255.9267199 | -0.033125348 | 0.1646351 | -0.201205 | 0.840539 | 0.985042 |
| mdh1b | 13.24931224 | 0.287465529 | 0.526351 | 0.5461479 | 0.584964 | 0.952436 |
| crtap | 693.2782698 | 0.202629881 | 0.105108 | 1.9278257 | 0.053877 | 0.454699 |
| msh2 | 448.1197281 | 0.022288677 | 0.1128712 | 0.1974701 | 0.84346 | 0.985174 |
| tbx2a | 545.9164849 | -0.003007716 | 0.1143937 | -0.026293 | 0.979024 | 0.996802 |
| scn8ab | 77.91411211 | 0.216686698 | 0.2327668 | 0.9309174 | 0.351896 | 0.88081 |
| msantd4 | 16.91896112 | -0.465538604 | 0.4879365 | -0.954097 | 0.340035 | 0.87805 |
| brms11b | 288.1780562 | 0.14294133 | 0.1253267 | 1.1405496 | 0.254057 | 0.823394 |
| zgc:171704 | 22.19275186 | -0.273613538 | 0.418204 | -0.654259 | 0.512945 | 0.936253 |
| sf3b2 | 2009.798005 | -0.152209538 | 0.0907041 | -1.678089 | 0.09333 | 0.580895 |

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| pik3r2 | 757.7487389 | 0.165888603 | 0.0926818 | 1.7898729 | 0.073474 | 0.528705 |
| neill | 197.4277988 | 0.148141853 | 0.1473007 | 1.0057104 | 0.314555 | 0.865694 |
| ntm | 26.22430841 | -0.194740518 | 0.3759668 | -0.517973 | 0.604477 | 0.95651 |
| ptchd1 | 164.3763544 | 0.224378341 | 0.1677188 | 1.3378244 | 0.180954 | 0.741776 |
| rdh12 | 275.3580704 | 0.040074547 | 0.1344212 | 0.2981267 | 0.765606 | 0.975374 |
| mrps22 | 546.8075105 | 0.001745397 | 0.1037578 | 0.0168218 | 0.986579 | 0.996965 |
| rbpl.1 | 2.175737239 | -1.104521527 | 1.3680625 | -0.807362 | 0.419458 | NA |
| scap | 79.86873368 | -0.189207953 | 0.2180633 | -0.867674 | 0.385573 | 0.89551 |
| casqlb | 1053.905703 | 0.116809772 | 0.1099853 | 1.0620487 | 0.288214 | 0.845979 |
| EIF2B3 | 500.7330957 | -0.053660473 | 0.1076576 | -0.498436 | 0.618177 | 0.957354 |
| rab3da | 120.2598463 | -0.111814196 | 0.188742 | -0.592418 | 0.553571 | 0.947322 |
| mafga | 3.813022008 | 0.137853889 | 0.9858993 | 0.1398255 | 0.888798 | NA |
| pak4 | 510.0267864 | -0.052098324 | 0.1019639 | -0.510949 | 0.609387 | 0.956718 |
| kdm7aa | 390.8731515 | -0.09291382 | 0.1262189 | -0.736132 | 0.46165 | 0.922466 |
| CR392347.1 | 6.036594409 | 0.522008205 | 0.8273196 | 0.6309631 | 0.528065 | NA |
| cenpj | 79.3243449 | 0.077730507 | 0.2313174 | 0.3360339 | 0.736845 | 0.972535 |
| psmd3 | 1764.753942 | -0.00775175 | 0.0810002 | -0.0957 | 0.923759 | 0.992628 |
| midlip11 | 513.9706524 | 0.243143743 | 0.1106084 | 2.1982394 | 0.027932 | 0.323709 |
| gpx1a | 675.5667147 | -0.095161439 | 0.102201 | -0.93112 | 0.351791 | 0.88081 |
| slc38a4 | 2411.517636 | 0.118835242 | 0.0817442 | 1.4537444 | 0.146017 | 0.69189 |
| nt5clba | 188.8148819 | -0.009343593 | 0.1525418 | -0.061253 | 0.951158 | 0.99381 |
| ano10b | 201.739842 | 0.016472789 | 0.1447872 | 0.1137724 | 0.909418 | 0.990702 |
| ctnnal1 | 119.7076594 | 0.095395071 | 0.182763 | 0.5219605 | 0.601698 | 0.956045 |
| depdcla | 171.0314582 | -0.094681522 | 0.1560168 | -0.606868 | 0.543939 | 0.945438 |
| gnai2a | 1798.290664 | -0.07431629 | 0.0854765 | -0.869436 | 0.384609 | 0.89551 |
| pgm2 | 759.5540807 | -0.000626272 | 0.0912662 | -0.006862 | 0.994525 | 0.998694 |
| acvr11 | 353.3141165 | 0.053974177 | 0.1331703 | 0.405302 | 0.685256 | 0.966146 |
| dnajc28 | 84.18483869 | 0.294941474 | 0.2218957 | 1.3291899 | 0.183785 | 0.747376 |
| asna1 | 1424.943487 | 0.037275196 | 0.0998199 | 0.3734245 | 0.708833 | 0.968664 |
| ubr5 | 3328.619809 | -0.038391292 | 0.1039893 | -0.369185 | 0.71199 | 0.969006 |
| nck2a | 512.5394604 | -0.012875179 | 0.1022337 | -0.125939 | 0.89978 | 0.990121 |
| htr2c11 | 191.1106719 | -0.027677968 | 0.1540065 | -0.179719 | 0.857373 | 0.985703 |
| mfap1 | 789.5645207 | -0.145865821 | 0.0953607 | -1.529622 | 0.12611 | 0.654806 |
| ncoal | 135.7060293 | -0.121626992 | 0.1749713 | -0.695126 | 0.486977 | 0.931104 |
| atpla3a | 9921.620458 | 0.111487864 | 0.0801018 | 1.3918265 | 0.163975 | 0.71945 |
| bmp7a | 8.735090993 | 0.49773576 | 0.6500576 | 0.7656794 | 0.443867 | NA |
| pdia2 | 350.7239558 | -0.459977281 | 0.1341327 | -3.429271 | 0.000605 | 0.020492 |
| trim101 | 387.0791178 | 0.332709869 | 0.1155697 | 2.8788685 | 0.003991 | 0.08682 |
| methflda | 717.4448842 | -0.054814339 | 0.1312147 | -0.417745 | 0.676133 | 0.965257 |
| olfmla | 343.1358071 | 0.115813807 | 0.1220036 | 0.9492659 | 0.342485 | 0.878434 |
| wdr33 | 1726.123654 | -0.03430625 | 0.0790185 | -0.434155 | 0.664176 | 0.964736 |
| cfap161 | 6.222159629 | -0.077966947 | 0.7877289 | -0.098977 | 0.921157 | NA |
| cyba | 158.0799489 | -0.078026991 | 0.1677117 | -0.465245 | 0.641756 | 0.959994 |
| pdpk1b | 1430.343581 | -0.101873813 | 0.0818883 | -1.244058 | 0.213478 | 0.781725 |
| rev1 | 419.2216697 | 0.072171289 | 0.1101788 | 0.655038 | 0.512443 | 0.936253 |
| si:ch73-186j5.2 | 1.022491002 | 2.265845936 | 2.0916203 | 1.083297 | 0.278677 | NA |
| etv4 | 425.9219455 | -0.063527303 | 0.1156226 | -0.549437 | 0.582706 | 0.952214 |
| rell1 | 306.2259381 | -0.066482432 | 0.1268023 | -0.5243 | 0.60007 | 0.956045 |
| arglulb | 1155.744297 | 0.086899657 | 0.0899768 | 0.9658008 | 0.334144 | 0.875263 |
| lbox1a | 135.4297995 | -0.087746994 | 0.1980782 | -0.442992 | 0.657772 | 0.962538 |
| taf5 | 398.4771389 | 0.061067086 | 0.1163751 | 0.5247435 | 0.599762 | 0.956045 |
| illr3 | 0.365141898 | 1.973577737 | 3.3927314 | 0.5817076 | 0.560764 | NA |
| rhocb | 930.0488324 | -0.098382525 | 0.0889044 | -1.10661 | 0.268463 | 0.833634 |
| gc2 | 22.98964705 | -0.019134956 | 0.3919912 | -0.048815 | 0.961067 | 0.995659 |

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| rpl35 | 11313.21445 | -0.393498002 | 0.0952065 | -4.133101 | 3.58E-05 | 0.002051 |
| ggt1b | 79.32341832 | 0.410201341 | 0.2343603 | 1.750302 | 0.080066 | 0.549631 |
| hpda | 314.0039573 | 0.280994522 | 0.1367674 | 2.0545434 | 0.039923 | 0.391511 |
| sult1st3 | 30.67350902 | -0.107099239 | 0.3629345 | -0.295093 | 0.767923 | 0.975687 |
| prkcha | 21.15744391 | -0.176056087 | 0.4117318 | -0.427599 | 0.668943 | 0.964961 |
| frzb | 460.6408371 | 0.14006521 | 0.1208228 | 1.1592616 | 0.24635 | 0.816376 |
| kank2 | 39.44484711 | 0.22127918 | 0.3286236 | 0.6733514 | 0.500724 | 0.93428 |
| hpc | 2531.620684 | 0.067306737 | 0.0776933 | 0.8663134 | 0.386318 | 0.89551 |
| rps6kbl1a | 623.9584543 | -0.090476891 | 0.1034147 | -0.874894 | 0.381632 | 0.895192 |
| krt18a.1 | 2527.196719 | -0.173273212 | 0.0744754 | -2.326585 | 0.019987 | 0.266383 |
| mknk1 | 442.6530644 | 0.079900035 | 0.1128796 | 0.7078345 | 0.479048 | 0.926978 |
| pth1rb | 31.77964671 | 0.145100809 | 0.3523594 | 0.4117977 | 0.680488 | 0.965431 |
| sulf2a | 1347.074786 | 0.148010369 | 0.0793859 | 1.8644408 | 0.06226 | 0.487382 |
| ddx61 | 2036.923011 | 0.165103503 | 0.07597 | 2.1732712 | 0.02976 | 0.334058 |
| aldh7a1 | 2535.082509 | -0.029585379 | 0.0702084 | -0.421393 | 0.673468 | 0.965257 |
| m6pr | 363.4079378 | -0.091397605 | 0.1154579 | -0.79161 | 0.428588 | 0.911378 |
| hegl | 80.04064395 | 0.398572299 | 0.2220674 | 1.7948259 | 0.072681 | 0.52617 |
| msrb2 | 650.3148256 | -0.11817026 | 0.1066235 | -1.108295 | 0.267734 | 0.833349 |
| mbn12 | 905.6040134 | -0.000754405 | 0.0914206 | -0.008252 | 0.993416 | 0.998618 |
| zgc:56095 | 529.0433631 | -0.159349988 | 0.1015523 | -1.569143 | 0.116615 | 0.639148 |
| pak2b | 1751.626296 | -0.001019835 | 0.075094 | -0.013581 | 0.989164 | 0.997589 |
| agxtb | 1243.798334 | 0.602522113 | 0.084384 | 7.1402438 | 9.32E-13 | 3.37E-10 |
| cyp2v1 | 275.9192591 | -0.250876702 | 0.1368213 | -1.833608 | 0.066712 | 0.505041 |
| pdia4 | 1519.555043 | 0.119336997 | 0.0843764 | 1.4143404 | 0.157262 | 0.707876 |
| znf503 | 1383.643129 | -0.149293593 | 0.0886302 | -1.684456 | 0.092094 | 0.57849 |
| smn1 | 215.549239 | -0.11258469 | 0.1608974 | -0.699729 | 0.484096 | 0.929461 |
| ftr06 | | 0 NA | NA | NA | NA | NA |
| zdhhc8b | 312.7202538 | 0.026288569 | 0.1278461 | 0.2056267 | 0.837083 | 0.984645 |
| stk38b | 143.4374059 | 0.23054561 | 0.1775719 | 1.2983225 | 0.194177 | 0.758049 |
| or115-1 | 0.797014944 | -1.848753454 | 2.2697209 | -0.814529 | 0.415342 | NA |
| midn | 2403.551128 | 0.186024085 | 0.0744776 | 2.4977201 | 0.012499 | 0.198049 |
| lipf | 785.6084724 | 0.01088319 | 0.1031407 | 0.1055179 | 0.915965 | 0.991314 |
| mapkapk2b | 56.97271711 | 0.022177335 | 0.2691864 | 0.0823865 | 0.934339 | 0.992702 |
| slc6a9 | 2252.629303 | 0.135236451 | 0.075649 | 1.7876827 | 0.073827 | 0.529749 |
| hapln4 | 62.74633342 | 0.286842374 | 0.2514259 | 1.1408625 | 0.253927 | 0.823394 |
| ifih1 | 8.411256217 | 0.273714931 | 0.6490946 | 0.4216873 | 0.673253 | NA |
| kdm7ab | 570.2024427 | -0.077156454 | 0.1067065 | -0.723072 | 0.469636 | 0.924505 |
| cope | 1797.894327 | -0.040346089 | 0.0768575 | -0.524947 | 0.59962 | 0.956045 |
| flnca | 550.3723711 | -0.067622957 | 0.1164719 | -0.580595 | 0.561514 | 0.948728 |
| tnfrsfla | 410.1006739 | -0.183629961 | 0.1268193 | -1.447966 | 0.147627 | 0.694905 |
| sf3b4 | 404.6792548 | -0.133441208 | 0.1132056 | -1.178751 | 0.238497 | 0.807659 |
| zgc:152658 | 0.547712847 | 2.559541715 | 2.9076406 | 0.8802813 | 0.378707 | NA |
| parp16 | 243.524602 | -0.024737813 | 0.137798 | -0.179522 | 0.857528 | 0.985703 |
| retsat | 526.1373265 | -0.245638734 | 0.1034395 | -2.37471 | 0.017563 | 0.245605 |
| rab5aa | 1779.433221 | -0.062921766 | 0.0847538 | -0.742406 | 0.457841 | 0.921978 |
| lxl1b | 38.54533832 | -0.020108311 | 0.3150774 | -0.06382 | 0.949113 | 0.99381 |
| agtr1a | 10.87661311 | -0.264743073 | 0.567877 | -0.466198 | 0.641074 | NA |
| cpsf6 | 1756.796147 | -0.069950459 | 0.0791431 | -0.883848 | 0.376779 | 0.895192 |
| cers4b | 64.97440459 | 0.146427119 | 0.2646498 | 0.5532864 | 0.580067 | 0.951257 |
| slc6a19a.1 | 83.59310631 | 0.511464849 | 0.2355864 | 2.1710286 | 0.029929 | 0.335036 |
| rad54l | 207.5509272 | -0.055748632 | 0.1512586 | -0.368565 | 0.712452 | 0.969087 |
| arl5a | 286.2789708 | -0.027106281 | 0.1412713 | -0.191874 | 0.847841 | 0.985174 |
| sec6lg | 1316.193391 | -0.00434281 | 0.2202511 | -0.019718 | 0.984269 | 0.996944 |
| igf2a | 175.2078083 | 0.080763843 | 0.1562826 | 0.5167807 | 0.605309 | 0.95651 |

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|------------------|-------------|--------------|-----------|-----------|----------|----------|
| gtpbp3 | 38.64795433 | 0.087143605 | 0.3065355 | 0.2842855 | 0.776192 | 0.975826 |
| acot7 | 309.9601876 | 0.09796197 | 0.1290042 | 0.7593706 | 0.447631 | 0.917154 |
| aar2 | 238.232792 | 0.052071327 | 0.1374739 | 0.3787724 | 0.704857 | 0.968134 |
| si:ch211-262i1.4 | 0 NA | NA | NA | NA | NA | NA |
| saall | 92.4320217 | -0.026285987 | 0.2312778 | -0.113655 | 0.909511 | 0.990702 |
| itga2b | 4.420944525 | 0.341149016 | 0.9591105 | 0.3556931 | 0.72207 | NA |
| elk3 | 424.2991166 | -0.017195026 | 0.1217623 | -0.141218 | 0.887698 | 0.989291 |
| phf2 | 816.1609406 | 0.083265886 | 0.0952946 | 0.8737737 | 0.382242 | 0.895192 |
| cdh2 | 4751.954031 | -0.060497576 | 0.0703827 | -0.859552 | 0.390036 | 0.897023 |
| carm1 | 1494.504833 | 0.131211321 | 0.0843427 | 1.5556935 | 0.119781 | 0.644854 |
| dgkh | 97.82112414 | -0.281916886 | 0.2232692 | -1.262677 | 0.206705 | 0.774273 |
| npnta | 358.9209487 | 0.086596038 | 0.1239888 | 0.6984185 | 0.484916 | 0.93001 |
| slco3a1 | 69.04703764 | 0.06702855 | 0.2313006 | 0.2897897 | 0.771977 | 0.975687 |
| zw10 | 439.3848646 | -0.095561372 | 0.1204964 | -0.793064 | 0.42774 | 0.91075 |
| psme4b | 1142.718198 | 0.128108528 | 0.0847694 | 1.5112587 | 0.130723 | 0.662797 |
| scamp5a | 113.915423 | 0.017417385 | 0.2084944 | 0.0835389 | 0.933423 | 0.992702 |
| prl2 | 11.73069903 | 0.707106069 | 0.596522 | 1.1853814 | 0.235867 | 0.804837 |
| npr1b | 220.3078344 | -0.327359943 | 0.1419241 | -2.306584 | 0.021078 | 0.273668 |
| klf5l | 489.2576164 | -0.512060656 | 0.1130719 | -4.528627 | 5.94E-06 | 0.00046 |
| pknox1.1 | 537.9925323 | -0.043091175 | 0.1054826 | -0.408514 | 0.682896 | 0.965476 |
| hivep2b | 10.2173327 | -0.488242347 | 0.6091723 | -0.801485 | 0.422851 | NA |
| kdm4aa | 231.2428159 | -0.149181581 | 0.1577053 | -0.945952 | 0.344173 | 0.878434 |
| efnalb | 688.4409229 | -0.008062752 | 0.0967797 | -0.08331 | 0.933605 | 0.992702 |
| st8sia2 | 12.78768382 | 0.89601388 | 0.5749708 | 1.5583642 | 0.119147 | 0.64321 |
| crygmx11 | 75.86646473 | -0.311029454 | 0.2381322 | -1.306121 | 0.191511 | 0.755886 |
| abhd3 | 251.1889989 | 0.409465285 | 0.1457567 | 2.8092379 | 0.004966 | 0.102608 |
| esrp2 | 687.1597291 | -0.141146679 | 0.0953752 | -1.47991 | 0.138897 | 0.677395 |
| bdnf | 196.7760671 | 0.525397007 | 0.1704463 | 3.0824779 | 0.002053 | 0.054414 |
| flnclb | 991.7403882 | 0.164255908 | 0.0838896 | 1.9580003 | 0.05023 | 0.438746 |
| tmem248 | 109.1880484 | 0.218374262 | 0.1900018 | 1.1493271 | 0.250421 | 0.820164 |
| trpc4apa | 1109.034272 | 0.095432598 | 0.0805284 | 1.1850806 | 0.235986 | 0.805056 |
| dgat2 | 65.76583625 | 0.502185868 | 0.2448845 | 2.0507053 | 0.040296 | 0.392394 |
| si:dkey-199f5.8 | 756.0600512 | 0.111516667 | 0.1023615 | 1.0894396 | 0.27596 | 0.839541 |
| scaf4b | 612.6002745 | -0.017525009 | 0.1124262 | -0.15588 | 0.876128 | 0.987881 |
| dcl1a | 621.0847429 | 0.20714217 | 0.1052175 | 1.968705 | 0.048987 | 0.435115 |
| henmt1 | 26.36030419 | 1.571851971 | 0.3981242 | 3.9481446 | 7.88E-05 | 0.003993 |
| apobec2a | 250.9432722 | 0.207603425 | 0.1328861 | 1.5622663 | 0.118225 | 0.641526 |
| jak2b | 643.1065145 | -0.070908979 | 0.0986744 | -0.718616 | 0.472378 | 0.924838 |
| snrpa | 1078.961955 | -0.041372069 | 0.0895049 | -0.462232 | 0.643915 | 0.96009 |
| rnaseh2a | 359.0417947 | -0.086041676 | 0.1229584 | -0.699763 | 0.484076 | 0.929461 |
| mmp24 | 25.10850986 | -0.01489086 | 0.3950812 | -0.037691 | 0.969934 | 0.996315 |
| zfand5a | 2224.627639 | 0.038470575 | 0.0883993 | 0.4351909 | 0.663424 | 0.964736 |
| pes | 715.9204424 | -0.035600746 | 0.096729 | -0.368046 | 0.712839 | 0.96909 |
| aimp2 | 760.5090337 | -0.101322979 | 0.0963443 | -1.051676 | 0.292948 | 0.848631 |
| cstf3 | 1706.649347 | -0.14885043 | 0.0773059 | -1.925473 | 0.05417 | 0.455813 |
| kat6a | 1909.354366 | -0.040228893 | 0.0878639 | -0.457855 | 0.647057 | 0.960362 |
| hnrnpk | 2407.102318 | -0.122123588 | 0.0724204 | -1.686315 | 0.091735 | 0.57849 |
| rad17 | 187.620141 | 0.09854177 | 0.1562772 | 0.6305574 | 0.52833 | 0.941868 |
| lratd1 | 440.9736211 | -0.111711759 | 0.1087961 | -1.026799 | 0.304515 | 0.858905 |
| fat2 | 328.3427023 | 0.141185152 | 0.1279579 | 1.1033722 | 0.269866 | 0.834705 |
| zcchc17 | 307.5962253 | -0.113359791 | 0.1222835 | -0.927025 | 0.353914 | 0.881976 |
| hogal | 211.832413 | 0.122178461 | 0.145808 | 0.8379408 | 0.402064 | 0.90084 |
| gclm | 376.4590096 | -0.082744965 | 0.117969 | -0.701413 | 0.483045 | 0.929338 |
| tmem39b | 314.3665529 | -0.079253539 | 0.1276966 | -0.62064 | 0.534837 | 0.943336 |

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| nrarpb | 64.20144261 | -0.09486924 | 0.246608 | -0.384696 | 0.700462 | 0.967998 |
| gtpbp4 | 2885.801207 | -0.336366304 | 0.0788703 | -4.264803 | 2.00E-05 | 0.001256 |
| cyb5r1 | 373.0088246 | -0.31989426 | 0.1175202 | -2.722036 | 0.006488 | 0.123125 |
| gabbr1a | 33.10109216 | 0.175521939 | 0.3293257 | 0.5329737 | 0.594052 | 0.954434 |
| acvrlba | 1872.598101 | -0.064114024 | 0.089659 | -0.715088 | 0.474555 | 0.925287 |
| b3gnt5a | 505.6511438 | 0.06851245 | 0.1053674 | 0.6502246 | 0.515547 | 0.9377 |
| clptml | 1860.826127 | 0.128194273 | 0.0775006 | 1.6541069 | 0.098106 | 0.59749 |
| sptlc2a | 239.4118173 | -0.053120885 | 0.1512423 | -0.35123 | 0.725416 | 0.970402 |
| zgc:91890 | 169.6386002 | 0.030988066 | 0.1637731 | 0.1892134 | 0.849926 | 0.985174 |
| eya2 | 666.4012831 | -0.126672271 | 0.0948489 | -1.335516 | 0.181708 | 0.743756 |
| castor2 | 1088.439911 | -0.125367649 | 0.0890671 | -1.407564 | 0.15926 | 0.710139 |
| hspa4b | 2951.240023 | -0.041018759 | 0.0816948 | -0.502097 | 0.615599 | 0.95688 |
| cplx21 | 2382.458765 | 0.114542435 | 0.0719345 | 1.5923165 | 0.111314 | 0.627048 |
| smc3 | 3386.314178 | -0.069431421 | 0.0720307 | -0.963915 | 0.335089 | 0.875906 |
| ak7a | 85.32395897 | -0.040360681 | 0.2153335 | -0.187433 | 0.851321 | 0.985174 |
| smarcd1 | 1949.878345 | -0.030890028 | 0.0755793 | -0.40871 | 0.682753 | 0.965476 |
| erp44 | 1259.169513 | -0.078312089 | 0.0786202 | -0.996081 | 0.319211 | 0.867746 |
| barhl1b | 360.8793247 | 0.263535481 | 0.1320733 | 1.9953733 | 0.046002 | 0.421189 |
| podn | 4.90162669 | 0.193126438 | 0.9311158 | 0.207414 | 0.835687 | NA |
| tmem59 | 1147.964473 | 0.017419051 | 0.0880821 | 0.1977594 | 0.843233 | 0.985174 |
| sgsm3 | 841.9225445 | 0.004074293 | 0.0910922 | 0.0447272 | 0.964325 | 0.995927 |
| snx12 | 2139.069733 | 0.014736286 | 0.0775136 | 0.1901123 | 0.849221 | 0.985174 |
| arpc5b | 807.5534515 | -0.026530729 | 0.093583 | -0.2835 | 0.776794 | 0.975826 |
| fat1b | 284.3042424 | 0.106440048 | 0.1356531 | 0.784649 | 0.432659 | 0.91326 |
| DHDH | 229.0668941 | -0.103989523 | 0.1450502 | -0.716921 | 0.473423 | 0.924993 |
| si:ch73-160i9.2 | 1.805520255 | 0.249416744 | 1.3925451 | 0.1791086 | 0.857852 | NA |
| myl7 | 728.4431724 | 0.354402734 | 0.0992773 | 3.5698252 | 0.000357 | 0.013599 |
| cd82a | 1931.650052 | 0.071690124 | 0.0782229 | 0.9164847 | 0.359413 | 0.884844 |
| kdm4ab | 757.3273288 | -0.234881302 | 0.0991332 | -2.36935 | 0.017819 | 0.247181 |
| mob3a | 470.2552941 | -0.092911614 | 0.1136553 | -0.817486 | 0.413651 | 0.905864 |
| ing1 | 246.3058337 | 0.069732008 | 0.1391128 | 0.5012622 | 0.616187 | 0.95688 |
| parvb | 551.3540165 | 0.022703309 | 0.0986954 | 0.2300341 | 0.818065 | 0.981594 |
| hel.2 | 7.26236758 | -0.670590954 | 0.7764834 | -0.863626 | 0.387794 | NA |
| klhl140b | 74.81404064 | 0.159320998 | 0.2757185 | 0.5778394 | 0.563373 | 0.948739 |
| tpm4b | 693.5199076 | -0.089076198 | 0.1048 | -0.849964 | 0.395345 | 0.899293 |
| plk2b | 489.4747732 | -0.071347202 | 0.1079415 | -0.66098 | 0.508625 | 0.935807 |
| ankefla | 17.80394716 | 0.04190542 | 0.4561301 | 0.0918716 | 0.9268 | 0.992702 |
| tram1 | 598.539518 | -0.118131163 | 0.1033011 | -1.143562 | 0.252805 | 0.822335 |
| fam185a | 76.93548985 | 0.228007528 | 0.2438533 | 0.9350194 | 0.349778 | 0.880195 |
| rab4a | 233.2313212 | 0.092100839 | 0.1507147 | 0.611094 | 0.541137 | 0.944921 |
| haus5 | 149.1100875 | 0.061191338 | 0.1651974 | 0.3704135 | 0.711074 | 0.968985 |
| sh3bp51a | 322.0070132 | 0.040381599 | 0.1203812 | 0.3354478 | 0.737287 | 0.972535 |
| lritla | 313.8149077 | 0.216831151 | 0.1280016 | 1.693972 | 0.090271 | 0.575253 |
| rpsa | 27996.68312 | -0.268888516 | 0.075223 | -3.574554 | 0.000351 | 0.013418 |
| slainla | 205.3771729 | -0.156978092 | 0.1488461 | -1.054634 | 0.291593 | 0.847361 |
| 12-Sep | 984.2668567 | -0.07917366 | 0.0879618 | -0.900092 | 0.368071 | 0.887482 |
| vps9d1 | 259.4359926 | 0.227697366 | 0.1351011 | 1.6853855 | 0.091914 | 0.57849 |
| fam120c | 1184.988438 | 0.069779101 | 0.0872142 | 0.8000886 | 0.423659 | 0.907829 |
| abo | 7.632769443 | -1.204982094 | 0.7241508 | -1.663993 | 0.096114 | NA |
| camsapla | 673.3237381 | 0.152108204 | 0.1021837 | 1.4885759 | 0.136599 | 0.673303 |
| CTBP1 | 1000.196774 | 0.066879812 | 0.0940674 | 0.7109773 | 0.477098 | 0.926857 |
| mrpl24 | 455.7398224 | -0.147495853 | 0.1057389 | -1.394907 | 0.163044 | 0.717888 |
| arglula | 2445.482259 | -0.053519162 | 0.0899026 | -0.595302 | 0.551642 | 0.947138 |
| mogat2 | 154.0895744 | -0.660167674 | 0.1769617 | -3.730569 | 0.000191 | 0.00823 |

| | | | | | | |
|----------------|-------------|--------------|-----------|-----------|----------|----------|
| rpl7a | 33032.31291 | -0.365929454 | 0.080024 | -4.572745 | 4.81E-06 | 0.000387 |
| sptan1 | 8673.788949 | -0.015366109 | 0.0815253 | -0.188483 | 0.850498 | 0.985174 |
| nln | 162.3425204 | 0.127778673 | 0.1644113 | 0.7771889 | 0.437047 | 0.914408 |
| sema3aa | 1901.706922 | 0.103090478 | 0.073224 | 1.407878 | 0.159167 | 0.710139 |
| gsr | 558.1156366 | -0.234715055 | 0.1167037 | -2.011205 | 0.044304 | 0.413823 |
| culla | 1270.037605 | 0.120691126 | 0.0784313 | 1.5388138 | 0.12385 | 0.652372 |
| fancf | 33.78491667 | 0.609178712 | 0.3349632 | 1.8186436 | 0.068966 | 0.513259 |
| rhag | 2725.960324 | 0.096873249 | 0.0748874 | 1.2935854 | 0.195809 | 0.76113 |
| dhrrs9 | 173.5816326 | 0.009094221 | 0.1812095 | 0.0501862 | 0.959974 | 0.995388 |
| zbtb39 | 223.4707955 | -0.136432367 | 0.1417262 | -0.962647 | 0.335724 | 0.876088 |
| rasd1 | 290.4980086 | -0.02506889 | 0.1355348 | -0.184963 | 0.853258 | 0.985174 |
| GNB4 | 211.340057 | 0.063585751 | 0.1526293 | 0.4166025 | 0.676969 | 0.965257 |
| larsb | 981.8425421 | -0.008139962 | 0.0880713 | -0.092425 | 0.926361 | 0.992702 |
| tfdpla | 909.5974453 | -0.029865557 | 0.0870619 | -0.343038 | 0.73157 | 0.971557 |
| cb1n8 | 3.648571093 | -0.520663666 | 0.9957019 | -0.522911 | 0.601036 | NA |
| znf687b | 980.3539831 | -0.171301061 | 0.0873201 | -1.96176 | 0.04979 | 0.437386 |
| ints7 | 229.6532663 | -0.167722924 | 0.1444803 | -1.160871 | 0.245694 | 0.815435 |
| midlip1b | 895.8589671 | 0.28704953 | 0.096964 | 2.9603734 | 0.003073 | 0.07338 |
| phactr3b | 494.7307268 | -0.001998825 | 0.1113778 | -0.017946 | 0.985682 | 0.996944 |
| dusp5 | 190.8749616 | 0.163945781 | 0.1625749 | 1.0084321 | 0.313247 | 0.865104 |
| fbxo30b | 66.84251284 | 0.114252915 | 0.2581108 | 0.4426507 | 0.658018 | 0.962545 |
| rab39ba | 240.4166948 | 0.111889843 | 0.1344116 | 0.8324418 | 0.40516 | 0.901305 |
| fer116 | 45.9090626 | 0.184738075 | 0.3069892 | 0.601774 | 0.547325 | 0.945526 |
| prpsap2 | 784.2735642 | 0.042178596 | 0.0994879 | 0.4239571 | 0.671597 | 0.965257 |
| plxna4 | 1730.611131 | 0.080993605 | 0.0750107 | 1.0797605 | 0.280249 | 0.843423 |
| ndufb4 | 0.988894344 | -1.041944082 | 1.9792901 | -0.526423 | 0.598594 | NA |
| hes6 | 388.8056522 | 0.053929214 | 0.1152962 | 0.4677448 | 0.639967 | 0.959994 |
| adprh12 | 363.2672793 | 0.052998651 | 0.1181728 | 0.4484842 | 0.653804 | 0.961168 |
| uxt | 74.31517632 | -0.303337889 | 0.2253022 | -1.34636 | 0.178186 | 0.73929 |
| gpcla | 65.14056464 | 0.143045777 | 0.2494537 | 0.5734361 | 0.566349 | 0.948739 |
| chrnd | 354.3099548 | 0.278297186 | 0.1249827 | 2.2266851 | 0.025968 | 0.311101 |
| mark3a | 1254.542634 | 0.025207265 | 0.092168 | 0.2734926 | 0.784475 | 0.97627 |
| sparc | 20430.65821 | 0.273563895 | 0.086139 | 3.175841 | 0.001494 | 0.042508 |
| coa7 | 183.8389717 | -0.123153901 | 0.1514174 | -0.813341 | 0.416023 | 0.906237 |
| fabpla | | 0 NA | NA | NA | NA | NA |
| sec23b | 1527.92959 | 0.280774091 | 0.078898 | 3.5586964 | 0.000373 | 0.014011 |
| ptbpla | 1330.170217 | -0.105715463 | 0.0814396 | -1.298084 | 0.194259 | 0.758049 |
| mbip | 171.7500145 | 0.08957 | 0.1555089 | 0.5759798 | 0.564629 | 0.948739 |
| krt99 | 48.20882846 | -0.256536624 | 0.2843676 | -0.90213 | 0.366988 | 0.887458 |
| tgfb3 | 969.6699513 | 0.106421982 | 0.0952718 | 1.1170357 | 0.263979 | 0.830245 |
| flt1 | 173.9086123 | -0.056815929 | 0.1621296 | -0.350435 | 0.726012 | 0.970402 |
| cdc42bpb | 1966.517578 | 0.009992898 | 0.0870516 | 0.1147928 | 0.908609 | 0.990702 |
| stat5a | 17.5841477 | -0.161092518 | 0.4635248 | -0.347538 | 0.728187 | 0.970402 |
| rer gla | 90.24090527 | -0.09231519 | 0.2156692 | -0.428041 | 0.668621 | 0.96478 |
| psma6a | 1013.435076 | 0.020960376 | 0.0851565 | 0.2461395 | 0.805574 | 0.979893 |
| atp5fld | 3670.593658 | 0.106237335 | 0.0805598 | 1.3187392 | 0.187256 | 0.751302 |
| zgc:63470 | 229.8528167 | -0.217259749 | 0.1394165 | -1.55835 | 0.11915 | 0.64321 |
| gadd45ga | 692.3118008 | -0.262352126 | 0.097934 | -2.678868 | 0.007387 | 0.13563 |
| kcnj2a | 94.93105025 | 0.326612704 | 0.2206678 | 1.4801101 | 0.138844 | 0.677395 |
| etnk1 | 1200.581453 | -0.028122069 | 0.0862413 | -0.326086 | 0.744359 | 0.974094 |
| trioa | 401.6834489 | -0.122332824 | 0.1154344 | -1.059761 | 0.289253 | 0.845979 |
| rnf13 | 751.742352 | 0.160862842 | 0.0928005 | 1.7334268 | 0.08302 | 0.555556 |
| CABZ01086041.1 | 8.590758203 | -0.007820484 | 0.6479569 | -0.012069 | 0.99037 | NA |
| ssr4 | 1794.223144 | -0.046055948 | 0.0869402 | -0.529743 | 0.59629 | 0.954499 |

| | | | | | | |
|------------|-------------|--------------|-----------|-----------|----------|----------|
| pcsk2 | 181.9512481 | -0.030158108 | 0.1547942 | -0.194827 | 0.845528 | 0.985174 |
| tfe3b | 7.235474989 | -0.139899784 | 0.7014302 | -0.199449 | 0.841911 | NA |
| elf2a | 427.9342595 | 0.159066121 | 0.112835 | 1.4097228 | 0.158622 | 0.709303 |
| zdhhc7 | 57.03976238 | -0.238311932 | 0.27464 | -0.867725 | 0.385545 | 0.89551 |
| tmx1 | 294.8620832 | -0.094176925 | 0.1289541 | -0.730314 | 0.465199 | 0.923671 |
| shbg | 160.4189173 | 0.348681765 | 0.1705122 | 2.0449079 | 0.040864 | 0.394957 |
| esd | 650.485943 | -0.02533141 | 0.1022107 | -0.247835 | 0.804262 | 0.979643 |
| cry5 | 748.1382754 | 0.395491807 | 0.1139523 | 3.4706787 | 0.000519 | 0.018364 |
| pcnx3 | 59.17729481 | 0.168976097 | 0.2523925 | 0.6694972 | 0.503178 | 0.935304 |
| zgc:103759 | 28.46230871 | 0.046157581 | 0.3605085 | 0.1280347 | 0.898122 | 0.990121 |
| mcm5 | 1044.40971 | 0.056210634 | 0.086752 | 0.647946 | 0.51702 | 0.938543 |
| sp7 | 162.7904563 | -0.349906347 | 0.1784715 | -1.960573 | 0.049929 | 0.437835 |
| mpx | 241.0155322 | -0.165992885 | 0.3877693 | -0.428071 | 0.668599 | 0.96478 |
| tbcelb | 99.61653332 | 0.153217336 | 0.2037063 | 0.7521482 | 0.451962 | 0.918761 |
| agfg1b | 381.5473036 | 0.035410986 | 0.1225606 | 0.2889264 | 0.772638 | 0.975687 |
| parp1 | 1450.081419 | -0.021720666 | 0.0814767 | -0.266587 | 0.789787 | 0.977238 |
| hdgf12 | 800.9404482 | 0.077638117 | 0.0955969 | 0.8121406 | 0.416711 | 0.906237 |
| fads2 | 273.1655924 | -0.240721682 | 0.1313415 | -1.832792 | 0.066834 | 0.505573 |
| gpt21 | 1497.959694 | 0.014762223 | 0.0785172 | 0.1880125 | 0.850867 | 0.985174 |
| cds1 | 159.8233776 | -0.213925113 | 0.1739614 | -1.229728 | 0.218799 | 0.785734 |
| clcn7 | 467.0769914 | 0.080262021 | 0.1162819 | 0.6902367 | 0.490045 | 0.931926 |
| asap2b | 558.2566477 | 0.088131168 | 0.1116927 | 0.7890502 | 0.430083 | 0.911615 |
| neurod1 | 2844.921881 | -0.184378506 | 0.0762015 | -2.419619 | 0.015537 | 0.228768 |
| taf7 | 841.5024769 | 0.042150938 | 0.0923891 | 0.4562326 | 0.648223 | 0.960708 |
| ldb2a | 846.6856691 | -0.044267716 | 0.0898659 | -0.492598 | 0.622297 | 0.957354 |
| usol | 1161.59265 | -0.110578965 | 0.0811502 | -1.362645 | 0.172994 | 0.732033 |
| gstk2 | 0.63196552 | 0.01215153 | 2.613686 | 0.0046492 | 0.99629 | NA |
| chico | 27.27462155 | 0.192415897 | 0.4145867 | 0.464115 | 0.642565 | 0.959994 |
| igl4v9 | | 0 NA | NA | NA | NA | NA |
| senp8 | 46.06123513 | -0.199513164 | 0.2967735 | -0.672274 | 0.501409 | 0.934613 |
| nrd1a | 1339.440092 | -0.000297281 | 0.0829269 | -0.003585 | 0.99714 | 0.99906 |
| coll2a1b | 1293.076045 | 0.361727198 | 0.0795838 | 4.5452348 | 5.49E-06 | 0.000429 |
| ip6k2b | 1886.203496 | -0.047468379 | 0.079272 | -0.598804 | 0.549304 | 0.946312 |
| jade3 | 465.8897208 | 0.155367452 | 0.1071429 | 1.4500951 | 0.147032 | 0.693893 |
| yif1a | 555.6767021 | 0.110026317 | 0.1033645 | 1.0644501 | 0.287125 | 0.845979 |
| ldhba | 12071.77078 | -0.091250115 | 0.0954135 | -0.956365 | 0.338888 | 0.87745 |
| twist3 | 125.1780105 | -0.227469416 | 0.1810712 | -1.256243 | 0.209028 | 0.776073 |
| zgc:162239 | 0.84841062 | -0.578696897 | 2.0997862 | -0.275598 | 0.782857 | NA |
| pou2f2a | 162.8260641 | -0.206813263 | 0.1722889 | -1.200387 | 0.229989 | 0.797721 |
| rxfp2b | 13.29907339 | 0.094582762 | 0.5333929 | 0.1773229 | 0.859255 | 0.985773 |
| fgl2b | 17.83727711 | 0.695148905 | 0.4697193 | 1.4799239 | 0.138894 | 0.677395 |
| colq | 182.2612422 | 0.432950744 | 0.1526435 | 2.8363528 | 0.004563 | 0.096402 |
| clcn5a | 925.4056633 | 0.220771674 | 0.09021 | 2.4473075 | 0.014393 | 0.218087 |
| aldocb | 12180.50308 | 0.012848355 | 0.0674034 | 0.1906188 | 0.848824 | 0.985174 |
| zar1 | 6.310033961 | 0.605374281 | 0.7572477 | 0.7994403 | 0.424035 | NA |
| spout1 | 111.4996196 | -0.024103555 | 0.1899038 | -0.126925 | 0.899 | 0.990121 |
| rhousa | 82.69535541 | 0.213260392 | 0.221925 | 0.9609572 | 0.336574 | 0.876088 |
| oatx | 78.90598311 | 0.116756246 | 0.2231176 | 0.5232948 | 0.600769 | 0.956045 |
| metapld | 83.90752053 | -0.213328917 | 0.2140921 | -0.996435 | 0.319039 | 0.867746 |
| pbx2 | 580.3344378 | 0.101826832 | 0.1023906 | 0.9944939 | 0.319982 | 0.868153 |
| celsr2 | 646.8020336 | -0.018487613 | 0.1195726 | -0.154614 | 0.877126 | 0.987881 |
| bmpr1aa | 1064.521766 | -0.031681791 | 0.0836199 | -0.378879 | 0.704778 | 0.968134 |
| mtch2 | 1785.86402 | 0.028434548 | 0.0737531 | 0.385537 | 0.69984 | 0.967998 |
| ccndx | 9.795902477 | 0.640519034 | 0.6039782 | 1.0605002 | 0.288917 | NA |

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| tlr4ba | 5.49699546 | -0.432993302 | 0.8031657 | -0.539108 | 0.589812 | NA |
| dctn1a | 122.3095449 | -0.110035743 | 0.1787936 | -0.615435 | 0.538268 | 0.943336 |
| rfng | 209.1269051 | -0.200091848 | 0.1540556 | -1.298829 | 0.194003 | 0.75784 |
| hsd3b2 | 7.405768389 | 0.821271326 | 0.7248611 | 1.1330051 | 0.257212 | NA |
| romla | 963.7503401 | 0.126439426 | 0.1039628 | 1.2161986 | 0.223909 | 0.790781 |
| kcnn3 | 400.5460393 | 0.096404468 | 0.1151872 | 0.8369376 | 0.402628 | 0.90084 |
| acp5a | 19.43422855 | -0.423053247 | 0.4967568 | -0.851631 | 0.394419 | 0.898841 |
| zgc:158803 | 929.78237 | -0.286735053 | 0.0994425 | -2.883424 | 0.003934 | 0.086142 |
| si:ch1073-280e3.1 | 67.65840622 | 0.304919475 | 0.2417424 | 1.2613406 | 0.207186 | 0.775175 |
| zhx3 | 607.7493289 | -0.2718821 | 0.1024376 | -2.654125 | 0.007951 | 0.143459 |
| rps6 | 19456.83466 | -0.366777638 | 0.0801061 | -4.578646 | 4.68E-06 | 0.000379 |
| imp2a | 99.43559107 | 0.105316075 | 0.2236163 | 0.4709678 | 0.637664 | 0.958872 |
| prmt3 | 260.5853139 | 0.125938614 | 0.1450342 | 0.8683371 | 0.38521 | 0.89551 |
| grich1 | 379.0891349 | -0.00318827 | 0.1156969 | -0.027557 | 0.978015 | 0.996762 |
| evpla | 417.5932634 | -0.021022119 | 0.1181896 | -0.177868 | 0.858827 | 0.985773 |
| nfe2l3 | 774.1251476 | 0.067106315 | 0.0907434 | 0.7395175 | 0.459593 | 0.921978 |
| fnla | 2145.454338 | 0.071587141 | 0.07456 | 0.9601285 | 0.336991 | 0.876088 |
| edrf1 | 253.5682127 | -0.035692115 | 0.1326183 | -0.269134 | 0.787826 | 0.976596 |
| nkx2.1 | 151.9990092 | 0.062869628 | 0.1721841 | 0.3651302 | 0.715014 | 0.96909 |
| ugdh | 966.2826869 | -0.241193768 | 0.1049885 | -2.297335 | 0.0216 | 0.278249 |
| cnot3b | 606.628728 | -0.065098353 | 0.101462 | -0.641603 | 0.521131 | 0.939056 |
| pdlim1 | 541.8459301 | 0.023431596 | 0.1066457 | 0.2197144 | 0.826094 | 0.982196 |
| atplalb | 8438.455379 | 0.140424539 | 0.0656917 | 2.1376303 | 0.032547 | 0.351491 |
| fgl2a | 50.85288554 | 0.040367375 | 0.2770379 | 0.1457107 | 0.88415 | 0.988784 |
| hsph1 | 57.81554411 | 0.100406929 | 0.2545293 | 0.3944808 | 0.693226 | 0.96736 |
| rbks | 74.31317012 | -0.349729708 | 0.2363267 | -1.479857 | 0.138911 | 0.677395 |
| bsg | 11576.90562 | 0.031010234 | 0.0617781 | 0.5019613 | 0.615695 | 0.95688 |
| gpat4 | 966.4345127 | 0.082331111 | 0.0858995 | 0.9584589 | 0.337831 | 0.876447 |
| rcvrn2 | 5406.057306 | 0.229614668 | 0.0789344 | 2.9089292 | 0.003627 | 0.081493 |
| dsccl | 90.09868804 | -0.022026913 | 0.2140098 | -0.102925 | 0.918023 | 0.991623 |
| epb4l13b | 1109.091348 | 0.012541179 | 0.100412 | 0.1248972 | 0.900605 | 0.990121 |
| lft1 | 1.005556699 | -1.067025392 | 1.9900474 | -0.536181 | 0.591834 | NA |
| cmpk | 1744.337805 | -0.123371478 | 0.0741044 | -1.664833 | 0.095946 | 0.589937 |
| tall | 561.9403129 | -0.024682879 | 0.1015167 | -0.243141 | 0.807896 | 0.980642 |
| slc5a11 | 47.34379437 | -0.19069827 | 0.2838369 | -0.671859 | 0.501674 | 0.934712 |
| sgta | 1415.617543 | 0.004045595 | 0.0821177 | 0.0492658 | 0.960707 | 0.995547 |
| ptprdb | 118.701654 | 0.321729007 | 0.1832037 | 1.7561275 | 0.079067 | 0.547489 |
| serpinhlb | 861.0166338 | 0.500923336 | 0.1026768 | 4.8786431 | 1.07E-06 | 0.000106 |
| carf | 293.8989871 | -0.007466709 | 0.1419882 | -0.052587 | 0.958061 | 0.99467 |
| sec62 | 1048.616893 | 0.113508719 | 0.0848941 | 1.3370626 | 0.181202 | 0.742302 |
| znf513a | 395.8965648 | 0.13314702 | 0.1200392 | 1.109196 | 0.267346 | 0.833191 |
| dopla | 839.8420478 | 0.081316689 | 0.0910097 | 0.8934951 | 0.371592 | 0.892003 |
| sfxn1 | 30.91945387 | 0.178521661 | 0.3541914 | 0.5040259 | 0.614243 | 0.95688 |
| smarcd3b | 948.2250159 | 0.050021632 | 0.0861351 | 0.5807346 | 0.561419 | 0.948728 |
| stk38a | 91.02897293 | 0.014607792 | 0.2215775 | 0.0659263 | 0.947436 | 0.99381 |
| idil | 1135.899253 | 0.011151824 | 0.0914651 | 0.1219243 | 0.902959 | 0.990121 |
| grhprb | 1227.549095 | -0.059349999 | 0.2183757 | -0.271779 | 0.785792 | 0.97627 |
| cabpla | 55.21165707 | 0.410145833 | 0.2679953 | 1.5304217 | 0.125912 | 0.654803 |
| bmp4 | 249.8972225 | -0.006870671 | 0.1454382 | -0.047241 | 0.962321 | 0.995907 |
| slc30a7 | 512.2459294 | -0.099882175 | 0.1041573 | -0.958955 | 0.337582 | 0.876395 |
| sh3bp4a | 524.8381734 | -0.053808619 | 0.1011892 | -0.531762 | 0.594891 | 0.954434 |
| rad23aa | 420.979026 | -0.070769622 | 0.1173953 | -0.602832 | 0.546621 | 0.945526 |
| colla2 | 21699.74887 | 0.301877098 | 0.1039983 | 2.9027108 | 0.003699 | 0.082473 |
| vcp | 9072.735269 | 0.019451993 | 0.0669602 | 0.2905009 | 0.771433 | 0.975687 |

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| bmp2k | 486.3308087 | -0.012380752 | 0.1129999 | -0.109564 | 0.912755 | 0.991119 |
| mrps33 | 290.5399926 | 0.044727335 | 0.1314814 | 0.34018 | 0.733721 | 0.971993 |
| fam151b | 72.12798523 | 0.197332102 | 0.2557284 | 0.7716473 | 0.440323 | 0.916329 |
| cps1 | 189.9074597 | -0.279795869 | 0.1559684 | -1.793927 | 0.072825 | 0.526522 |
| cldn11a | 446.3078022 | 0.103779356 | 0.1228444 | 0.8448033 | 0.398221 | 0.899933 |
| vps35l | 636.213187 | -0.107478766 | 0.0966902 | -1.111578 | 0.26632 | 0.83247 |
| cnot8 | 625.881083 | -0.059460486 | 0.1029386 | -0.577631 | 0.563513 | 0.948739 |
| ahrla | 8.395699377 | -0.819000684 | 0.7109602 | -1.151964 | 0.249336 | NA |
| nkdl | 728.5661722 | 0.040348955 | 0.092402 | 0.4366674 | 0.662353 | 0.964665 |
| aox6 | 139.7546181 | 0.081325352 | 0.1751525 | 0.4643118 | 0.642424 | 0.959994 |
| bmpr2b | 67.44546133 | -0.108208876 | 0.2537371 | -0.426461 | 0.669772 | 0.965223 |
| thbs4b | 2239.139155 | 0.337750274 | 0.0797938 | 4.2327894 | 2.31E-05 | 0.001417 |
| nol10 | 510.1709418 | 0.0492909 | 0.1045917 | 0.4712696 | 0.637448 | 0.958872 |
| neil3 | 41.65353552 | -0.120804062 | 0.3154298 | -0.382982 | 0.701733 | 0.968134 |
| ekl | 300.8730633 | 0.014031572 | 0.1335803 | 0.1050422 | 0.916342 | 0.991314 |
| tg | 781.8880618 | 0.218916818 | 0.1226294 | 1.7851906 | 0.07423 | 0.530917 |
| slc33a1 | 266.0263689 | 0.078895688 | 0.1351529 | 0.5837513 | 0.559388 | 0.948478 |
| nuak1a | 244.6564718 | 0.023293663 | 0.132837 | 0.1753552 | 0.860801 | 0.985773 |
| psmc2 | 2033.55498 | -0.012228369 | 0.0749271 | -0.163204 | 0.870358 | 0.987421 |
| kctd16b | 55.74847599 | 0.047750385 | 0.2834583 | 0.1684564 | 0.866224 | 0.986673 |
| usp2a | 1194.136615 | 0.214505096 | 0.0823495 | 2.6048134 | 0.009192 | 0.160717 |
| slc20a1a | 504.6791031 | 0.281986049 | 0.1210063 | 2.3303415 | 0.019788 | 0.265102 |
| endou2 | 531.9326915 | -0.379577292 | 0.1133948 | -3.347395 | 0.000816 | 0.026229 |
| coq8aa | 550.2667611 | -0.315063667 | 0.1024157 | -3.076322 | 0.002096 | 0.055328 |
| fnbp11 | 729.4891917 | -0.090410223 | 0.0939327 | -0.9625 | 0.335798 | 0.876088 |
| jdp2b | 146.6829836 | 0.192149484 | 0.2232071 | 0.8608575 | 0.389317 | 0.896407 |
| sipal11 | 688.4969423 | 0.024509534 | 0.1020559 | 0.2401579 | 0.810208 | 0.980841 |
| ptges | 89.93529103 | -0.065316921 | 0.2074816 | -0.314808 | 0.752907 | 0.97481 |
| pah | 538.4110039 | 0.073892372 | 0.1139178 | 0.6486465 | 0.516567 | 0.938543 |
| acox1 | 11.52221415 | -0.193720364 | 0.5564355 | -0.348145 | 0.727731 | 0.970402 |
| spag6 | 51.45062658 | 0.063176172 | 0.2835666 | 0.2227913 | 0.823698 | 0.982196 |
| efnb2a | 1649.17957 | -0.015396233 | 0.0818905 | -0.18801 | 0.850869 | 0.985174 |
| zbtb22a | 118.3020484 | -0.119014631 | 0.2023207 | -0.588247 | 0.556366 | 0.947918 |
| noval | 614.0753952 | 0.058244662 | 0.1012166 | 0.5754457 | 0.56499 | 0.948739 |
| GCA | 910.7603365 | -0.059549085 | 0.1048625 | -0.567878 | 0.570118 | 0.948983 |
| ppefl | 10.13662262 | 0.237141342 | 0.6121672 | 0.38738 | 0.698475 | NA |
| rpl5a | 17181.36955 | -0.168691006 | 0.0891718 | -1.891754 | 0.058524 | 0.473924 |
| cdc73 | 666.6613898 | -0.165828206 | 0.1029811 | -1.610278 | 0.107337 | 0.617344 |
| nf2a | 72.50640967 | 0.187806525 | 0.2442452 | 0.7689261 | 0.441937 | 0.916336 |
| slclal | 576.3272121 | -0.276115826 | 0.1085819 | -2.542926 | 0.010993 | 0.181902 |
| cpsf4 | 352.0012493 | -0.053972146 | 0.1229348 | -0.439031 | 0.660639 | 0.963881 |
| amfra | 1084.466395 | 0.056654247 | 0.0827996 | 0.6842334 | 0.493828 | 0.931926 |
| dld | 316.858357 | -0.199868745 | 0.1207911 | -1.654664 | 0.097993 | 0.59749 |
| si:ch211-225b10.3 | 51.05495424 | 0.202402177 | 0.279352 | 0.7245418 | 0.468733 | 0.924328 |
| usf2 | 1196.767698 | 0.078766793 | 0.0843646 | 0.9336473 | 0.350486 | 0.880195 |
| mapre3a | 116.9987514 | 0.033303864 | 0.1886331 | 0.1765536 | 0.859859 | 0.985773 |
| EIF6 | 771.2297354 | -0.046041555 | 0.0984726 | -0.467557 | 0.640101 | 0.959994 |
| sept9a | 977.8343745 | -0.061982664 | 0.0872228 | -0.710625 | 0.477317 | 0.926857 |
| mclr | 18.90125124 | 0.811858552 | 0.4767982 | 1.7027298 | 0.088619 | 0.569498 |
| lpin1 | 809.5786767 | 0.014774849 | 0.1062605 | 0.1390437 | 0.889416 | 0.989291 |
| icmt | 427.3113119 | 0.08396929 | 0.1148513 | 0.7311134 | 0.46471 | 0.923535 |
| fermt2 | 25.24797809 | 0.222556746 | 0.3941661 | 0.5646268 | 0.572328 | 0.949494 |
| rhoj | 27.60034037 | -0.523805333 | 0.3660063 | -1.431138 | 0.152391 | 0.701601 |
| btbd10b | 886.1939549 | -0.048665506 | 0.0900324 | -0.540533 | 0.588829 | 0.953345 |

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| ewsrla | 7839.529174 | 0.006127306 | 0.0680918 | 0.0899859 | 0.928298 | 0.992702 |
| rab2a | 4498.161512 | 0.035880739 | 0.0671972 | 0.5339622 | 0.593368 | 0.954434 |
| angpt16 | 38.55077196 | -0.024808701 | 0.3203413 | -0.077445 | 0.93827 | 0.99279 |
| si:dkeyp-120h9.1 | 359.5784824 | 0.132039606 | 0.1254851 | 1.0522333 | 0.292693 | 0.848607 |
| efcab7 | 223.2863314 | -0.249098495 | 0.1416921 | -1.758026 | 0.078743 | 0.546914 |
| si:ch211-278j3.3 | 381.3990272 | 0.286166312 | 0.1156563 | 2.4742823 | 0.01335 | 0.207377 |
| pif1 | 89.95875323 | 0.063888353 | 0.2079745 | 0.3071933 | 0.758696 | 0.975374 |
| TAF3 | 301.6120377 | 0.082786827 | 0.1288777 | 0.6423672 | 0.520635 | 0.939056 |
| btg2 | 1390.670568 | 0.241689887 | 0.1149632 | 2.1023243 | 0.035525 | 0.367016 |
| os9 | 685.345171 | 0.00073767 | 0.0972403 | 0.007586 | 0.993947 | 0.998694 |
| cnih1 | 1380.548002 | 0.12493978 | 0.0791297 | 1.5789236 | 0.114354 | 0.633752 |
| tyk2 | 132.7308419 | -0.497800028 | 0.1864676 | -2.669633 | 0.007593 | 0.138645 |
| plekha6 | 1253.137211 | -0.112012269 | 0.0816461 | -1.371925 | 0.170087 | 0.727199 |
| nkx2.9 | 7.400077252 | 1.13043017 | 0.7267868 | 1.5553807 | 0.119855 | NA |
| ptpn1a | 822.2346163 | -0.097014597 | 0.0912279 | -1.063431 | 0.287587 | 0.845979 |
| clasp2 | 4010.773182 | 0.003512796 | 0.0691482 | 0.050801 | 0.959484 | 0.995187 |
| lmx1a | 10.73004729 | -0.656043543 | 0.5956094 | -1.101466 | 0.270694 | NA |
| snrnp25 | 96.77149344 | -0.284639269 | 0.2561942 | -1.111029 | 0.266556 | 0.832634 |
| fbplb | 890.478417 | -0.011861912 | 0.0893149 | -0.13281 | 0.894344 | 0.989689 |
| g6pc3 | 99.60531399 | 0.170979878 | 0.2040457 | 0.8379491 | 0.402059 | 0.90084 |
| eif4g2a | 3905.853127 | 0.190194692 | 0.0690188 | 2.7556951 | 0.005857 | 0.115121 |
| nipsnap3a | 180.9393473 | -0.300135167 | 0.1572253 | -1.908949 | 0.056269 | 0.465438 |
| mical2b | 361.1450876 | -0.065645632 | 0.1165027 | -0.563469 | 0.573116 | 0.949762 |
| snx15 | 195.5338424 | -0.105657962 | 0.1464995 | -0.721217 | 0.470776 | 0.924838 |
| napab | 721.0057521 | -0.056219496 | 0.105227 | -0.534269 | 0.593156 | 0.954434 |
| emx3 | 147.2698949 | -0.167819412 | 0.1708377 | -0.982333 | 0.325936 | 0.871896 |
| nceh1a | 1.140109671 | 0.438235627 | 1.7543529 | 0.249799 | 0.802743 | NA |
| snx5 | 560.5115339 | 0.098721149 | 0.1060337 | 0.9310352 | 0.351835 | 0.88081 |
| xkr6a | 3.8268738 | 0.914323011 | 1.0801868 | 0.846449 | 0.397302 | NA |
| tmtc4 | 440.9475403 | 0.060312361 | 0.1182291 | 0.5101312 | 0.60996 | 0.95688 |
| adil | 242.0789127 | -0.112632194 | 0.1553924 | -0.724825 | 0.46856 | 0.924328 |
| yipf3 | 1132.336322 | 0.047739829 | 0.0885759 | 0.5389708 | 0.589907 | 0.953762 |
| cacng8a | 489.7257403 | 0.180622805 | 0.1120481 | 1.6120108 | 0.10696 | 0.616444 |
| psmd8 | 1958.177186 | 0.274786711 | 0.0963026 | 2.8533688 | 0.004326 | 0.092876 |
| si:ch211-171h4.3 | 26.61337541 | 0.822513687 | 0.3715821 | 2.2135452 | 0.02686 | 0.315961 |
| ewsrlb | 4178.720793 | -0.159716471 | 0.0711195 | -2.245747 | 0.02472 | 0.302486 |
| safb | 2320.614576 | -0.020917992 | 0.0769589 | -0.271807 | 0.78577 | 0.97627 |
| map3k7 | 840.4790606 | 0.109322255 | 0.0908784 | 1.2029511 | 0.228995 | 0.796691 |
| hdhc3 | 178.797863 | -0.278577303 | 0.1747619 | -1.594039 | 0.110927 | 0.626294 |
| znrf1 | 529.9439509 | -0.049508725 | 0.1035432 | -0.478146 | 0.632547 | 0.957356 |
| nono | 2607.457145 | 0.027209458 | 0.0754911 | 0.3604325 | 0.718524 | 0.96909 |
| lta | 0.982922306 | 1.012515237 | 1.9057885 | 0.5312842 | 0.595222 | NA |
| arhgap17a | 70.02410173 | -0.17290078 | 0.2330517 | -0.741899 | 0.458149 | 0.921978 |
| lgila | 869.6440032 | -0.043668248 | 0.087789 | -0.497423 | 0.618891 | 0.957354 |
| znf330 | 453.5463092 | -0.104523394 | 0.1100664 | -0.94964 | 0.342295 | 0.878434 |
| rab7a | 1667.205203 | -0.153158715 | 0.0862238 | -1.776293 | 0.075685 | 0.535835 |
| h3f3a | 7421.987477 | -0.059717777 | 0.0819807 | -0.728437 | 0.466346 | 0.923908 |
| srd5a1 | 11.43522723 | -0.509519608 | 0.6034013 | -0.844412 | 0.398439 | 0.900324 |
| exoc6 | 639.9436859 | 0.013459944 | 0.0957528 | 0.1405698 | 0.88821 | 0.989291 |
| nup621 | 790.8673947 | -0.167535922 | 0.0909085 | -1.842907 | 0.065343 | 0.500198 |
| hac11 | 193.2929886 | -0.203063897 | 0.1501535 | -1.352375 | 0.176255 | 0.736614 |
| isml | 510.3461752 | 0.233470553 | 0.104824 | 2.2272619 | 0.02593 | 0.311101 |
| rem1 | 180.5439625 | 0.25197943 | 0.1576944 | 1.5978967 | 0.110066 | 0.624518 |
| si:dkey-77f5.10 | 0.8136773 | -1.876897407 | 2.1384966 | -0.877671 | 0.380122 | NA |

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| ddx3xa | 2912.447633 | 0.172989527 | 0.069708 | 2.4816316 | 0.013078 | 0.204434 |
| atp2a1 | 77184.51976 | 0.263918211 | 0.1912895 | 1.3796797 | 0.167685 | 0.724848 |
| otofb | 397.0347806 | 0.116610299 | 0.1205376 | 0.9674184 | 0.333335 | 0.874926 |
| txlnba | 677.9394561 | 0.360180983 | 0.0948411 | 3.7977299 | 0.000146 | 0.006653 |
| gnl3l | 424.4884319 | 0.071033066 | 0.1201929 | 0.590992 | 0.554526 | 0.947449 |
| migal | 324.7371805 | -0.025443254 | 0.1223079 | -0.208026 | 0.835208 | 0.984089 |
| rnf144aa | 14.19882396 | -0.023408976 | 0.5236702 | -0.044702 | 0.964345 | 0.995927 |
| grk7a | 2686.525099 | 0.505605881 | 0.0942345 | 5.3653999 | 8.08E-08 | 1.15E-05 |
| nfe2 | 20.48399843 | 0.152661154 | 0.4399043 | 0.3470326 | 0.728567 | 0.970604 |
| emc3 | 1556.190753 | 0.10081117 | 0.0788626 | 1.2783136 | 0.201139 | 0.766855 |
| snap25a | 6045.341569 | 0.163267067 | 0.0732069 | 2.2302132 | 0.025733 | 0.310555 |
| tnnt2a | 235.8497578 | -0.104248104 | 0.1604124 | -0.649876 | 0.515773 | 0.9377 |
| si:ch211-160d20.3 | 83.63130091 | -0.022603944 | 0.219673 | -0.102898 | 0.918044 | 0.991623 |
| gatd3a | 252.8493248 | 0.027095689 | 0.1398662 | 0.1937258 | 0.846391 | 0.985174 |
| aplbl | 1738.454047 | -0.010785094 | 0.0753758 | -0.143084 | 0.886224 | 0.988936 |
| baxa | 509.7116622 | -0.176745054 | 0.1093444 | -1.616408 | 0.106006 | 0.615567 |
| jak1 | 1410.457412 | -0.097000013 | 0.080346 | -1.207279 | 0.227325 | 0.794617 |
| gtdc1 | 107.089662 | -0.112496588 | 0.1996941 | -0.563345 | 0.5732 | 0.949762 |
| slc7a3a | 3737.664549 | -0.027021761 | 0.078017 | -0.346358 | 0.729074 | 0.970822 |
| trpc4apb | 341.9176517 | -0.177942795 | 0.1298075 | -1.370821 | 0.170431 | 0.728041 |
| INSM2 | 130.5233677 | 0.131025675 | 0.2002806 | 0.6542106 | 0.512976 | 0.936253 |
| prkg1a | 37.96355875 | 0.369570067 | 0.3142765 | 1.1759391 | 0.239619 | 0.808091 |
| dpp3 | 1235.73446 | -0.104077766 | 0.0876503 | -1.18742 | 0.235062 | 0.803894 |
| clpp | 635.2289569 | -0.087295327 | 0.1039071 | -0.840129 | 0.400836 | 0.90084 |
| sesn1 | 2139.345297 | -0.053413952 | 0.0813589 | -0.656522 | 0.511488 | 0.936253 |
| slc9a8 | 276.8948894 | 0.065632001 | 0.1292465 | 0.5078048 | 0.61159 | 0.95688 |
| odf2b | 91.21119911 | 0.200925471 | 0.2155184 | 0.9322891 | 0.351187 | 0.880484 |
| mdkb | 7299.53471 | 0.032110553 | 0.0707243 | 0.4540246 | 0.649811 | 0.960708 |
| rrm2 | 645.7740664 | -1.320746883 | 0.1047104 | -12.61333 | 1.78E-36 | 1.18E-32 |
| slc25a22a | 14.42242285 | -0.263469612 | 0.5086723 | -0.517956 | 0.604489 | 0.95651 |
| smpd4 | 319.8885075 | -0.023033298 | 0.129704 | -0.177584 | 0.85905 | 0.985773 |
| efcab6 | 31.56137925 | -0.141302048 | 0.3498578 | -0.403884 | 0.686298 | 0.966376 |
| zgc:153921 | 2.585714461 | 1.122985608 | 1.2658028 | 0.8871726 | 0.374986 | NA |
| fga | 3019.979018 | 0.173543319 | 0.1012613 | 1.7138176 | 0.086562 | 0.563981 |
| bdkrb1 | 22.5676768 | -0.607036712 | 0.4410624 | -1.376306 | 0.168727 | 0.725919 |
| gfilaa | 28.40959204 | -0.120368836 | 0.3636308 | -0.331019 | 0.74063 | 0.973154 |
| caprin2 | 21.36112093 | 0.570022656 | 0.4727063 | 1.2058707 | 0.227867 | 0.794963 |
| tmem178 | 324.4877492 | 0.182264546 | 0.1269603 | 1.4356028 | 0.151115 | 0.699147 |
| elf1 | 713.8391147 | -0.138140224 | 0.0929769 | -1.485748 | 0.137346 | 0.674358 |
| arrdc2 | 2247.193105 | -0.135036691 | 0.0730888 | -1.847571 | 0.064664 | 0.497355 |
| slmapb | 601.7204091 | 0.094476121 | 0.1017979 | 0.9280751 | 0.353369 | 0.881808 |
| tnr | 161.3917942 | 0.335611515 | 0.1720768 | 1.9503593 | 0.051133 | 0.443542 |
| cep85l | 377.4753002 | 0.120283879 | 0.1207394 | 0.9962274 | 0.31914 | 0.867746 |
| lama4 | 2035.145579 | 0.140595243 | 0.0763314 | 1.8419058 | 0.065489 | 0.500378 |
| sla2 | 7.695958813 | -0.481497479 | 0.7000658 | -0.687789 | 0.491586 | NA |
| neurod6b | 922.558794 | -0.276451469 | 0.0923525 | -2.993439 | 0.002759 | 0.067771 |
| rac3b | 2079.957068 | 0.081723084 | 0.0843226 | 0.9691715 | 0.33246 | 0.874653 |
| necap1 | 1111.828847 | 0.080006976 | 0.0825732 | 0.9689222 | 0.332584 | 0.874653 |
| efemp2b | 148.521814 | -0.037729034 | 0.1715725 | -0.219901 | 0.825948 | 0.982196 |
| si:ch73-177h5.2 | 1.966872208 | -1.561998219 | 1.4395963 | -1.085025 | 0.277911 | NA |
| faimb | 172.1157396 | 0.226197008 | 0.1618935 | 1.3971965 | 0.162354 | 0.716781 |
| srp68 | 1478.929106 | -0.042014833 | 0.083932 | -0.500582 | 0.616666 | 0.95688 |
| ift22 | 63.12462956 | -0.112249284 | 0.2566648 | -0.437338 | 0.661866 | 0.964504 |
| si:dkey-230p4.1 | 90.44209892 | -0.172980829 | 0.2079569 | -0.831811 | 0.405516 | 0.901305 |

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| mcrs1 | 570.4592097 | -0.007932684 | 0.1001499 | -0.079208 | 0.936867 | 0.992702 |
| rbm7 | 303.3147886 | 0.033273561 | 0.129279 | 0.2573779 | 0.796887 | 0.978569 |
| tnslb | 58.86728467 | 0.017437647 | 0.26236 | 0.0664646 | 0.947008 | 0.99381 |
| atp6v0a1a | 1742.145752 | 0.183337651 | 0.0896967 | 2.0439732 | 0.040956 | 0.395057 |
| eef1a111 | 99614.27981 | -0.256754882 | 0.0742918 | -3.456034 | 0.000548 | 0.019137 |
| galr2a | 2.29303713 | 0.062133857 | 1.3334868 | 0.046595 | 0.962836 | NA |
| ccdc149b | 311.3542591 | 0.067686737 | 0.1312274 | 0.5157972 | 0.605996 | 0.956686 |
| trim25l | 57.88481865 | -0.240280955 | 0.2569269 | -0.935212 | 0.349679 | 0.880195 |
| apoa4b.2 | 1312.626177 | 0.271035487 | 0.1251724 | 2.1652979 | 0.030365 | 0.336756 |
| ptprz1b | 1475.071221 | 0.035758345 | 0.0773106 | 0.4625284 | 0.643702 | 0.960014 |
| nfat5a | 24.71151977 | -0.38378858 | 0.4088227 | -0.938765 | 0.347851 | 0.880195 |
| pdk2a | 1664.328376 | -0.198911424 | 0.0881795 | -2.255757 | 0.024086 | 0.299543 |
| gli2b | 173.8668159 | -0.319231924 | 0.1651668 | -1.932785 | 0.053263 | 0.452412 |
| armc11 | 230.6211794 | -0.158640982 | 0.1374581 | -1.154104 | 0.248457 | 0.817939 |
| tmod4 | 1895.35347 | 0.336366094 | 0.085178 | 3.9489806 | 7.85E-05 | 0.00399 |
| L0018197.1 | 179.8352582 | -0.043847934 | 0.1827226 | -0.23997 | 0.810354 | 0.980867 |
| slc25a55a | 2700.410282 | 0.092628186 | 0.0793714 | 1.1670222 | 0.243201 | 0.812077 |
| bag1 | 357.8206555 | 0.005462549 | 0.1249921 | 0.0437031 | 0.965141 | 0.996154 |
| cyb5r4 | 189.1696624 | 0.10726185 | 0.1493612 | 0.7181373 | 0.472673 | 0.924838 |
| gabrp | 349.6602457 | 0.072370555 | 0.1192178 | 0.6070451 | 0.543821 | 0.945438 |
| ddx56 | 378.9656367 | 0.100640137 | 0.1154822 | 0.8714772 | 0.383494 | 0.895192 |
| myolca | 212.0874375 | 0.245581964 | 0.1460758 | 1.6811958 | 0.092725 | 0.579684 |
| creb3l3l | 1999.066624 | 0.099020708 | 0.0811301 | 1.2205173 | 0.222269 | 0.788551 |
| fam49ba | 290.6391116 | 0.039680633 | 0.1352084 | 0.2934775 | 0.769157 | 0.975687 |
| ezra | 1002.960464 | -0.506250914 | 0.0938238 | -5.395762 | 6.82E-08 | 9.85E-06 |
| auts2b | 539.3627579 | -0.073290299 | 0.1072307 | -0.683483 | 0.494302 | 0.931926 |
| gmcl1 | 594.7120198 | 0.038546905 | 0.10404 | 0.3705009 | 0.711009 | 0.968985 |
| si:ch211-214j8.1 | 169.1895155 | -0.823951573 | 0.1914917 | -4.302805 | 1.69E-05 | 0.001088 |
| dnajb6b | 584.821678 | 0.106152477 | 0.1019016 | 1.0417154 | 0.297544 | 0.85401 |
| pck2 | 2234.3437 | -0.022769717 | 0.0777424 | -0.292887 | 0.769609 | 0.975687 |
| pth1ra | 2.65892339 | -1.628192357 | 1.2695507 | -1.282495 | 0.199669 | NA |
| hgs | 680.4160355 | -0.022863022 | 0.1056222 | -0.21646 | 0.828629 | 0.982721 |
| thap12b | 185.4100213 | 0.04795156 | 0.15293 | 0.3135524 | 0.753861 | 0.975056 |
| ubald1b | 651.4293723 | -0.420273306 | 0.1097836 | -3.828199 | 0.000129 | 0.006006 |
| ripor3 | 149.9912644 | 0.122501349 | 0.1780682 | 0.6879461 | 0.491487 | 0.931926 |
| slc35a3b | 50.62716857 | -0.251458006 | 0.2887593 | -0.870822 | 0.383851 | 0.895192 |
| prickle2a | 487.7884991 | -0.001141766 | 0.1078285 | -0.010589 | 0.991552 | 0.997679 |
| slc16a10 | 748.4121467 | -0.205750037 | 0.0940429 | -2.187832 | 0.028682 | 0.328405 |
| ctul | 105.646918 | -0.477945501 | 0.1975538 | -2.419318 | 0.01555 | 0.228768 |
| c5 | 546.4725794 | 0.163382349 | 0.1247146 | 1.3100499 | 0.190179 | 0.754837 |
| trim35-28 | 271.2714682 | -0.002161444 | 0.1309074 | -0.016511 | 0.986827 | 0.997062 |
| ift57 | 141.0738695 | -0.191708487 | 0.1721648 | -1.113517 | 0.265486 | 0.831302 |
| foxd3 | 257.853352 | -0.024050308 | 0.1387668 | -0.173315 | 0.862404 | 0.985841 |
| herpod2 | 472.9717583 | -0.093936355 | 0.1232981 | -0.761864 | 0.446141 | 0.917154 |
| rhbdd1 | 118.5280001 | -0.089591708 | 0.1854617 | -0.483074 | 0.629043 | 0.957354 |
| clptml1 | 659.9101406 | -0.077016709 | 0.1040788 | -0.739985 | 0.459309 | 0.921978 |
| isl11 | 6.66172181 | -0.188326266 | 0.8221694 | -0.22906 | 0.818822 | NA |
| alas1 | 1680.928754 | -0.269886379 | 0.0886227 | -3.04534 | 0.002324 | 0.059686 |
| sec31a | 844.0144279 | 0.200044149 | 0.0937542 | 2.1337077 | 0.032867 | 0.35321 |
| znf367 | 130.275643 | 0.133081776 | 0.1968427 | 0.6760819 | 0.498989 | 0.934006 |
| nelfcd | 417.1266291 | -0.20885132 | 0.125605 | -1.662763 | 0.09636 | 0.59086 |
| sf3a2 | 974.9146787 | -0.070945003 | 0.0892619 | -0.794796 | 0.426732 | 0.910217 |
| pocl1b | 144.2969689 | -0.313237154 | 0.1695497 | -1.847465 | 0.06468 | 0.497355 |
| c1d | 169.2292447 | 0.09967091 | 0.1708288 | 0.583455 | 0.559587 | 0.948478 |

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| ptmaa | 13180.14093 | -0.055702319 | 0.0658914 | -0.845365 | 0.397907 | 0.899672 |
| spata6 | 37.00745626 | -0.144340888 | 0.3364157 | -0.429055 | 0.667883 | 0.964736 |
| ndc1 | 561.9746341 | -0.07980113 | 0.1118624 | -0.713387 | 0.475607 | 0.92611 |
| cfll1 | 13824.47689 | -0.144540267 | 0.0653636 | -2.211325 | 0.027013 | 0.316822 |
| dhrrs4 | 366.3919878 | -0.427046576 | 0.1306345 | -3.269017 | 0.001079 | 0.032882 |
| adgrv1 | 737.3860101 | 0.047916266 | 0.0947958 | 0.505468 | 0.61323 | 0.95688 |
| pabpc1b | 1881.893848 | 0.071589784 | 0.0912293 | 0.7847233 | 0.432616 | 0.91326 |
| plekhf2 | 225.7073733 | 0.146523639 | 0.1438467 | 1.0186094 | 0.308388 | 0.861088 |
| rtn1b | 2856.096497 | -0.144712006 | 0.0838028 | -1.726816 | 0.084201 | 0.55797 |
| nipal3 | 554.207482 | -0.006064953 | 0.0996357 | -0.060871 | 0.951462 | 0.99381 |
| cbr11 | 551.6301039 | -0.406622783 | 0.1054918 | -3.854544 | 0.000116 | 0.005551 |
| valopa | 9.501739881 | 0.303172457 | 0.6204921 | 0.4886 | 0.625125 | NA |
| ptpreb | 686.4280922 | -0.043654043 | 0.0976196 | -0.447185 | 0.654741 | 0.961305 |
| zgc:92040 | 206.6806189 | 0.261506539 | 0.1562965 | 1.6731438 | 0.094299 | 0.583986 |
| thrb | 543.1558348 | 0.025465708 | 0.1041042 | 0.2446176 | 0.806753 | 0.980254 |
| cyp2ad2 | 72.07212537 | 0.85678206 | 0.271396 | 3.1569447 | 0.001594 | 0.045166 |
| cept1b | 282.8719739 | 0.293703455 | 0.1434687 | 2.0471601 | 0.040642 | 0.394726 |
| rbfox11 | 875.2816777 | 0.256438346 | 0.0969141 | 2.6460387 | 0.008144 | 0.14587 |
| si:dkeyp-4h4.1 | 10.75533943 | -0.28813493 | 0.6394149 | -0.450623 | 0.652261 | NA |
| corolcb | 2630.616502 | 0.099552409 | 0.0820674 | 1.2130571 | 0.225108 | 0.792185 |
| st8sia6 | 567.6617409 | 0.190485868 | 0.1031696 | 1.8463372 | 0.064843 | 0.497901 |
| nebl | 18.93916446 | 0.156398315 | 0.4492322 | 0.3481458 | 0.727731 | 0.970402 |
| noto | 9.966889318 | 1.113162095 | 0.6628075 | 1.6794652 | 0.093061 | NA |
| serpind1 | 120.3527987 | 0.237063433 | 0.1883217 | 1.2588218 | 0.208095 | 0.775404 |
| kctd9a | 12.26460366 | -0.331464995 | 0.558295 | -0.593709 | 0.552706 | 0.947265 |
| hmgcl | 671.2654326 | -0.09888686 | 0.0935744 | -1.056773 | 0.290615 | 0.846337 |
| prkci | 1367.400951 | -0.035658224 | 0.0808468 | -0.441059 | 0.65917 | 0.962839 |
| nkx2.7 | 17.95832185 | -0.716449643 | 0.4611488 | -1.553619 | 0.120275 | 0.645215 |
| pgls | 214.3827963 | -0.074448496 | 0.1535756 | -0.484768 | 0.627841 | 0.957354 |
| apaf1 | 659.9318646 | -0.152416059 | 0.0981237 | -1.553305 | 0.12035 | 0.645215 |
| zgc:165604 | 146.7967539 | 0.134958772 | 0.1757921 | 0.7677181 | 0.442655 | 0.916336 |
| mvp | 2392.827685 | -0.48264575 | 0.0943734 | -5.114213 | 3.15E-07 | 3.75E-05 |
| slc25a48 | 96.89948548 | 0.022496838 | 0.2018295 | 0.1114646 | 0.911248 | 0.991066 |
| cct6a | 5386.317318 | -0.103065486 | 0.0781578 | -1.318685 | 0.187275 | 0.751302 |
| arhgap22 | 38.70317285 | -0.200744018 | 0.311007 | -0.645465 | 0.518626 | 0.938803 |
| eif3d | 5209.160857 | -0.113561683 | 0.0825285 | -1.37603 | 0.168812 | 0.725919 |
| mybpc2b | 1553.093635 | 0.068670572 | 0.094155 | 0.7293351 | 0.465797 | 0.923865 |
| rab7b | 238.201374 | -0.077097983 | 0.1375576 | -0.560478 | 0.575154 | 0.950291 |
| mier3b | 115.1927183 | -0.155479272 | 0.210726 | -0.737827 | 0.46062 | 0.921978 |
| slc30a2 | 7.203950818 | -0.641270173 | 0.7593474 | -0.844502 | 0.398389 | NA |
| rhoca | 590.1924791 | -0.019203805 | 0.1078486 | -0.178063 | 0.858674 | 0.985773 |
| nsun4 | 44.94208633 | -0.003040336 | 0.2848879 | -0.010672 | 0.991485 | 0.997679 |
| pax4 | 8.152861173 | -1.610958585 | 0.7000581 | -2.301178 | 0.021382 | NA |
| cpa5 | 1133.033094 | -0.1530627 | 0.1076832 | -1.421417 | 0.155196 | 0.704997 |
| wsb1 | 3235.250278 | -0.194252553 | 0.0874388 | -2.221582 | 0.026312 | 0.312554 |
| prph21b | 122.0242811 | 0.319646012 | 0.1842316 | 1.7350228 | 0.082737 | 0.554784 |
| pdhb | 4061.647684 | 0.048366725 | 0.0653292 | 0.7403544 | 0.459085 | 0.921978 |
| nefma | 1540.314413 | 0.032847315 | 0.088813 | 0.369848 | 0.711496 | 0.969006 |
| griala | 759.4152487 | 0.039720804 | 0.0999539 | 0.3973912 | 0.691079 | 0.967256 |
| fbpla | 395.5222577 | -0.206229907 | 0.1282065 | -1.608576 | 0.107709 | 0.6186 |
| mc3r | 4.841135029 | 0.293851338 | 0.8663717 | 0.3391747 | 0.734478 | NA |
| actr6 | 387.4111413 | 0.059579904 | 0.1139902 | 0.5226757 | 0.6012 | 0.956045 |
| tob1b | 2419.192164 | 0.140387589 | 0.0811527 | 1.7299188 | 0.083645 | 0.557158 |
| cab3911 | 611.0910891 | 0.215827304 | 0.0959031 | 2.2504732 | 0.024419 | 0.3019 |

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| phf21ab | 186.0490677 | -0.076583829 | 0.1499101 | -0.510865 | 0.609446 | 0.956718 |
| ppmlb | 281.8231175 | -0.050148956 | 0.1257789 | -0.398707 | 0.690109 | 0.966857 |
| naalad2 | 273.8553001 | 0.169351762 | 0.12847 | 1.3182205 | 0.18743 | 0.75162 |
| jag2b | 678.5283277 | 0.024442212 | 0.0983475 | 0.2485291 | 0.803725 | 0.979643 |
| chrnb5b | 32.1325613 | 0.286624999 | 0.3415312 | 0.8392353 | 0.401337 | 0.90084 |
| mulla | 232.245461 | -0.136212755 | 0.1386774 | -0.982228 | 0.325988 | 0.871917 |
| yipf2 | 671.3427743 | -0.165676112 | 0.0996496 | -1.662587 | 0.096395 | 0.59086 |
| mcm3ap | 716.4618689 | 0.063923258 | 0.0994945 | 0.6424801 | 0.520562 | 0.939056 |
| zgc:110319 | 378.9969989 | -0.034073333 | 0.1162425 | -0.293123 | 0.769428 | 0.975687 |
| chd3 | 560.2351185 | 0.01192552 | 0.1100716 | 0.1083433 | 0.913723 | 0.991119 |
| poglut3 | 243.9746587 | 0.266028421 | 0.1475688 | 1.8027417 | 0.071429 | 0.522931 |
| odf3l2b | 4.342931339 | 0.011093838 | 0.9081496 | 0.0122159 | 0.990253 | NA |
| asmtl | 319.272351 | 0.229780097 | 0.1285205 | 1.7878862 | 0.073794 | 0.529749 |
| ncoa4 | 1976.582337 | -0.023775485 | 0.0760594 | -0.312591 | 0.754591 | 0.975114 |
| cdh11 | 2538.523837 | 0.110155494 | 0.071887 | 1.5323414 | 0.125438 | 0.654803 |
| zfp3611b | 1701.781954 | -0.092945321 | 0.0847579 | -1.096598 | 0.272817 | 0.838096 |
| prfl.2 | | 0 NA | NA | NA | NA | NA |
| strbp | 722.1948346 | -0.026390828 | 0.0922134 | -0.286193 | 0.77473 | 0.975687 |
| dawl | 56.9149797 | 0.474423399 | 0.2816248 | 1.6845939 | 0.092067 | 0.57849 |
| ireb2 | 906.0867023 | -0.146864508 | 0.0907295 | -1.618707 | 0.10551 | 0.614178 |
| olfml2bb | 120.322858 | 0.612651092 | 0.1834919 | 3.338846 | 0.000841 | 0.026962 |
| cdc14b | 810.2118762 | -0.060665114 | 0.0888805 | -0.682547 | 0.494893 | 0.931926 |
| cyth1b | 329.2039073 | -0.080960345 | 0.1297745 | -0.623854 | 0.532723 | 0.942805 |
| hnf4a | 213.148799 | -0.574580512 | 0.1509143 | -3.80733 | 0.00014 | 0.00646 |
| gpr132a | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| tab2 | 391.1422363 | 0.002988925 | 0.115495 | 0.0258793 | 0.979354 | 0.996847 |
| rgsl4a | 8.068632858 | 0.417687586 | 0.6696232 | 0.6237651 | 0.532782 | NA |
| ephb2b | 945.2120986 | -0.04863448 | 0.086765 | -0.560531 | 0.575117 | 0.950291 |
| vrk2 | 46.06732032 | -0.262432351 | 0.2944946 | -0.891128 | 0.372861 | 0.892868 |
| rad23b | 2292.586492 | -0.180492963 | 0.0747851 | -2.413488 | 0.015801 | 0.231267 |
| prkn | 49.09465593 | 0.210890162 | 0.287338 | 0.7339446 | 0.462983 | 0.922698 |
| ubl3b | 1523.558996 | -0.018543581 | 0.0789646 | -0.234834 | 0.814337 | 0.981081 |
| wdr45b | 657.2498731 | -0.059687204 | 0.1094507 | -0.545334 | 0.585524 | 0.95262 |
| OTOP1 | 28.64298939 | 0.152596386 | 0.3542029 | 0.4308164 | 0.666602 | 0.964736 |
| gdap2 | 344.0815631 | -0.04089149 | 0.1305975 | -0.313111 | 0.754197 | 0.975056 |
| cgas | 3.517623225 | -0.67208193 | 1.1053986 | -0.608 | 0.543188 | NA |
| slc16a7 | 50.11343731 | -0.1069979 | 0.2690153 | -0.397739 | 0.690823 | 0.967157 |
| orc5 | 127.9111206 | -0.278445435 | 0.1971312 | -1.412488 | 0.157806 | 0.709035 |
| dynlrb1 | 142.7554402 | 0.230004263 | 0.1682263 | 1.367231 | 0.171553 | 0.729995 |
| cntn5 | 718.1970989 | 0.0844071 | 0.1038837 | 0.8125153 | 0.416496 | 0.906237 |
| tmem60 | 139.5660496 | 0.050190875 | 0.1758373 | 0.2854392 | 0.775308 | 0.975687 |
| magi2a | 180.1983432 | -0.012609655 | 0.151123 | -0.08344 | 0.933502 | 0.992702 |
| lhfp13 | 1137.923885 | 0.137551871 | 0.082721 | 1.662841 | 0.096344 | 0.59086 |
| negr1 | 354.8189588 | -0.000333469 | 0.1175947 | -0.002836 | 0.997737 | 0.999174 |
| si:dkey-151g10.3 | 156.4112263 | -0.056335212 | 0.1695293 | -0.332304 | 0.73966 | 0.972943 |
| sh3bgr | 547.7031702 | 0.356276791 | 0.110866 | 3.2135804 | 0.001311 | 0.038289 |
| gnail | 1678.272644 | -0.003297107 | 0.0774918 | -0.042548 | 0.966062 | 0.996315 |
| fzd3a | 740.8902402 | 0.092781551 | 0.0975092 | 0.9515157 | 0.341343 | 0.878134 |
| sec61a1 | 5037.797532 | -0.020954661 | 0.0816678 | -0.256584 | 0.7975 | 0.978577 |
| phf11 | 10.13646222 | 0.253878448 | 0.595237 | 0.4265166 | 0.669731 | NA |
| asrgl1 | 138.544076 | -0.432407592 | 0.17875 | -2.419064 | 0.015561 | 0.228768 |
| mxa | 4.327757656 | 1.177407368 | 0.9204148 | 1.2792138 | 0.200822 | NA |
| morn3 | 43.83924783 | 0.13884457 | 0.3110976 | 0.4463055 | 0.655377 | 0.961632 |
| pdc4a | 1849.758768 | -0.200381438 | 0.0849185 | -2.359692 | 0.01829 | 0.251621 |

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| col7a1 | 1119.850582 | 0.153560827 | 0.0964965 | 1.5913615 | 0.111528 | 0.627242 |
| cacnalba | 141.0644101 | 0.07122905 | 0.1766082 | 0.4033168 | 0.686715 | 0.966376 |
| klhl24a | 106.0417267 | 0.150655141 | 0.1969493 | 0.7649439 | 0.444305 | 0.916726 |
| ccdc25 | 356.136229 | 0.110987895 | 0.1230832 | 0.9017307 | 0.3672 | 0.887458 |
| abcb5 | 1899.973233 | 0.251909163 | 0.0871151 | 2.8916805 | 0.003832 | 0.084661 |
| myoc | 517.8189023 | 0.480876868 | 0.1060738 | 4.5334198 | 5.80E-06 | 0.000452 |
| hmmr | 424.9667767 | -0.126563839 | 0.1087544 | -1.163758 | 0.244522 | 0.814189 |
| tle5 | 70.67007951 | -0.156942219 | 0.2933935 | -0.534921 | 0.592705 | 0.954434 |
| zfp3612 | 1185.111008 | 0.001814903 | 0.0987739 | 0.0183743 | 0.98534 | 0.996944 |
| nmt2 | 745.1873821 | 0.032544963 | 0.0935695 | 0.347816 | 0.727978 | 0.970402 |
| calmla | 9608.299742 | 0.028391583 | 0.0652975 | 0.4348032 | 0.663705 | 0.964736 |
| cherp | 801.1436894 | -0.142205913 | 0.1052151 | -1.351573 | 0.176512 | 0.736982 |
| katnal | 106.756016 | -0.25744667 | 0.2010867 | -1.280277 | 0.200448 | 0.766801 |
| ahr2 | 1388.681022 | -0.107299321 | 0.0801085 | -1.339426 | 0.180432 | 0.741452 |
| rps23 | 7160.378549 | -0.465952403 | 0.079233 | -5.880788 | 4.08E-09 | 7.41E-07 |
| hidla | 72.11304554 | 0.01594746 | 0.2396517 | 0.0665443 | 0.946944 | 0.99381 |
| si:dkey-256h2.1 | 27.73697839 | -0.022498284 | 0.3875957 | -0.058046 | 0.953712 | 0.994213 |
| ntpcr | 73.95172765 | 0.22125551 | 0.2345169 | 0.9434521 | 0.34545 | 0.878434 |
| arnt | 186.9309046 | -0.052105456 | 0.1630046 | -0.319656 | 0.749229 | 0.97419 |
| erap1b | 72.40212616 | -0.431785407 | 0.2479051 | -1.741737 | 0.081555 | 0.552315 |
| rplp1 | 17731.66107 | -0.462839068 | 0.0929501 | -4.979438 | 6.38E-07 | 6.85E-05 |
| upkla | 8.359966201 | -0.007345468 | 0.6829795 | -0.010755 | 0.991419 | NA |
| rca2 | 138.5337471 | 0.13182334 | 0.1698452 | 0.7761382 | 0.437667 | 0.914942 |
| fbxl3b | 199.6016889 | 0.085902665 | 0.1628174 | 0.5276014 | 0.597776 | 0.95534 |
| cacull | 5.54116887 | -0.786313 | 0.8194644 | -0.959545 | 0.337284 | NA |
| gja3 | 90.51578259 | 0.192341371 | 0.2303003 | 0.8351765 | 0.403618 | 0.900979 |
| zbtb7b | 188.8694017 | -0.222713237 | 0.1682674 | -1.323568 | 0.185647 | 0.749638 |
| discl | 10.76532075 | 0.319144904 | 0.5693946 | 0.5604987 | 0.575139 | NA |
| asap3 | 388.9925205 | -0.171362204 | 0.1182991 | -1.44855 | 0.147463 | 0.694625 |
| b4galt7 | 191.9193453 | 0.461681715 | 0.159842 | 2.8883629 | 0.003873 | 0.085098 |
| der11 | 1053.433308 | 0.074570344 | 0.0862154 | 0.8649309 | 0.387077 | 0.895735 |
| VSTM2A | 2.25145806 | -0.856143254 | 1.3297808 | -0.643823 | 0.51969 | NA |
| ak9 | 38.4180825 | -0.612606997 | 0.3243343 | -1.888813 | 0.058917 | 0.475038 |
| vax1 | 251.5173752 | -0.05972513 | 0.1311775 | -0.4553 | 0.648893 | 0.960708 |
| hsp70.3 | 1287.925253 | -0.099335748 | 0.3314351 | -0.299714 | 0.764395 | 0.975374 |
| smad9 | 178.3044644 | 0.202292848 | 0.1546573 | 1.3080074 | 0.190871 | 0.755212 |
| ddx23 | 1459.173636 | -0.018109048 | 0.0854241 | -0.21199 | 0.832115 | 0.983517 |
| tnc | 3511.660359 | 0.309402444 | 0.0807307 | 3.8325261 | 0.000127 | 0.005957 |
| zgc:101100 | 91.91728671 | 0.047952953 | 0.2108553 | 0.2274211 | 0.820096 | 0.981594 |
| st13 | 2237.700193 | -0.141443887 | 0.0740602 | -1.909849 | 0.056153 | 0.464781 |
| sfr1 | 19.64908433 | -0.210379249 | 0.4365348 | -0.48193 | 0.629856 | 0.957354 |
| ginml | 1146.777161 | -0.127881768 | 0.089601 | -1.427236 | 0.153512 | 0.702578 |
| mical3a | 166.8368802 | -0.133373591 | 0.1715762 | -0.777343 | 0.436956 | 0.914408 |
| sh3bp2 | 4.300095255 | 0.009458212 | 0.9137502 | 0.010351 | 0.991741 | NA |
| ndufa2 | 1007.498975 | -0.045228973 | 0.1107124 | -0.408527 | 0.682887 | 0.965476 |
| ercc2 | 248.6889711 | -0.158773503 | 0.137883 | -1.151509 | 0.249523 | 0.819204 |
| plecb | 2238.67227 | 0.148063831 | 0.0742782 | 1.9933696 | 0.046221 | 0.422549 |
| erlin1 | 2016.516598 | -0.060878033 | 0.0714617 | -0.851897 | 0.394271 | 0.898711 |
| ppp2r2aa | 64.50879905 | 0.080044403 | 0.2449898 | 0.3267255 | 0.743876 | 0.974094 |
| cfap206 | 10.9955599 | 0.018555574 | 0.5726951 | 0.0324004 | 0.974153 | NA |
| traf3 | 255.4251907 | -0.339864363 | 0.1524473 | -2.229389 | 0.025788 | 0.310555 |
| zgc:66426 | 9.82132409 | 0.349255984 | 0.6053316 | 0.5769664 | 0.563962 | NA |
| focad | 221.9832898 | 0.038065373 | 0.149857 | 0.2540114 | 0.799487 | 0.979366 |
| maplab | 502.2143132 | 0.19565485 | 0.1034561 | 1.8911874 | 0.058599 | 0.473924 |

| | | | | | | |
|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| t1r4bb | | 0 NA | NA | NA | NA | NA |
| si:dkey-34e4.1 | 69.44569629 | 0.292049056 | 0.2410526 | 1.2115572 | 0.225682 | 0.793245 |
| opn4a | 2.385997333 | 0.877555654 | 1.3090177 | 0.6703925 | 0.502608 | NA |
| obscnb | 181.2612448 | 0.476946117 | 0.1550601 | 3.0758788 | 0.002099 | 0.055336 |
| rbm4.3 | 3454.64453 | -0.115046199 | 0.0814274 | -1.412869 | 0.157694 | 0.709014 |
| ocstamp | 13.58409161 | -0.43046686 | 0.5396388 | -0.797694 | 0.425048 | 0.908819 |
| ttc23 | 34.00556268 | -0.167527747 | 0.3317469 | -0.504987 | 0.613568 | 0.95688 |
| mgst1.2 | 536.9500984 | 0.110018247 | 0.1075919 | 1.0225515 | 0.30652 | 0.860027 |
| IGLON5 | 426.1911903 | 0.120141665 | 0.111273 | 1.0797017 | 0.280275 | 0.843423 |
| ddx59 | 158.9403834 | -0.249979802 | 0.1653315 | -1.511991 | 0.130536 | 0.662797 |
| gstol | 61.21547192 | -0.356463447 | 0.2738621 | -1.301616 | 0.193048 | 0.756795 |
| usp6n1 | 510.4943244 | -0.04552015 | 0.1070279 | -0.425311 | 0.67061 | 0.965257 |
| gtf2ird1 | 815.5682819 | -0.049174737 | 0.0975232 | -0.504237 | 0.614095 | 0.95688 |
| uck2b | 798.6850868 | -0.437066 | 0.1036429 | -4.217038 | 2.48E-05 | 0.001506 |
| uck1 | 101.2087859 | 0.14540395 | 0.2004876 | 0.7252516 | 0.468298 | 0.924328 |
| ppan | 296.1245172 | -0.15145243 | 0.1537573 | -0.98501 | 0.324619 | 0.871063 |
| prkcbb | 903.2441208 | 0.179738521 | 0.0902502 | 1.991558 | 0.04642 | 0.423579 |
| si:ch211-57i17.1 | 119.8344841 | -0.181698573 | 0.1953213 | -0.930255 | 0.352239 | 0.880896 |
| pdzkl | 476.393172 | -0.520211187 | 0.1092416 | -4.762026 | 1.92E-06 | 0.000175 |
| trim35-34 | 1.189776963 | 0.42714694 | 1.8029205 | 0.2369195 | 0.812719 | NA |
| brd2a | 1711.511375 | 0.079014738 | 0.0881542 | 0.896324 | 0.37008 | 0.889876 |
| hnf1bb | 71.09432103 | -0.400218043 | 0.2656941 | -1.506312 | 0.131987 | 0.665721 |
| higdla | 1276.814421 | 0.280684012 | 0.095797 | 2.9299876 | 0.00339 | 0.077847 |
| dspa | 1718.889417 | -0.293281725 | 0.0734318 | -3.993933 | 6.50E-05 | 0.0034 |
| atp6v1g1 | 4081.224299 | -0.070573534 | 0.0756119 | -0.933366 | 0.350631 | 0.880195 |
| or115-5 | | 0 NA | NA | NA | NA | NA |
| si:ch211-156i18.7 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| ufc1 | 359.5046509 | 0.011091019 | 0.1287511 | 0.0861431 | 0.931353 | 0.992702 |
| nek1 | 528.0131325 | 0.327828346 | 0.1013813 | 3.2336171 | 0.001222 | 0.036292 |
| kng1 | 548.2977845 | 0.07712124 | 0.1149671 | 0.6708112 | 0.502341 | 0.935304 |
| mtmr1b | 104.8913631 | 0.130599935 | 0.1932902 | 0.6756675 | 0.499252 | 0.934006 |
| ntmt1 | 467.6726503 | 0.078914264 | 0.1045804 | 0.7545801 | 0.450501 | 0.918761 |
| rrp12 | 1203.698932 | -0.056361546 | 0.0848259 | -0.664438 | 0.50641 | 0.935724 |
| ing5a | 91.65006946 | -0.348776502 | 0.2122626 | -1.643137 | 0.100355 | 0.602451 |
| faf1 | 794.2824364 | 0.024293486 | 0.0900097 | 0.2698987 | 0.787238 | 0.976596 |
| slc26a5 | 958.5222572 | -0.093113123 | 0.1023258 | -0.909967 | 0.36284 | 0.885944 |
| ppplr8b | 662.4950487 | 0.001850707 | 0.1098574 | 0.0168465 | 0.986559 | 0.996965 |
| cd81b | 344.58305 | -0.114942301 | 0.1187828 | -0.967668 | 0.33321 | 0.874926 |
| cox6a1 | 1456.266078 | 0.031316461 | 0.1007035 | 0.3109769 | 0.755818 | 0.975374 |
| enola | 14907.62942 | 0.062916694 | 0.0839443 | 0.749505 | 0.453553 | 0.920041 |
| clcn5b | 207.0631956 | 0.13838184 | 0.1660851 | 0.8331984 | 0.404733 | 0.901305 |
| rad2111 | 6.152422007 | 1.660469865 | 0.8468956 | 1.9606547 | 0.049919 | NA |
| pkd211 | 94.61086254 | 0.119064496 | 0.2088087 | 0.5702086 | 0.568536 | 0.948983 |
| cox4i2 | 690.545095 | -0.129928113 | 0.1140499 | -1.139222 | 0.254611 | 0.823484 |
| zgc:109913 | 7.14142241 | 0.505583639 | 0.7568262 | 0.6680314 | 0.504114 | NA |
| pex51a | 15.01752291 | -0.152080766 | 0.5105293 | -0.297888 | 0.765788 | 0.975374 |
| mchr1b | 254.6331886 | 0.085536076 | 0.1420084 | 0.6023311 | 0.546954 | 0.945526 |
| ntnlb | 885.9760656 | 0.194632441 | 0.093426 | 2.0832784 | 0.037226 | 0.377602 |
| chrnb11 | 24.846314 | -0.434434997 | 0.4117283 | -1.05515 | 0.291357 | 0.847 |
| gxylt1b | 88.43721161 | 0.106108371 | 0.2146692 | 0.4942878 | 0.621103 | 0.957354 |
| clcnk | 103.4575028 | -0.037486927 | 0.2031416 | -0.184536 | 0.853593 | 0.985174 |
| zgc:56106 | 278.587553 | -0.108942829 | 0.1309988 | -0.831632 | 0.405617 | 0.901305 |
| nkx6.1 | 332.7901461 | 0.019065493 | 0.1305015 | 0.146094 | 0.883847 | 0.988706 |
| nmur3 | 32.23873045 | 0.073504111 | 0.3626014 | 0.2027133 | 0.839359 | 0.984979 |

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| dnpep | 541.4855851 | -0.117318266 | 0.1023 | -1.146807 | 0.251462 | 0.820927 |
| ddx43 | 80.71007586 | -0.19166995 | 0.2364573 | -0.81059 | 0.417601 | 0.906237 |
| si:ch211-241e1.3 | 428.9487452 | 0.063171981 | 0.1328034 | 0.4756803 | 0.634302 | 0.95776 |
| fbxo44 | 265.8206654 | -0.31025345 | 0.1438182 | -2.157261 | 0.030985 | 0.34077 |
| cyp2p9 | 191.234088 | 2.356418971 | 0.1829016 | 12.883536 | 5.57E-38 | 5.51E-34 |
| otud3 | 212.0427517 | -0.134477812 | 0.1439057 | -0.934485 | 0.350054 | 0.880195 |
| cyp2ad3 | 835.6633001 | 0.554248152 | 0.0934209 | 5.9328073 | 2.98E-09 | 5.50E-07 |
| psmf1 | 231.8024076 | -0.144748054 | 0.1395185 | -1.037483 | 0.299511 | 0.855609 |
| snx4 | 802.2842942 | 0.049978911 | 0.0980959 | 0.5094904 | 0.610408 | 0.95688 |
| armac2 | 56.82712117 | -0.572884943 | 0.2760429 | -2.075347 | 0.037954 | 0.381357 |
| grapb | 28.81841488 | 0.305776665 | 0.3639109 | 0.8402515 | 0.400767 | 0.90084 |
| hel.3 | | 0 NA | NA | NA | NA | NA |
| fkbp1aa | 9131.614689 | -0.0289228 | 0.0773639 | -0.373854 | 0.708513 | 0.968664 |
| itgblb.2 | 838.1883935 | 0.417696963 | 0.0964087 | 4.3325648 | 1.47E-05 | 0.000988 |
| chic2 | 435.3440877 | -0.121256499 | 0.1147243 | -1.056938 | 0.29054 | 0.846262 |
| lad1 | 168.7688204 | -0.920611512 | 0.175914 | -5.233303 | 1.67E-07 | 2.15E-05 |
| stat3 | 407.9787597 | -0.121113263 | 0.114368 | -1.058979 | 0.289609 | 0.846246 |
| casp8ap2 | 184.2797789 | 0.119552607 | 0.1528097 | 0.7823629 | 0.434001 | 0.914001 |
| epha2b | 238.102449 | 0.116814744 | 0.1629781 | 0.7167513 | 0.473528 | 0.924993 |
| aasdh | 26.65507778 | 0.327943826 | 0.3899818 | 0.8409209 | 0.400392 | 0.90084 |
| hpcal1 | 122.0490046 | -0.469277405 | 0.1868925 | -2.510948 | 0.012041 | 0.193258 |
| apobb.1 | 28812.56979 | 0.218656318 | 0.0846338 | 2.5835588 | 0.009779 | 0.167691 |
| gid8a | 456.8077064 | -0.020484234 | 0.1050922 | -0.194917 | 0.845458 | 0.985174 |
| si:ch211-106a19.1 | 288.2898302 | 0.108432899 | 0.1273426 | 0.8515052 | 0.394489 | 0.898861 |
| cops7a | 734.6503665 | 0.134583126 | 0.0962151 | 1.3987737 | 0.161881 | 0.716275 |
| golt1ba | 68.49949667 | 0.390586587 | 0.2396035 | 1.6301375 | 0.103072 | 0.609625 |
| pitpnc1b | 127.6219335 | -0.010242909 | 0.1754929 | -0.058367 | 0.953457 | 0.994213 |
| fzrlb | 682.2512237 | 0.024333187 | 0.0939173 | 0.2590916 | 0.795565 | 0.978498 |
| dnd1 | 1.795620083 | -1.434666831 | 1.4695598 | -0.976256 | 0.328938 | NA |
| pvalb3 | 195.5346197 | 0.118186265 | 0.1799182 | 0.656889 | 0.511252 | 0.936253 |
| bnip4 | 107.5372372 | -0.165677173 | 0.1923239 | -0.861449 | 0.388991 | 0.896295 |
| ptk2ba | 17.3792285 | 0.417283012 | 0.4507624 | 0.9257272 | 0.354588 | 0.882105 |
| lias | 349.2190548 | -0.097480611 | 0.1165056 | -0.836703 | 0.402759 | 0.90084 |
| eogt | 57.82178337 | 0.039746427 | 0.262043 | 0.151679 | 0.87944 | 0.987881 |
| wnt7ba | 20.73463297 | 0.460455543 | 0.4269648 | 1.078439 | 0.280838 | 0.84357 |
| zgc:175214 | 887.1239089 | -0.201927778 | 0.1205997 | -1.674364 | 0.094059 | 0.583414 |
| mcf2a | 131.4268241 | 0.035462091 | 0.1790428 | 0.1980649 | 0.842994 | 0.985174 |
| skilb | 198.0205689 | 0.201987738 | 0.147918 | 1.3655381 | 0.172084 | 0.731144 |
| znf1163 | 29.73704697 | -0.402835515 | 0.3673348 | -1.096644 | 0.272797 | 0.838096 |
| tbcc | 150.1194303 | -0.205233928 | 0.1631948 | -1.257601 | 0.208536 | 0.775404 |
| taarl1 | 1.348572358 | 0.736885736 | 1.7227585 | 0.427736 | 0.668843 | NA |
| ino80e | 170.2425605 | 0.13535559 | 0.1689415 | 0.8011979 | 0.423017 | 0.90714 |
| ecd | 203.6769736 | 0.078044081 | 0.1507589 | 0.5176749 | 0.604685 | 0.95651 |
| pth2 | 25.95819211 | -0.181534171 | 0.401029 | -0.452671 | 0.650786 | 0.960708 |
| zgc:66448 | 563.0897917 | -0.025288454 | 0.1095292 | -0.230883 | 0.817406 | 0.981594 |
| fxr1 | 1229.241848 | 0.047018644 | 0.0912616 | 0.5152073 | 0.606408 | 0.956718 |
| tm9sf1 | 523.7772625 | 0.089454434 | 0.1048406 | 0.8532426 | 0.393525 | 0.898076 |
| epha6 | 448.7771508 | 0.126144587 | 0.1286848 | 0.9802602 | 0.326958 | 0.872658 |
| wdr13 | 645.6131635 | 0.032427896 | 0.0987049 | 0.3285337 | 0.742508 | 0.973232 |
| tmpob | 581.139929 | 0.129268805 | 0.1084193 | 1.1923039 | 0.233142 | 0.801623 |
| ccdc28a | 13.37910249 | -0.247072977 | 0.5183256 | -0.476675 | 0.633593 | 0.957703 |
| clic4 | 1720.253942 | -0.10279003 | 0.083941 | -1.224552 | 0.220744 | 0.787641 |
| setx | 256.7644879 | -0.003066325 | 0.1412199 | -0.021713 | 0.982677 | 0.996944 |
| dtl | 101.7096902 | 0.008481648 | 0.2062652 | 0.0411201 | 0.9672 | 0.996315 |

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|-----------------|-------------|--------------|-----------|-----------|----------|----------|
| ccdc12 | 162.5802546 | -0.063431391 | 0.1717411 | -0.369343 | 0.711872 | 0.969006 |
| pkp2 | 145.818216 | 0.040173134 | 0.1710106 | 0.234916 | 0.814274 | 0.981081 |
| cdv3 | 1899.613465 | 0.050084709 | 0.0732442 | 0.6838041 | 0.494099 | 0.931926 |
| hoxa2b | 144.3328985 | -0.049096475 | 0.1669192 | -0.294133 | 0.768656 | 0.975687 |
| si:dkey-23a23.2 | 207.3018685 | -0.142586862 | 0.1461876 | -0.975369 | 0.329377 | 0.873436 |
| zbtb1 | 212.6994324 | 0.041541627 | 0.1487561 | 0.27926 | 0.780045 | 0.976146 |
| fam129ab | 17.66004569 | -0.028191676 | 0.4718787 | -0.059743 | 0.95236 | 0.993904 |
| foxo3a | 2655.58222 | 0.041919831 | 0.0733461 | 0.5715342 | 0.567638 | 0.948739 |
| ccn1 | 838.2437846 | 0.145946327 | 0.1021496 | 1.4287512 | 0.153076 | 0.702423 |
| krt1-19d | 1179.675248 | -0.434603579 | 0.1004304 | -4.327409 | 1.51E-05 | 0.001002 |
| scaper | 658.1962669 | -0.136871749 | 0.0946001 | -1.446846 | 0.14794 | 0.695523 |
| mapk7 | 349.4698429 | -0.246351117 | 0.1229105 | -2.004313 | 0.045037 | 0.417316 |
| plg | 1826.71451 | -0.229332618 | 0.1219156 | -1.881076 | 0.059962 | 0.478654 |
| gopc | 170.1937785 | 0.017097996 | 0.1603463 | 0.1066317 | 0.915081 | 0.991123 |
| ucpl | 457.2516193 | 0.320843055 | 0.1141461 | 2.8108096 | 0.004942 | 0.102322 |
| wdr73 | 80.37731062 | -0.185168911 | 0.22649 | -0.817559 | 0.413609 | 0.905864 |
| cb1n10 | 51.73802035 | 0.326637327 | 0.3089642 | 1.0572012 | 0.29042 | 0.846262 |
| snrnp40 | 385.8259482 | -0.071052567 | 0.1151524 | -0.617031 | 0.537214 | 0.943336 |
| v2rx4 | 0.63357355 | 1.435201493 | 2.6108194 | 0.5497131 | 0.582516 | NA |
| fez1 | 3446.537617 | 0.027553174 | 0.0749623 | 0.3675605 | 0.713201 | 0.96909 |
| tdo2b | 26.04080314 | -1.369920118 | 0.4032907 | -3.396856 | 0.000682 | 0.02273 |
| pcp411 | 395.3516554 | -0.021294081 | 0.1142498 | -0.186382 | 0.852145 | 0.985174 |
| si:rp71-1g18.13 | 29.8858943 | -0.277935255 | 0.3564492 | -0.779733 | 0.435548 | 0.914408 |
| lcpl | 171.964323 | 0.138467515 | 0.1833659 | 0.7551433 | 0.450163 | 0.918761 |
| kpna4 | 2931.625083 | -0.014115396 | 0.0699019 | -0.201932 | 0.83997 | 0.985029 |
| mhc1lda | 1.186560904 | -1.24155368 | 1.8444777 | -0.673119 | 0.500871 | NA |
| mob2a | 251.1716279 | -0.082530138 | 0.1524553 | -0.54134 | 0.588273 | 0.953319 |
| crema | 328.9936355 | 0.148150669 | 0.134418 | 1.102164 | 0.27039 | 0.835161 |
| selenot2 | 1697.409956 | 0.051862846 | 0.0815667 | 0.6358333 | 0.524885 | 0.939846 |
| vsnl1a | 3112.957308 | 0.258190063 | 0.0807671 | 3.1967219 | 0.00139 | 0.040243 |
| kenh1b | 13.88243659 | -0.030425623 | 0.5177712 | -0.058763 | 0.953141 | 0.994157 |
| syne3 | 465.419999 | 0.077886117 | 0.108428 | 0.7183211 | 0.472559 | 0.924838 |
| atad1a | 109.2261396 | -0.10790971 | 0.2005503 | -0.538068 | 0.59053 | 0.954193 |
| tfap2d | 254.8963036 | 0.018380403 | 0.1364192 | 0.1347347 | 0.892822 | 0.989291 |
| psmd4b | 1064.493925 | -0.044009026 | 0.0856769 | -0.513663 | 0.607488 | 0.956718 |
| hsl17b3 | 16.42902313 | -0.335129282 | 0.4932159 | -0.679478 | 0.496835 | 0.932829 |
| fabp3 | 3196.991508 | -0.029080534 | 0.0808407 | -0.359726 | 0.719052 | 0.969183 |
| rps27.1 | 7760.874451 | -0.357326798 | 0.07582 | -4.712833 | 2.44E-06 | 0.000216 |
| snul3b | 812.9173166 | -0.098893607 | 0.0973881 | -1.015459 | 0.309887 | 0.861992 |
| gpbar1 | 2.834371097 | -0.188591653 | 1.1411324 | -0.165267 | 0.868734 | NA |
| zgc:66427 | 619.0885268 | 0.177073438 | 0.0982493 | 1.8022863 | 0.0715 | 0.522931 |
| spryd4 | 288.3048453 | -0.112610961 | 0.1308666 | -0.860502 | 0.389513 | 0.896421 |
| sim1a | 147.5354155 | -0.186271537 | 0.1732087 | -1.075417 | 0.282188 | 0.843666 |
| fmn2a | 217.6731566 | 0.042111137 | 0.1453822 | 0.2896581 | 0.772078 | 0.975687 |
| ywhaqb | 9926.79484 | -0.019250763 | 0.0747948 | -0.257381 | 0.796885 | 0.978569 |
| anp32b | 4424.044153 | -0.132228464 | 0.0845363 | -1.564162 | 0.11778 | 0.641446 |
| nr5alb | 5.592287053 | 0.126250285 | 0.8228191 | 0.1534363 | 0.878054 | NA |
| mxl | 4.244197523 | -0.905085036 | 1.0393549 | -0.870814 | 0.383856 | NA |
| slc37a2 | 1117.598922 | -0.06934003 | 0.083655 | -0.828881 | 0.407172 | 0.901305 |
| atg5 | 372.700968 | -0.02400373 | 0.1226943 | -0.195639 | 0.844893 | 0.985174 |
| tjp2b | 936.5308658 | -0.101951126 | 0.1067387 | -0.955147 | 0.339503 | 0.87805 |
| atp2b3b | 1616.964634 | 0.178019164 | 0.0929333 | 1.9155582 | 0.055421 | 0.461238 |
| galnt14 | 313.3617165 | -0.129512918 | 0.1322109 | -0.979593 | 0.327287 | 0.872658 |
| ctnnb2 | 4339.211051 | 0.02143583 | 0.07297 | 0.2937622 | 0.76894 | 0.975687 |

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| lrp13 | 3. 626592945 | 0. 525147765 | 0. 9956437 | 0. 5274455 | 0. 597884 | NA |
| rflna | 16. 41653246 | 0. 206635356 | 0. 5142003 | 0. 4018577 | 0. 687789 | 0. 966442 |
| ift74 | 557. 0364816 | 0. 119822946 | 0. 1224671 | 0. 9784091 | 0. 327872 | 0. 872701 |
| gmppab | 359. 4594892 | 0. 029330456 | 0. 1161671 | 0. 2524849 | 0. 800666 | 0. 979377 |
| ankrd49 | 250. 3697145 | 0. 132625245 | 0. 1390948 | 0. 9534883 | 0. 340343 | 0. 87805 |
| BX323555. 1 | | 0 NA | NA | NA | NA | NA |
| ggt1a | 32. 95606256 | -0. 118675757 | 0. 3786155 | -0. 313447 | 0. 753941 | 0. 975056 |
| pinx1 | 255. 9643715 | -0. 199228925 | 0. 1456033 | -1. 368299 | 0. 171218 | 0. 729413 |
| nnt | 11210. 59765 | 0. 137659622 | 0. 0680862 | 2. 0218437 | 0. 043192 | 0. 407874 |
| ahr1b | 229. 8529303 | -0. 088072201 | 0. 1406238 | -0. 626297 | 0. 53112 | 0. 942209 |
| cdh7a | 417. 3299115 | -0. 088601166 | 0. 1154491 | -0. 767448 | 0. 442815 | 0. 916336 |
| kenn1b | 43. 1911689 | -0. 062886963 | 0. 2947985 | -0. 213322 | 0. 831076 | 0. 982994 |
| lpp | 449. 5906065 | -0. 101052036 | 0. 1080513 | -0. 935223 | 0. 349674 | 0. 880195 |
| coq9 | 572. 6189589 | -0. 034962502 | 0. 1100227 | -0. 317775 | 0. 750655 | 0. 97419 |
| cdc7 | 108. 2298392 | -0. 356790834 | 0. 1971331 | -1. 809898 | 0. 070312 | 0. 518591 |
| kenk5a | 53. 89082015 | -0. 308125317 | 0. 2764229 | -1. 114688 | 0. 264984 | 0. 830836 |
| nrbf2b | 414. 3760537 | -0. 267834233 | 0. 1150977 | -2. 327016 | 0. 019964 | 0. 266381 |
| sh3gl2a | 1720. 655152 | 0. 26993418 | 0. 080254 | 3. 363499 | 0. 00077 | 0. 025154 |
| AL845324. 1 | 471. 4409648 | -0. 048006594 | 0. 1072481 | -0. 447622 | 0. 654426 | 0. 961305 |
| ggps1 | 764. 6632961 | -0. 102864443 | 0. 1112341 | -0. 924757 | 0. 355092 | 0. 882321 |
| kyat1 | 432. 8991633 | -0. 008056333 | 0. 1101882 | -0. 073114 | 0. 941715 | 0. 993099 |
| idh3g | 1101. 989727 | 0. 049353183 | 0. 0845491 | 0. 583722 | 0. 559407 | 0. 948478 |
| hel. 1 | 32. 17684941 | -0. 53601709 | 0. 4314974 | -1. 242226 | 0. 214153 | 0. 782493 |
| gabpb1 | 97. 79221369 | 0. 068892896 | 0. 2050376 | 0. 3360013 | 0. 73687 | 0. 972535 |
| timm8a | 317. 4853186 | 0. 007357511 | 0. 1546867 | 0. 047564 | 0. 962064 | 0. 995907 |
| ercc5 | 198. 9599385 | -0. 185988009 | 0. 1478127 | -1. 258268 | 0. 208295 | 0. 775404 |
| cacnalfb | 443. 7964905 | 0. 054888887 | 0. 1138922 | 0. 4819372 | 0. 629851 | 0. 957354 |
| spon1b | 2092. 803085 | 0. 027604466 | 0. 0723414 | 0. 3815862 | 0. 702768 | 0. 968134 |
| kctd6b | 290. 1501875 | 0. 051387146 | 0. 1254556 | 0. 4096041 | 0. 682096 | 0. 965476 |
| mao | 691. 8825294 | 0. 098611379 | 0. 1080754 | 0. 9124311 | 0. 361542 | 0. 88578 |
| aqpla. 1 | 1107. 090989 | -0. 114975804 | 0. 0822673 | -1. 397589 | 0. 162237 | 0. 716781 |
| hcrtr2 | 2. 767134206 | 1. 689980048 | 1. 2117395 | 1. 3946727 | 0. 163115 | NA |
| cdc42se1 | 222. 587667 | -0. 071272512 | 0. 156094 | -0. 4566 | 0. 647959 | 0. 960708 |
| zgc:73226 | 132. 282919 | 0. 321442471 | 0. 1843427 | 1. 7437219 | 0. 081208 | 0. 551495 |
| gnsa | 550. 5382104 | 0. 046750819 | 0. 1084802 | 0. 4309617 | 0. 666496 | 0. 964736 |
| mfsd4aa | 18. 76920425 | 0. 263613922 | 0. 4475664 | 0. 588994 | 0. 555865 | 0. 94764 |
| gabrb3 | 960. 0132653 | 0. 150081773 | 0. 0893664 | 1. 6793987 | 0. 093074 | 0. 580702 |
| ryr1b | 1331. 49921 | 0. 233798374 | 0. 0924061 | 2. 5301197 | 0. 011402 | 0. 186316 |
| dyrklab | 1142. 100861 | 0. 101555453 | 0. 087152 | 1. 1652686 | 0. 24391 | 0. 813336 |
| uvrag | 79. 6025541 | -0. 166491676 | 0. 2223821 | -0. 748674 | 0. 454054 | 0. 920295 |
| faxdc2 | 528. 0991275 | 0. 277609236 | 0. 105046 | 2. 6427399 | 0. 008224 | 0. 147048 |
| pfkfb2a | 68. 54123855 | -0. 177072004 | 0. 2368005 | -0. 747769 | 0. 4546 | 0. 920747 |
| lsm4 | 858. 0977338 | -0. 209319698 | 0. 0976672 | -2. 143193 | 0. 032098 | 0. 348544 |
| ccdc174 | 319. 4716574 | -0. 058255839 | 0. 1372531 | -0. 424441 | 0. 671244 | 0. 965257 |
| dnase1111 | 515. 8338482 | 0. 169952506 | 0. 105579 | 1. 6097192 | 0. 107459 | 0. 617344 |
| si:dkey-172h23. 2 | 361. 3678566 | 0. 154564539 | 0. 1209174 | 1. 2782659 | 0. 201156 | 0. 766855 |
| stk24b | 966. 2904801 | -0. 021916326 | 0. 0852159 | -0. 257186 | 0. 797035 | 0. 978569 |
| cacna2d4b | 387. 543018 | 0. 27896106 | 0. 141442 | 1. 9722647 | 0. 048579 | 0. 433684 |
| casd1 | 474. 2297983 | 0. 062083133 | 0. 1070579 | 0. 5799025 | 0. 56198 | 0. 948728 |
| atf2 | 9. 507969078 | 0. 684675278 | 0. 6493331 | 1. 0544285 | 0. 291687 | NA |
| mark4a | 52. 148034 | 0. 212839937 | 0. 2803259 | 0. 7592588 | 0. 447698 | 0. 917154 |
| phactr1 | 286. 131146 | 0. 307492112 | 0. 1368754 | 2. 246511 | 0. 024671 | 0. 302262 |
| llgl2 | 1203. 610578 | -0. 080015636 | 0. 0888943 | -0. 900121 | 0. 368056 | 0. 887482 |
| dnajc24 | 50. 81544093 | 0. 179566457 | 0. 2786156 | 0. 6444953 | 0. 519254 | 0. 938945 |

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| skila | 58.11696668 | -0.511843865 | 0.2624027 | -1.950604 | 0.051104 | 0.443542 |
| si:ch73-362m14.4 | 161.1992678 | -0.063679601 | 0.1622526 | -0.392472 | 0.69471 | 0.96736 |
| znhit3 | 34.59363546 | -0.120259005 | 0.3326621 | -0.361505 | 0.717722 | 0.96909 |
| fam167ab | 84.86113318 | -0.17554095 | 0.215199 | -0.815715 | 0.414663 | 0.906237 |
| rnf181 | 90.88313344 | -0.098567622 | 0.211942 | -0.465069 | 0.641882 | 0.959994 |
| tpm4a | 1612.138576 | -0.048978243 | 0.0975126 | -0.502276 | 0.615473 | 0.95688 |
| atp6v1c1a | 2087.954877 | 0.023193973 | 0.0732323 | 0.3167179 | 0.751458 | 0.97419 |
| dctn4 | 532.0641624 | -0.31304721 | 0.1311982 | -2.386063 | 0.01703 | 0.241051 |
| pef1 | 319.0958601 | -0.010611979 | 0.1261467 | -0.084124 | 0.932958 | 0.992702 |
| heatr5a | 484.2829011 | 0.024379989 | 0.1094052 | 0.2228412 | 0.823659 | 0.982196 |
| rprmb | 71.14620938 | -0.18189367 | 0.2321328 | -0.783576 | 0.433289 | 0.913654 |
| mdga2a | 350.8608065 | 0.009423434 | 0.1206164 | 0.0781273 | 0.937727 | 0.99279 |
| sdf2 | 344.5655681 | 0.092926665 | 0.1176508 | 0.7898517 | 0.429614 | 0.911615 |
| angpt12a | 87.39732555 | 0.407476504 | 0.2182257 | 1.8672249 | 0.06187 | 0.485483 |
| coch | 303.4432061 | 0.504243425 | 0.137703 | 3.6618195 | 0.00025 | 0.010194 |
| tmem38a | 2652.177823 | 0.156120314 | 0.0966401 | 1.6154825 | 0.106206 | 0.615567 |
| dnajc4 | 268.3737298 | 0.076837186 | 0.1447718 | 0.5307471 | 0.595594 | 0.954434 |
| lmb1 | 105.8168218 | -0.079972872 | 0.1997672 | -0.40033 | 0.688913 | 0.966672 |
| adrald | 75.59939005 | 0.316481058 | 0.2361325 | 1.3402691 | 0.180158 | 0.74128 |
| naa40 | 747.9751278 | 0.034734249 | 0.0943988 | 0.3679522 | 0.712909 | 0.96909 |
| gmppaa | 261.2030304 | 0.098875529 | 0.1393462 | 0.7095674 | 0.477972 | 0.926857 |
| vamp8 | 342.116542 | 0.079933054 | 0.1304289 | 0.6128477 | 0.539977 | 0.944206 |
| sde2 | 499.7854549 | -0.059773148 | 0.1026334 | -0.582395 | 0.560301 | 0.948728 |
| p2rx8 | 10.91936421 | -0.312897344 | 0.6111265 | -0.512001 | 0.60865 | NA |
| cav3 | 696.0948624 | 0.090158791 | 0.1034985 | 0.8711117 | 0.383693 | 0.895192 |
| haol | 319.3464633 | 0.069785828 | 0.1350386 | 0.5167842 | 0.605307 | 0.95651 |
| kcnh1a | 8.941904365 | 0.424299762 | 0.6446308 | 0.6582058 | 0.510406 | NA |
| narf | 470.8292156 | 0.016220913 | 0.1182272 | 0.1372012 | 0.890872 | 0.989291 |
| pnocb | 68.10848578 | -0.360524915 | 0.2433003 | -1.481811 | 0.138391 | 0.676189 |
| znf395b | 915.8739386 | -0.244345662 | 0.0970828 | -2.516879 | 0.01184 | 0.191129 |
| mcm3 | 873.8776239 | 0.049027506 | 0.0876179 | 0.5595601 | 0.57578 | 0.950373 |
| opn7a | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| wasf2 | 795.9428571 | -0.163152962 | 0.0987791 | -1.651695 | 0.098597 | 0.59799 |
| ifngl | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| cdk5rap2 | 294.6911642 | 0.024572875 | 0.1285034 | 0.1912236 | 0.84835 | 0.985174 |
| ubl7a | 199.88778 | 0.246650217 | 0.1485326 | 1.66058 | 0.096798 | 0.592778 |
| pcbp4 | 1315.86852 | -0.031814986 | 0.0820165 | -0.387909 | 0.698083 | 0.967998 |
| pigm | 75.7569571 | 0.208985611 | 0.2399341 | 0.8710124 | 0.383747 | 0.895192 |
| adh8b | 1373.706641 | -0.763554281 | 0.1272994 | -5.998096 | 2.00E-09 | 3.77E-07 |
| slc11a2 | 545.2689166 | -0.12674301 | 0.1178237 | -1.0757 | 0.282061 | 0.843666 |
| clqtnf4 | 1123.109899 | -0.006122505 | 0.0951006 | -0.064379 | 0.948668 | 0.99381 |
| zbed4 | 506.3876227 | -0.088685039 | 0.1052154 | -0.84289 | 0.39929 | 0.900683 |
| nsmce4a | 130.6024673 | 0.026338215 | 0.2056535 | 0.1280709 | 0.898093 | 0.990121 |
| herpud1 | 765.6058362 | -0.102628583 | 0.0977805 | -1.049581 | 0.293911 | 0.849999 |
| trap1 | 1250.178208 | -0.000371762 | 0.0809856 | -0.00459 | 0.996337 | 0.998902 |
| arhgap1 | 2481.005451 | 0.041925562 | 0.0890011 | 0.4710678 | 0.637592 | 0.958872 |
| col4a3bpa | 309.8497299 | -0.077476449 | 0.1273506 | -0.608371 | 0.542941 | 0.944974 |
| crlfla | 158.4278436 | -0.124631998 | 0.1703158 | -0.73177 | 0.464309 | 0.923325 |
| mstol | 284.2837739 | -0.188789175 | 0.1488697 | -1.268151 | 0.204744 | 0.772783 |
| get4 | 963.8977625 | -0.044142218 | 0.0924438 | -0.477503 | 0.633004 | 0.957356 |
| twistnb | 147.229682 | -0.073293329 | 0.1710484 | -0.428495 | 0.668291 | 0.964736 |
| ets1 | 75.55604517 | 0.088445169 | 0.2346164 | 0.3769778 | 0.70619 | 0.968459 |
| pvalb4 | 4690.81289 | -0.197670864 | 0.2017454 | -0.979804 | 0.327183 | 0.872658 |
| gnpda2 | 990.2141089 | 0.009269812 | 0.0987475 | 0.0938739 | 0.925209 | 0.992676 |

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| mrps18a | 415.8653584 | 0.020767468 | 0.1150843 | 0.1804544 | 0.856796 | 0.985597 |
| ns11 | 61.28432474 | -0.089547158 | 0.2482468 | -0.360718 | 0.71831 | 0.96909 |
| mpc2 | 1855.543076 | 0.090913369 | 0.0849653 | 1.0700061 | 0.284617 | 0.844955 |
| pigk | 114.6783195 | -0.153006015 | 0.1848261 | -0.827838 | 0.407762 | 0.901408 |
| top2a | 1996.270206 | -0.045117923 | 0.0723438 | -0.62366 | 0.532851 | 0.942805 |
| col9a2 | 19015.82359 | 0.088845677 | 0.091365 | 0.972426 | 0.330839 | 0.87417 |
| c6ast3 | 13.41041854 | 1.153050786 | 0.542942 | 2.1237089 | 0.033694 | 0.357045 |
| prfl.6 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| emilin1a | 334.9265807 | 0.454011685 | 0.1239874 | 3.6617577 | 0.00025 | 0.010194 |
| tspan36 | 1205.856825 | -0.146397694 | 0.1251088 | -1.170163 | 0.241935 | 0.810713 |
| pla2g4aa | 45.66178187 | 0.047446617 | 0.2889637 | 0.1641958 | 0.869577 | 0.987282 |
| cryba4 | 22644.52237 | -0.015284536 | 0.0782095 | -0.195431 | 0.845056 | 0.985174 |
| slc4a1b | 92.66394332 | -0.140657599 | 0.2174217 | -0.646934 | 0.517674 | 0.938592 |
| nolc1 | 882.9591958 | 0.00062735 | 0.1087314 | 0.0057697 | 0.995396 | 0.99873 |
| sccpdhb | 288.9663266 | -0.419981238 | 0.1269638 | -3.307883 | 0.00094 | 0.029552 |
| kif26bb | 84.55624227 | 0.570966044 | 0.2202176 | 2.5927353 | 0.009522 | 0.163896 |
| gpc5b | 192.3888098 | 0.215725847 | 0.1651508 | 1.3062359 | 0.191472 | 0.755886 |
| homezb | 728.0797013 | 0.087768728 | 0.1069479 | 0.8206684 | 0.411835 | 0.903944 |
| zgc:162964 | 157.6226596 | -0.276727156 | 0.1814129 | -1.5254 | 0.127159 | 0.656588 |
| foxo6b | 371.8518992 | 0.061487649 | 0.1158681 | 0.5306693 | 0.595648 | 0.954434 |
| nlrc5 | 4.954201555 | 0.037603004 | 0.8876391 | 0.0423629 | 0.966209 | NA |
| pip5klab | 585.6231582 | 0.02106724 | 0.09793 | 0.2151254 | 0.82967 | 0.982805 |
| snrpal | 717.7192022 | -0.072918592 | 0.1031613 | -0.706841 | 0.479666 | 0.927091 |
| pgm3 | 250.1253436 | -0.145136594 | 0.1363421 | -1.064503 | 0.287101 | 0.845979 |
| oser1 | 591.6162435 | -0.035299052 | 0.1079807 | -0.326902 | 0.743742 | 0.974094 |
| panel | 100.9899952 | -0.010520695 | 0.2370113 | -0.044389 | 0.964594 | 0.995973 |
| polr3g | 2.855122227 | 0.188712634 | 1.2366611 | 0.1525985 | 0.878715 | NA |
| lysmd3 | 145.0723743 | -0.056606498 | 0.171328 | -0.330398 | 0.741099 | 0.973154 |
| myo1b | 1380.66401 | -0.016991127 | 0.0800446 | -0.212271 | 0.831896 | 0.98349 |
| slc25a23b | 35.22828482 | 0.211792462 | 0.3323211 | 0.6373128 | 0.523921 | 0.939336 |
| selenbp1 | 358.5775135 | -0.329530675 | 0.1511265 | -2.180495 | 0.029221 | 0.331124 |
| hdhd2 | 134.843495 | -0.050145172 | 0.1727773 | -0.29023 | 0.77164 | 0.975687 |
| gnl3a | 58.10648628 | -0.407095242 | 0.2661571 | -1.52953 | 0.126133 | 0.654806 |
| dpp6b | 766.2858352 | 0.145849595 | 0.0950289 | 1.5347924 | 0.124835 | 0.654423 |
| hsp90aa1.2 | 2365.25625 | 0.208573767 | 0.1003081 | 2.0793311 | 0.037587 | 0.379013 |
| inhbab | 44.76673016 | 0.106430298 | 0.3116203 | 0.3415384 | 0.732698 | 0.971719 |
| slc24a5 | 44.6872525 | 0.020540864 | 0.2946319 | 0.069717 | 0.944419 | 0.993364 |
| si:ch211-129c21.1 | 466.8593684 | -0.107238052 | 0.1146112 | -0.935668 | 0.349444 | 0.880195 |
| ctnna2 | 1364.627193 | 0.033803933 | 0.0944772 | 0.3577997 | 0.720493 | 0.969318 |
| mxc | 18.49227967 | -0.450743277 | 0.4532116 | -0.994554 | 0.319953 | 0.868153 |
| ogfr12 | 19.49294087 | -0.167187976 | 0.4421403 | -0.378133 | 0.705332 | 0.968412 |
| rilpl2 | 154.8952973 | 0.18655878 | 0.1610506 | 1.1583861 | 0.246707 | 0.816669 |
| rnf150a | 11.77537225 | -0.570218383 | 0.5849051 | -0.97489 | 0.329615 | 0.873583 |
| tmem134 | 387.001309 | -0.009415012 | 0.117204 | -0.08033 | 0.935975 | 0.992702 |
| tnn | 5176.13656 | 0.286205299 | 0.0782436 | 3.657875 | 0.000254 | 0.010326 |
| crhbp | 335.7303371 | 0.060104327 | 0.1213478 | 0.4953064 | 0.620384 | 0.957354 |
| max | 3144.7418 | 0.008810496 | 0.0687934 | 0.1280719 | 0.898092 | 0.990121 |
| cops8 | 895.4437955 | 0.046501017 | 0.0874434 | 0.5317843 | 0.594875 | 0.954434 |
| col5a2b | 231.9331093 | 0.079201004 | 0.1666905 | 0.475138 | 0.634689 | 0.9578 |
| dscama | 1308.724476 | -0.02755749 | 0.1038999 | -0.265231 | 0.790831 | 0.977402 |
| dock4b | 489.2355227 | -0.096671261 | 0.1057946 | -0.913764 | 0.360841 | 0.885686 |
| ptgr1 | 1480.873442 | -0.314778579 | 0.0986058 | -3.192292 | 0.001411 | 0.040686 |
| tbx5a | 19.05688665 | 0.595804173 | 0.4423575 | 1.3468839 | 0.178018 | 0.738995 |
| fam50a | 599.4576662 | -0.150945856 | 0.1089065 | -1.386013 | 0.165743 | 0.721576 |

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| stil | 110.4245367 | -0.115528451 | 0.2134991 | -0.541119 | 0.588425 | 0.953319 |
| tmem136a | 330.9417504 | 0.144141067 | 0.125558 | 1.148004 | 0.250967 | 0.820469 |
| spast | 336.3370063 | -0.002939404 | 0.134846 | -0.021798 | 0.982609 | 0.996944 |
| rnf144b | 277.7310413 | -0.092045812 | 0.1283147 | -0.717344 | 0.473162 | 0.924993 |
| tmed4 | 472.7373346 | -0.067108821 | 0.1112962 | -0.602975 | 0.546525 | 0.945526 |
| patj | 274.2248339 | 0.045200831 | 0.1300406 | 0.3475901 | 0.728148 | 0.970402 |
| MARK4 | 1068.177003 | -0.023758657 | 0.090488 | -0.262561 | 0.792889 | 0.977937 |
| fancg | 89.88475589 | -0.105743459 | 0.2079549 | -0.508492 | 0.611108 | 0.95688 |
| synj1 | 1645.771625 | -0.020351051 | 0.0884176 | -0.23017 | 0.81796 | 0.981594 |
| tpila | 342.3869153 | 0.147549903 | 0.1244671 | 1.1854533 | 0.235838 | 0.804837 |
| gnal4a | 18.52309135 | -0.022564803 | 0.4704256 | -0.047967 | 0.961743 | 0.995907 |
| prdm8 | 116.4598079 | -0.062811315 | 0.1855472 | -0.338519 | 0.734972 | 0.972129 |
| pnoca | 100.6044508 | -0.009022412 | 0.2126093 | -0.042437 | 0.966151 | 0.996315 |
| nr3c1 | 1141.394892 | -0.025040902 | 0.0884669 | -0.283054 | 0.777136 | 0.975826 |
| stx5a | 977.9986539 | 0.139449932 | 0.0857012 | 1.6271651 | 0.103702 | 0.610299 |
| syng3b | 473.7948715 | 0.174488959 | 0.1187556 | 1.4693115 | 0.141748 | 0.682643 |
| trip13 | 119.1880055 | -0.120820623 | 0.1996747 | -0.605087 | 0.545121 | 0.945463 |
| AL935186.1 | 50.7234559 | -1.777677465 | 0.3334923 | -5.330491 | 9.79E-08 | 1.36E-05 |
| brd8 | 1187.431262 | -0.08697378 | 0.0827455 | -1.0511 | 0.293213 | 0.849024 |
| rpl18a | 14702.59545 | -0.282897549 | 0.0856665 | -3.302311 | 0.000959 | 0.029926 |
| slc25a10 | 757.8872884 | -0.00947423 | 0.0923043 | -0.102641 | 0.918248 | 0.991623 |
| marveld2a | 274.8961065 | -0.108504559 | 0.1290916 | -0.840524 | 0.400615 | 0.90084 |
| grnb | 483.8269779 | -0.047836673 | 0.113122 | -0.422877 | 0.672385 | 0.965257 |
| lox14 | 280.26812 | 0.060973223 | 0.1267387 | 0.4810941 | 0.63045 | 0.957354 |
| ezrb | 2483.712969 | 0.032017746 | 0.073496 | 0.4356396 | 0.663098 | 0.964736 |
| edem1 | 747.6167458 | -0.005923798 | 0.1032052 | -0.057398 | 0.954228 | 0.994409 |
| ppp3cb | 2326.761941 | 0.027166629 | 0.0767936 | 0.3537618 | 0.723517 | 0.970402 |
| magixa | 26.73458957 | -0.236745635 | 0.3708445 | -0.638396 | 0.523216 | 0.939336 |
| lbx2 | 212.4992732 | 0.169192633 | 0.1456342 | 1.1617647 | 0.245331 | 0.815324 |
| cd63 | 2209.666616 | -0.083493521 | 0.0864884 | -0.965373 | 0.334358 | 0.875361 |
| si:dkey-181c13.1 | 2.314256126 | 1.926318878 | 1.5343758 | 1.2554414 | 0.209319 | NA |
| asic4a | 288.6372449 | 0.021748409 | 0.1266977 | 0.1716559 | 0.863708 | 0.985952 |
| mpp7b | 3.289981667 | 0.248328898 | 1.0717886 | 0.2316958 | 0.816774 | NA |
| zgc:103482 | 12.18831098 | 0.190032011 | 0.5578548 | 0.3406478 | 0.733369 | 0.971993 |
| six6a | 73.389827 | 0.040011635 | 0.2315315 | 0.172813 | 0.862798 | 0.985841 |
| cpne8 | 16.59244255 | 0.27855979 | 0.4816363 | 0.5783613 | 0.56302 | 0.948728 |
| syt2a | 35.44702746 | -0.155319171 | 0.3225219 | -0.481577 | 0.630106 | 0.957354 |
| ints11 | 301.090042 | -0.015122493 | 0.1232581 | -0.12269 | 0.902353 | 0.990121 |
| myo5ab | 208.5823691 | 0.606330984 | 0.1445476 | 4.1946812 | 2.73E-05 | 0.001635 |
| sppl3 | 747.098501 | 0.030929264 | 0.1123665 | 0.2752534 | 0.783122 | 0.97627 |
| znf668 | 143.9433661 | -0.143858004 | 0.1668808 | -0.862041 | 0.388665 | 0.896271 |
| lipt1 | 64.69927505 | 0.014752373 | 0.2434268 | 0.0606029 | 0.951675 | 0.993864 |
| s100a10b | 1227.030089 | 0.187696854 | 0.0910444 | 2.061598 | 0.039246 | 0.388998 |
| pdcd6ip | 2739.44802 | -0.073650191 | 0.0898751 | -0.819473 | 0.412517 | 0.904974 |
| gbgt111 | 32.18839943 | -0.370609146 | 0.3417656 | -1.084396 | 0.278189 | 0.841891 |
| panx1a | 363.956663 | -0.000631616 | 0.1181477 | -0.005346 | 0.995735 | 0.998888 |
| tspan9a | 9.430526784 | 1.043318484 | 0.6887063 | 1.5148961 | 0.129799 | NA |
| gfap | 6050.459381 | 0.114820997 | 0.0669092 | 1.7160728 | 0.086149 | 0.563157 |
| dixd1a | 800.8449243 | -0.02154595 | 0.0894887 | -0.240767 | 0.809735 | 0.980648 |
| dpf3 | 132.5201606 | -0.452435849 | 0.1866005 | -2.424623 | 0.015324 | 0.227153 |
| cuzd1.2 | 1.998351438 | 0.004139829 | 1.402095 | 0.0029526 | 0.997644 | NA |
| fynb | 92.81306093 | -0.025960875 | 0.2088198 | -0.124322 | 0.90106 | 0.990121 |
| col21a1 | 46.24820241 | 0.464095517 | 0.297198 | 1.56157 | 0.118389 | 0.641743 |
| ccsapa | 194.8759266 | -0.224800249 | 0.1504001 | -1.494682 | 0.134998 | 0.670689 |

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| myl12.2 | 692.3959039 | -0.109307393 | 0.1012516 | -1.079562 | 0.280337 | 0.843423 |
| rbm28 | 375.6441805 | 0.085059797 | 0.1209814 | 0.7030815 | 0.482005 | 0.928561 |
| nek10 | 10.66052892 | -0.257559968 | 0.5900396 | -0.436513 | 0.662465 | NA |
| hagh | 444.9731765 | -0.051821568 | 0.1063947 | -0.487069 | 0.62621 | 0.957354 |
| tusc2b | 351.6775585 | 0.100468903 | 0.1193664 | 0.8416846 | 0.399964 | 0.90084 |
| znf277 | 120.7695133 | -0.197164995 | 0.1884186 | -1.04642 | 0.295367 | 0.851935 |
| igfbp5b | 1081.605544 | 0.293363395 | 0.0888523 | 3.3016966 | 0.000961 | 0.029926 |
| prdx2 | 5534.372551 | -0.233769194 | 0.0980422 | -2.384373 | 0.017108 | 0.241859 |
| admp | 0.804086858 | -1.860428069 | 2.2645275 | -0.821552 | 0.411332 | NA |
| idh1 | 1860.05478 | -0.088895633 | 0.0837097 | -1.061952 | 0.288258 | 0.845979 |
| arl2bp | 123.3203834 | 0.281097291 | 0.1841324 | 1.5266038 | 0.12686 | 0.656588 |
| lsm14b | 3.378709501 | 0.883999793 | 1.086412 | 0.8136874 | 0.415824 | NA |
| pfdn2 | 1076.352699 | 0.080077398 | 0.1036698 | 0.7724274 | 0.439861 | 0.916082 |
| srsf3a | 40.53762756 | 0.109911885 | 0.3150876 | 0.3488297 | 0.727217 | 0.970402 |
| ftr83 | 326.69645 | -0.232469026 | 0.1539452 | -1.510077 | 0.131024 | 0.663795 |
| ube2g2 | 496.3878195 | -0.018120214 | 0.1086605 | -0.16676 | 0.867559 | 0.987231 |
| fzd5 | 180.4567351 | 0.040498624 | 0.1546841 | 0.261815 | 0.793464 | 0.977937 |
| tdrd3 | 516.6852012 | -0.040488231 | 0.1067553 | -0.379262 | 0.704493 | 0.968134 |
| socs3a | 555.3619764 | -0.062371924 | 0.33564 | -0.18583 | 0.852578 | 0.985174 |
| msrbla | 217.1208099 | -0.003026516 | 0.1417843 | -0.021346 | 0.98297 | 0.996944 |
| spon2a | 242.3286087 | 0.177744056 | 0.1484617 | 1.1972384 | 0.231214 | 0.799444 |
| aatf | 267.8318059 | -0.01017479 | 0.1326117 | -0.076726 | 0.938841 | 0.992857 |
| bnip3la | 192.7524784 | 0.159590889 | 0.1540835 | 1.0357426 | 0.300322 | 0.856251 |
| gipr | 28.44222948 | -0.035442461 | 0.3694217 | -0.09594 | 0.923568 | 0.992588 |
| nhlh2 | 681.7446824 | 0.087469336 | 0.1068565 | 0.818568 | 0.413033 | 0.905281 |
| mtx1a | 279.7225944 | -0.011657338 | 0.1372506 | -0.084935 | 0.932313 | 0.992702 |
| gucy2f | 141.6383305 | 0.100121569 | 0.182874 | 0.5474893 | 0.584043 | 0.952214 |
| si:ch73-335d12.2 | 0.491560863 | 0.853615855 | 2.865157 | 0.2979299 | 0.765757 | NA |
| wdr24 | 236.42926 | -0.239929018 | 0.1386754 | -1.730149 | 0.083604 | 0.557158 |
| dip2cb | 916.3848471 | 0.000891899 | 0.1039799 | 0.0085776 | 0.993156 | 0.998554 |
| zgc:101679 | 346.6904412 | -0.038692514 | 0.1217641 | -0.317766 | 0.750662 | 0.97419 |
| sgkl | 2633.362078 | 0.175189375 | 0.0772235 | 2.2686023 | 0.023293 | 0.292994 |
| clintla | 1137.809031 | -0.043072412 | 0.0861011 | -0.500254 | 0.616896 | 0.956957 |
| si:ch73-34314.6 | | 0 NA | NA | NA | NA | NA |
| ndufaf1 | 612.5774304 | 0.077446762 | 0.1056964 | 0.7327286 | 0.463724 | 0.922875 |
| wdr83os | 559.8474051 | 0.096542541 | 0.1034515 | 0.9332156 | 0.350709 | 0.880195 |
| ormdl3 | 17.16966353 | 0.261988754 | 0.4606699 | 0.5687125 | 0.569551 | 0.948983 |
| pex1lg | 46.56093474 | -0.611138024 | 0.3024163 | -2.02085 | 0.043295 | 0.40826 |
| slc25a3b | 8476.688078 | -0.002446743 | 0.0689675 | -0.035477 | 0.9717 | 0.996315 |
| nf2b | 471.2866265 | -0.057438019 | 0.1117177 | -0.514135 | 0.607157 | 0.956718 |
| mkln1 | 582.2024971 | 0.099273397 | 0.1012443 | 0.9805327 | 0.326823 | 0.872658 |
| zgc:66447 | 240.215545 | 0.015629321 | 0.1344693 | 0.1162296 | 0.907471 | 0.990702 |
| rpl10 | 16456.67716 | -0.359275302 | 0.0730548 | -4.917889 | 8.75E-07 | 9.01E-05 |
| plekhj1 | 237.3949894 | -0.068073895 | 0.1474002 | -0.46183 | 0.644203 | 0.960129 |
| agmo | 150.5755358 | -0.286174915 | 0.1685434 | -1.69793 | 0.089521 | 0.572876 |
| or102-5 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| trim35-14 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| nvl | 494.2702305 | -0.087994931 | 0.1037402 | -0.848224 | 0.396313 | 0.899672 |
| ifnphil | 1.679609444 | 0.005089711 | 1.4178403 | 0.0035898 | 0.997136 | NA |
| casp611 | 23.29958211 | 0.245680829 | 0.408898 | 0.6008365 | 0.547949 | 0.945768 |
| prrl51a | 67.99733791 | -0.0725624 | 0.2349442 | -0.30885 | 0.757436 | 0.975374 |
| gli2a | 629.0731196 | -0.059421952 | 0.0986595 | -0.602294 | 0.546979 | 0.945526 |
| or111-2 | 2.237462172 | 0.271244177 | 1.4380036 | 0.1886255 | 0.850386 | NA |
| adgrb2 | 99.96007379 | 0.07060038 | 0.2070554 | 0.3409733 | 0.733124 | 0.971947 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| fstl3 | 326.7676128 | 0.151868494 | 0.1363821 | 1.1135515 | 0.265472 | 0.831302 |
| grm6b | 340.9545411 | 0.059243422 | 0.1279135 | 0.4631522 | 0.643255 | 0.959994 |
| antxrla | 20.51853486 | -0.504117879 | 0.4214763 | -1.196077 | 0.231667 | 0.799752 |
| comtb | 268.203609 | 0.071526477 | 0.1392692 | 0.5135844 | 0.607543 | 0.956718 |
| tmem9b | 758.3187703 | -0.051267433 | 0.11098 | -0.461952 | 0.644116 | 0.960129 |
| mbdlb | 593.0985643 | -0.178821471 | 0.1010818 | -1.769077 | 0.076881 | 0.540051 |
| dmgdh | 767.4435767 | -0.004950569 | 0.1312603 | -0.037716 | 0.969914 | 0.996315 |
| cxxclb | 321.2538659 | 0.064039443 | 0.1325207 | 0.4832412 | 0.628925 | 0.957354 |
| grinlb | 3842.544718 | -0.012494557 | 0.0708677 | -0.176308 | 0.860052 | 0.985773 |
| ube2f | 515.2757862 | -0.067567375 | 0.1092154 | -0.618662 | 0.536139 | 0.943336 |
| tspan35 | 235.9570425 | 0.069169823 | 0.144837 | 0.47757 | 0.632956 | 0.957356 |
| zgc:66440 | 188.4968513 | 0.134284346 | 0.1618578 | 0.829644 | 0.40674 | 0.901305 |
| si:ch211-125e6.11 | 0 NA | NA | NA | NA | NA | NA |
| chp2 | 158.7998526 | 0.01614856 | 0.1663698 | 0.0970642 | 0.922675 | 0.99233 |
| chd4b | 3632.742716 | -0.072746556 | 0.0705043 | -1.031803 | 0.302164 | 0.857048 |
| abhd2a | 26.50537784 | -0.155188707 | 0.3732523 | -0.415774 | 0.677575 | 0.965257 |
| taf5l | 102.5127374 | -0.042319106 | 0.2005732 | -0.210991 | 0.832894 | 0.983557 |
| chek2 | 68.2985003 | -0.217621177 | 0.2669686 | -0.815157 | 0.414983 | 0.906237 |
| dmtf1 | 368.1243203 | -0.080272806 | 0.1284093 | -0.625132 | 0.531884 | 0.942359 |
| gnal2a | 494.8682093 | -0.097492153 | 0.1067518 | -0.91326 | 0.361106 | 0.885686 |
| sox12 | 1221.626274 | -0.102414208 | 0.0869424 | -1.177954 | 0.238815 | 0.807768 |
| rps2l | 8655.006871 | -0.176848229 | 0.1014163 | -1.743785 | 0.081197 | 0.551495 |
| ddx5l | 192.8176405 | -0.029505123 | 0.1539174 | -0.191695 | 0.847981 | 0.985174 |
| camk2n1a | 1808.472619 | 0.085930862 | 0.0816048 | 1.053012 | 0.292336 | 0.848099 |
| zgc:56525 | 1206.15571 | -0.042964836 | 0.0841217 | -0.510746 | 0.609529 | 0.956718 |
| lmf2b | 653.1639242 | -0.079923211 | 0.1112312 | -0.718532 | 0.472429 | 0.924838 |
| ankddl1b | 17.41631029 | -0.227227422 | 0.4718395 | -0.481578 | 0.630106 | 0.957354 |
| kctd2 | 57.90724293 | -0.104598859 | 0.2538891 | -0.411986 | 0.680349 | 0.965431 |
| usp14 | 1199.312195 | -0.013625432 | 0.0857529 | -0.158892 | 0.873754 | 0.987881 |
| shox | 426.3822051 | -0.077322569 | 0.1232232 | -0.6275 | 0.530332 | 0.942209 |
| pnx | 1.57818626 | 1.909813316 | 1.774008 | 1.0765528 | 0.28168 | NA |
| plekhg5a | 593.6295314 | 0.072368425 | 0.0986253 | 0.733771 | 0.463088 | 0.922698 |
| lgals911 | 74.99283039 | -0.082340432 | 0.2255269 | -0.365103 | 0.715035 | 0.96909 |
| tecrb | 2231.263664 | 0.01552602 | 0.0733593 | 0.2116436 | 0.832385 | 0.983557 |
| bssl2l | 158.6623596 | -0.172464621 | 0.1695671 | -1.017088 | 0.309112 | 0.861381 |
| si:dkey-190g11.3 | 10.53229137 | 0.003928453 | 0.5838309 | 0.0067288 | 0.994631 | NA |
| tiamlb | 165.9234291 | 0.119146959 | 0.1622033 | 0.7345531 | 0.462612 | 0.922698 |
| crygs3 | 2.775474421 | -0.182679766 | 1.1959654 | -0.152747 | 0.878598 | NA |
| mlhl | 119.9211034 | -0.352466506 | 0.1828023 | -1.92813 | 0.053839 | 0.454574 |
| irakl | 81.18694861 | -0.206173245 | 0.2209211 | -0.933244 | 0.350694 | 0.880195 |
| rhoq | 255.8586141 | 0.120564121 | 0.1460714 | 0.8253781 | 0.409157 | 0.901769 |
| mctsl | 592.8375852 | 0.053879118 | 0.1033632 | 0.5212603 | 0.602185 | 0.956045 |
| magi3b | 23.46970761 | 0.059793108 | 0.438462 | 0.1363701 | 0.891529 | 0.989291 |
| blmh | 1347.531327 | -0.112330595 | 0.1174576 | -0.956351 | 0.338895 | 0.87745 |
| l3mbt13 | 14.90890863 | 0.023916039 | 0.5038642 | 0.0474652 | 0.962142 | 0.995907 |
| xpnpep2 | 93.04934369 | 0.438406249 | 0.211226 | 2.0755314 | 0.037937 | 0.381357 |
| mospd2 | 277.2134678 | -0.06188859 | 0.1291023 | -0.479376 | 0.631671 | 0.957356 |
| ankrd44 | 57.71383784 | 0.092644869 | 0.2790584 | 0.331991 | 0.739896 | 0.972943 |
| ube2b | 483.7585122 | 0.051819635 | 0.1077711 | 0.4808307 | 0.630637 | 0.957354 |
| tscla | 741.8204003 | 0.184484208 | 0.0912192 | 2.0224274 | 0.043132 | 0.407581 |
| mxl | 4.880823235 | -0.212633457 | 0.900311 | -0.236178 | 0.813295 | NA |
| ccdc3a | 30.36096465 | -0.084844684 | 0.4046464 | -0.209676 | 0.83392 | 0.983583 |
| hltf | 246.3896547 | -0.148906492 | 0.1397457 | -1.065553 | 0.286626 | 0.845942 |
| trappc5 | 569.5214046 | -0.011109809 | 0.1040114 | -0.106813 | 0.914937 | 0.991119 |

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|-----------------|-------------|--------------|-----------|-----------|----------|----------|
| cd82b | 994.1395632 | 0.006197119 | 0.0909291 | 0.0681533 | 0.945664 | 0.993609 |
| pdcd5 | 647.3078348 | -0.053112218 | 0.1001532 | -0.53031 | 0.595897 | 0.954434 |
| lhcgr | 1.614149009 | -0.60141512 | 1.5131948 | -0.397447 | 0.691038 | NA |
| si:dkey-43k4.5 | 50.18280395 | -0.017786763 | 0.2923924 | -0.060832 | 0.951493 | 0.99381 |
| zgc:162324 | 19.09294205 | -0.314658627 | 0.475523 | -0.661711 | 0.508157 | 0.935735 |
| adprm | 64.74898501 | 0.134247443 | 0.2775572 | 0.483675 | 0.628617 | 0.957354 |
| si:dkey-13a21.4 | 16.11744768 | -0.295226924 | 0.4810881 | -0.613665 | 0.539437 | 0.943908 |
| slc48a1b | 303.24774 | -0.17932929 | 0.1332992 | -1.345314 | 0.178524 | 0.739486 |
| sfxn5b | 192.8102578 | 0.007993182 | 0.1483232 | 0.0538903 | 0.957023 | 0.994543 |
| slc46a1 | 90.40657725 | -0.036429173 | 0.2210206 | -0.164823 | 0.869084 | 0.987245 |
| coll1a1a | 23716.96052 | 0.169749053 | 0.0921882 | 1.841331 | 0.065573 | 0.500566 |
| emilin1b | 556.1977353 | 0.063592623 | 0.1051691 | 0.60467 | 0.545398 | 0.945526 |
| hps1 | 140.8593356 | -0.010330122 | 0.1724428 | -0.059905 | 0.952232 | 0.993904 |
| ube3d | 110.9103138 | -0.237092497 | 0.19723 | -1.202112 | 0.22932 | 0.796938 |
| prpf8 | 4716.225242 | -0.011229082 | 0.0727272 | -0.1544 | 0.877294 | 0.987881 |
| polr2eb | 724.4695826 | -0.056922736 | 0.1076182 | -0.528932 | 0.596853 | 0.954913 |
| yju2 | 466.8815198 | 0.03243107 | 0.119642 | 0.2710675 | 0.786339 | 0.976476 |
| enoph1 | 630.5592062 | -0.079649193 | 0.0964534 | -0.825779 | 0.40893 | 0.90171 |
| fanci | 170.1241877 | -0.157673108 | 0.1583707 | -0.995595 | 0.319447 | 0.867905 |
| nsd2 | 784.5843298 | -0.159261934 | 0.1061751 | -1.499993 | 0.133616 | 0.66814 |
| prnpa | 216.8021463 | 0.746544889 | 0.1556076 | 4.7976127 | 1.61E-06 | 0.000148 |
| zgc:56585 | 94.71242766 | 0.354591696 | 0.2082773 | 1.7024984 | 0.088662 | 0.569591 |
| CR847944.1 | | 0 NA | NA | NA | NA | NA |
| insyn1 | 371.7950695 | 0.01130452 | 0.1399026 | 0.0808028 | 0.935599 | 0.992702 |
| slc1a7b | 72.62663202 | -0.234174263 | 0.2334199 | -1.003232 | 0.315749 | 0.866931 |
| lyrml | 54.36103435 | -0.091289864 | 0.2598941 | -0.351258 | 0.725395 | 0.970402 |
| erbb2 | 45.16739295 | 0.227055473 | 0.2948977 | 0.7699466 | 0.441332 | 0.916336 |
| zgc:112994 | 28.89246203 | -0.193690733 | 0.3569762 | -0.542587 | 0.587414 | 0.953319 |
| adgre5a | | 0 NA | NA | NA | NA | NA |
| dhrs13a.1 | 312.0917494 | 0.166315266 | 0.1264917 | 1.3148312 | 0.188567 | 0.753276 |
| mmp11a | 76.64810325 | 0.377608897 | 0.237691 | 1.5886548 | 0.112138 | 0.627454 |
| arhgap29a | 334.6348113 | -0.004796796 | 0.1276579 | -0.037575 | 0.970026 | 0.996315 |
| xkr7 | 105.7656976 | 0.110766946 | 0.2005383 | 0.5523481 | 0.58071 | 0.951731 |
| susd4 | 227.4256647 | 0.015116394 | 0.1376753 | 0.1097974 | 0.91257 | 0.991119 |
| styxl1 | 1.965054466 | 1.588801095 | 1.4409003 | 1.1026447 | 0.270181 | NA |
| csad | 188.8020165 | 0.262853458 | 0.1541945 | 1.7046876 | 0.088253 | 0.568811 |
| wasb | 20.17321665 | -0.381140948 | 0.4621142 | -0.824777 | 0.409498 | 0.902019 |
| pbl2 | 140.5991339 | 0.44215612 | 0.1694265 | 2.6097223 | 0.009062 | 0.159222 |
| dbi | 2186.340459 | -0.207800183 | 0.0703431 | -2.954094 | 0.003136 | 0.073769 |
| acol | 51.696548 | 0.117351744 | 0.2715192 | 0.4322043 | 0.665593 | 0.964736 |
| si:dkey-27j5.5 | 33.53595485 | 0.295941317 | 0.3316885 | 0.8922267 | 0.372271 | 0.892711 |
| pip4plb | 57.96291531 | 0.228736927 | 0.2628612 | 0.8701813 | 0.384201 | 0.895192 |
| rfx4 | 226.3241991 | 0.159639462 | 0.1610856 | 0.9910224 | 0.321675 | 0.869375 |
| rad51d | 45.26001922 | -0.025256563 | 0.2898565 | -0.087135 | 0.930564 | 0.992702 |
| heph1b | 10.4597713 | 0.017930438 | 0.6429472 | 0.0278879 | 0.977752 | NA |
| anxa5a | 107.3757749 | 0.172809549 | 0.2040391 | 0.8469431 | 0.397027 | 0.899672 |
| ccr12b.2 | 0.639947932 | -1.440068751 | 2.4365394 | -0.59103 | 0.5545 | NA |
| apob | 338.5387495 | 0.097185171 | 0.1378277 | 0.705121 | 0.480735 | 0.927601 |
| med29 | 223.0059941 | 0.01069106 | 0.1399325 | 0.0764016 | 0.9391 | 0.992857 |
| zgc:66474 | 312.220772 | -0.003022046 | 0.1301606 | -0.023218 | 0.981477 | 0.996944 |
| mis12 | 119.4446144 | 0.06293661 | 0.2135474 | 0.2947196 | 0.768208 | 0.975687 |
| six1b | 362.0665167 | 0.173122211 | 0.1156883 | 1.4964536 | 0.134535 | 0.670689 |
| tiall | 2715.040082 | 0.089827614 | 0.0757388 | 1.1860184 | 0.235615 | 0.804824 |
| arhgap12b | 980.9432783 | 0.076588856 | 0.0870361 | 0.8799664 | 0.378877 | 0.895192 |

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|------------------|-------------|--------------|-----------|-----------|----------|----------|
| rab15 | 401.8611451 | 0.226272566 | 0.1147027 | 1.9726871 | 0.048531 | 0.433449 |
| khsrp | 1846.375086 | -0.193548947 | 0.0965387 | -2.004886 | 0.044975 | 0.417005 |
| ppmle | 91.5398169 | 0.287416489 | 0.2143323 | 1.3409855 | 0.179925 | 0.741062 |
| xkr9 | 18.42927739 | 0.02340009 | 0.4397484 | 0.0532124 | 0.957563 | 0.99467 |
| si:ch211-285c6.3 | 1.121918354 | -0.422914697 | 1.8509454 | -0.228486 | 0.819269 | NA |
| hoxb6b | 217.0891432 | -0.154831008 | 0.156975 | -0.986342 | 0.323965 | 0.870928 |
| ralgps2 | 683.2367387 | 0.106655845 | 0.0963795 | 1.1066233 | 0.268457 | 0.833634 |
| alcama | 1351.844647 | -0.021984781 | 0.0797362 | -0.275719 | 0.782764 | 0.97627 |
| ppp4r2a | 644.6855571 | 0.016732696 | 0.0978253 | 0.1710467 | 0.864187 | 0.98601 |
| cyp2u1 | 27.30774682 | 0.345472307 | 0.3790413 | 0.9114371 | 0.362065 | 0.885944 |
| pimr196 | 0.323844819 | -1.825095364 | 3.274639 | -0.557342 | 0.577293 | NA |
| cdk2 | 313.9804355 | -0.047491624 | 0.1240646 | -0.382798 | 0.70187 | 0.968134 |
| iscub | 94.34978156 | 0.037379412 | 0.2082733 | 0.1794729 | 0.857566 | 0.985703 |
| pafah1b1b | 3194.815625 | 0.10076359 | 0.0708103 | 1.4230067 | 0.154734 | 0.704573 |
| en2a | 315.9155309 | -0.135330248 | 0.1376698 | -0.983006 | 0.325604 | 0.871896 |
| socs3b | 795.4313337 | -0.196293529 | 0.2844399 | -0.690105 | 0.490128 | 0.931926 |
| zgc:113425 | 9.345930974 | 0.133771826 | 0.6345412 | 0.2108166 | 0.83303 | NA |
| gmds | 1228.432478 | -0.792051509 | 0.0802122 | -9.874453 | 5.37E-23 | 8.17E-20 |
| mark3b | 1125.980453 | 0.015260144 | 0.0852242 | 0.1790588 | 0.857892 | 0.985703 |
| ehmt1b | 1527.117127 | 0.030798619 | 0.079695 | 0.386456 | 0.699159 | 0.967998 |
| asb1 | 14.83915064 | 0.30445121 | 0.4924116 | 0.618286 | 0.536387 | 0.943336 |
| gosr1 | 303.6102487 | -0.084346119 | 0.1266287 | -0.66609 | 0.505354 | 0.935724 |
| tspo | 611.7856483 | -0.225559441 | 0.1150673 | -1.960239 | 0.049968 | 0.437835 |
| t1r19 | 0.666939546 | 1.487980453 | 2.2924711 | 0.6490727 | 0.516291 | NA |
| ur1l | 874.5753348 | -0.176592714 | 0.0861026 | -2.050956 | 0.040271 | 0.392394 |
| slc25a14 | 876.9600272 | 0.208946566 | 0.0873136 | 2.3930579 | 0.016709 | 0.238173 |
| zgc:101583 | 128.7293715 | 0.245567278 | 0.1978961 | 1.2408902 | 0.214646 | 0.782493 |
| gtf2h1 | 255.8496903 | 0.118462848 | 0.1363349 | 0.8689104 | 0.384896 | 0.89551 |
| ftr72 | 1.97020862 | -0.487641474 | 1.3234626 | -0.368459 | 0.712531 | NA |
| rab5c | 2485.939782 | 0.045723452 | 0.0818851 | 0.5583854 | 0.576581 | 0.950611 |
| syncr1pl | 785.3361034 | 0.214395287 | 0.0899937 | 2.3823361 | 0.017203 | 0.242176 |
| anxala | 1228.815289 | 0.028121304 | 0.0979469 | 0.2871078 | 0.77403 | 0.975687 |
| ill1ra | 36.36828821 | -0.351966059 | 0.3259064 | -1.07996 | 0.28016 | 0.843423 |
| grik4 | 231.0323454 | 0.150385674 | 0.1439948 | 1.0443824 | 0.296309 | 0.853286 |
| ldlrb | 546.4512971 | -0.016226057 | 0.1092464 | -0.148527 | 0.881927 | 0.988344 |
| fam126a | 455.7877454 | -0.136940065 | 0.1147558 | -1.193317 | 0.232745 | 0.801236 |
| ahsg1 | 12.73445141 | -0.089931799 | 0.5954764 | -0.151025 | 0.879956 | 0.987881 |
| bc12110 | 877.4877327 | 0.019988451 | 0.0892904 | 0.2238589 | 0.822867 | 0.982189 |
| no111 | 649.8690263 | -0.069470977 | 0.0992606 | -0.699885 | 0.483999 | 0.929461 |
| tmem41ab | 110.2969978 | 0.607098872 | 0.1952616 | 3.1091563 | 0.001876 | 0.050962 |
| robo1 | 1616.175719 | -0.067064338 | 0.0914395 | -0.733429 | 0.463297 | 0.922698 |
| aqp7 | 68.45185649 | -0.280533089 | 0.2501076 | -1.12165 | 0.262011 | 0.830166 |
| grmla | 575.4409548 | -0.198622955 | 0.1031127 | -1.926271 | 0.054071 | 0.455557 |
| suv39h1a | 4.618752265 | -0.100389309 | 0.9766782 | -0.102786 | 0.918132 | NA |
| stau2 | 5162.421152 | 0.035344005 | 0.0699458 | 0.5053057 | 0.613344 | 0.95688 |
| taf8 | 189.2645777 | -0.184877291 | 0.1497537 | -1.234543 | 0.217001 | 0.784302 |
| ext13 | 237.3575638 | 0.177680928 | 0.1381103 | 1.286515 | 0.198263 | 0.76333 |
| gucy2d | 1516.850588 | 0.261806335 | 0.09121 | 2.8703696 | 0.0041 | 0.0887 |
| cot11 | 5002.678398 | -0.12538572 | 0.0758712 | -1.652614 | 0.098409 | 0.597834 |
| cdr21 | 700.3000627 | -0.08402196 | 0.0943299 | -0.890725 | 0.373077 | 0.893126 |
| slc25a32b | 175.9756148 | 0.056942856 | 0.1579281 | 0.3605618 | 0.718427 | 0.96909 |
| med21 | 192.339163 | 0.035078517 | 0.1674692 | 0.2094625 | 0.834087 | 0.983673 |
| arhgap23b | 76.04940676 | 0.286818932 | 0.2352388 | 1.2192669 | 0.222743 | 0.789115 |
| acin1b | 2768.470367 | 0.05737202 | 0.076567 | 0.7493045 | 0.453674 | 0.920041 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| rhoaa | 3596.490486 | 0.00909255 | 0.0731602 | 0.1242827 | 0.901091 | 0.990121 |
| cacna2d4a | 50.34106134 | -0.060855054 | 0.2973115 | -0.204685 | 0.837819 | 0.984701 |
| aktip | 1041.159877 | 0.060960234 | 0.0973363 | 0.6262849 | 0.531128 | 0.942209 |
| si:ch211-226m16.3 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| fam107b | 1174.271931 | -0.078873548 | 0.0844369 | -0.934112 | 0.350246 | 0.880195 |
| uchl1 | 595.3750733 | -0.001193664 | 0.1035655 | -0.011526 | 0.990804 | 0.997679 |
| fam57ba | 525.5250304 | 0.161144351 | 0.1059637 | 1.5207505 | 0.128322 | 0.658954 |
| palmla | 439.8956433 | 0.102048364 | 0.115475 | 0.8837268 | 0.376844 | 0.895192 |
| gpatch11 | 262.6816436 | -0.23678971 | 0.138541 | -1.709167 | 0.08742 | 0.566637 |
| tor113 | 3.85538121 | -1.847265497 | 1.0767748 | -1.715554 | 0.086244 | NA |
| cryz11 | 207.690116 | 0.0880503 | 0.1654115 | 0.5323105 | 0.594511 | 0.954434 |
| cb1n13 | 7.875624602 | -0.259406474 | 0.7119429 | -0.364364 | 0.715586 | NA |
| slc48a1a | 48.51307711 | -0.320827322 | 0.2757475 | -1.163482 | 0.244634 | 0.814376 |
| tmed2 | 2211.921875 | -0.022730173 | 0.0710978 | -0.319703 | 0.749194 | 0.97419 |
| nos2a | 1.161995204 | -0.406585265 | 1.814365 | -0.224092 | 0.822685 | NA |
| rom1b | 610.4172864 | 0.181067502 | 0.1094917 | 1.6537094 | 0.098187 | 0.59749 |
| fbxl4 | 203.1101633 | 0.050368265 | 0.1471685 | 0.3422489 | 0.732164 | 0.971665 |
| ap2s1 | 2448.860453 | 0.060834674 | 0.0772718 | 0.787282 | 0.431117 | 0.91234 |
| si:ch211-119o8.6 | 2.262897238 | -0.437223843 | 1.3142383 | -0.332682 | 0.739374 | NA |
| krt1-c5 | 265.0583585 | 0.100485392 | 0.1402258 | 0.7165968 | 0.473623 | 0.924993 |
| lims1 | 1093.451553 | -0.025689544 | 0.0950483 | -0.270279 | 0.786946 | 0.976596 |
| rexo1 | 242.234755 | -0.186008708 | 0.1354085 | -1.373686 | 0.169539 | 0.726744 |
| tbc1d22b | 5.486143505 | -0.818290548 | 0.8318949 | -0.983646 | 0.325289 | NA |
| klhl6 | 9.863743544 | 0.172433752 | 0.6204363 | 0.2779234 | 0.781071 | NA |
| zgc:85777 | 720.2821075 | -0.152543276 | 0.0950479 | -1.604909 | 0.108514 | 0.62063 |
| gbf1 | 1056.93761 | 0.109544792 | 0.0853327 | 1.2837374 | 0.199234 | 0.764601 |
| ppp2r5a | 24.73225736 | -0.228693608 | 0.4014344 | -0.569691 | 0.568887 | 0.948983 |
| pcdh17 | 2167.129254 | 0.099114965 | 0.0772813 | 1.2825227 | 0.199659 | 0.76498 |
| scyl3 | 452.9025899 | 0.076866033 | 0.1067776 | 0.7198705 | 0.471605 | 0.924838 |
| arpc1b | 633.7298151 | 0.193162472 | 0.1019753 | 1.8942091 | 0.058197 | 0.472993 |
| slc38a3a | 1479.164939 | 0.222422285 | 0.0797653 | 2.7884608 | 0.005296 | 0.107627 |
| acbd4 | 72.70198577 | -0.07334827 | 0.2533044 | -0.289566 | 0.772149 | 0.975687 |
| cnppd1 | 1183.83294 | -0.039135675 | 0.0865969 | -0.451929 | 0.65132 | 0.960708 |
| znf804a | 181.2031439 | -0.04505744 | 0.1579513 | -0.285262 | 0.775444 | 0.975687 |
| hmbox1a | 35.95509905 | 0.075065812 | 0.3169055 | 0.2368713 | 0.812757 | 0.981081 |
| tgfb2 | 72.22653857 | -0.189461194 | 0.2314771 | -0.818488 | 0.413079 | 0.905281 |
| ptgdsb.1 | 3829.331794 | 0.614128505 | 0.0899635 | 6.8264219 | 8.71E-12 | 2.53E-09 |
| psmc4 | 2807.232217 | -0.014171684 | 0.0828819 | -0.170986 | 0.864234 | 0.98601 |
| zfr | 4343.796781 | 0.040685657 | 0.0678701 | 0.5994633 | 0.548864 | 0.946312 |
| ephb4b | 394.4292671 | -0.022335818 | 0.1222376 | -0.182725 | 0.855014 | 0.985174 |
| tmem218 | 35.94876151 | -0.401883661 | 0.3439884 | -1.168306 | 0.242683 | 0.811434 |
| tmem169a | 93.44051437 | -0.347931799 | 0.2064861 | -1.685013 | 0.091986 | 0.57849 |
| nup160 | 961.167711 | -0.264665326 | 0.0999393 | -2.64826 | 0.008091 | 0.1451 |
| ube213b | 1864.893065 | 0.048355501 | 0.0811312 | 0.5960164 | 0.551164 | 0.946571 |
| aptx | 140.0603899 | 0.020043936 | 0.1774675 | 0.1129443 | 0.910075 | 0.990702 |
| gabrr3a | 44.90630201 | 0.190442398 | 0.3129389 | 0.6085609 | 0.542816 | 0.944974 |
| tpd5212a | 872.9312455 | 0.071368871 | 0.0863303 | 0.8266954 | 0.40841 | 0.90171 |
| fbxo28 | 155.6474657 | 0.046264543 | 0.1697805 | 0.2724962 | 0.78524 | 0.97627 |
| igl3v2 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| kpna7 | 4.676865706 | 1.089650127 | 0.8837111 | 1.2330389 | 0.217561 | NA |
| phactr2 | 196.0575074 | 0.158450197 | 0.1519403 | 1.0428449 | 0.29702 | 0.853798 |
| rnf25 | 548.4109467 | -0.251384934 | 0.1048029 | -2.398646 | 0.016456 | 0.236409 |
| namptb | 255.5291102 | -0.178840403 | 0.138475 | -1.291499 | 0.196531 | 0.761835 |
| kat8 | 552.5045441 | -0.024371464 | 0.1019703 | -0.239006 | 0.811101 | 0.981081 |

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| hcn3 | 27.27279517 | 0.651610811 | 0.3769648 | 1.7285721 | 0.083886 | 0.557501 |
| si:dkey-1612.17 | 84.14026322 | -0.04800472 | 0.2170366 | -0.221183 | 0.82495 | 0.982196 |
| smad1 | 949.9863917 | -0.169305263 | 0.0863663 | -1.960316 | 0.049959 | 0.437835 |
| gabarapl2 | 817.5153195 | -0.108102759 | 0.0915791 | -1.18043 | 0.237829 | 0.806522 |
| adgrgl | 289.2443032 | -0.219584917 | 0.1341751 | -1.636555 | 0.101723 | 0.605868 |
| ift88 | 290.4997398 | 0.059780593 | 0.1287116 | 0.4644537 | 0.642323 | 0.959994 |
| rsla | 3632.410563 | 0.127470446 | 0.0869726 | 1.4656385 | 0.142747 | 0.684998 |
| btgl | 5487.796106 | -0.171176218 | 0.0644203 | -2.657178 | 0.00788 | 0.142427 |
| numb | 483.4515477 | 0.111445196 | 0.1061708 | 1.049678 | 0.293866 | 0.849999 |
| kcnflb | 63.01286987 | -0.105230561 | 0.2713149 | -0.387854 | 0.698124 | 0.967998 |
| nrplb | 101.603955 | 0.252381287 | 0.1987567 | 1.2698 | 0.204156 | 0.771764 |
| lspl | 802.362024 | -0.063503702 | 0.1074165 | -0.591191 | 0.554392 | 0.947449 |
| tcp1112 | 1167.961813 | -0.070181834 | 0.0863815 | -0.812464 | 0.416526 | 0.906237 |
| lin7c | 1610.056615 | 0.11059677 | 0.0846808 | 1.3060433 | 0.191538 | 0.755886 |
| mpz12b | 401.7106392 | -0.101784528 | 0.1160232 | -0.877277 | 0.380336 | 0.895192 |
| zmy2 | 1316.917346 | -0.093239446 | 0.0810381 | -1.150563 | 0.249912 | 0.819849 |
| slc25a4 | 7169.700744 | 0.361607054 | 0.0835647 | 4.3272683 | 1.51E-05 | 0.001002 |
| cd2bp2 | 419.6053094 | -0.106877212 | 0.1292478 | -0.826917 | 0.408284 | 0.90171 |
| si:ch211-106h11.3 | 92.02360107 | 0.065767986 | 0.2158695 | 0.3046654 | 0.760621 | 0.975374 |
| ccdc171 | 92.7824909 | 0.197542017 | 0.2161971 | 0.9137128 | 0.360868 | 0.885686 |
| ccnd3 | 2.941894425 | 0.989209447 | 1.1194072 | 0.8836904 | 0.376863 | NA |
| si:ch211-150g13.3 | 174.303894 | 0.039239118 | 0.1531949 | 0.2561386 | 0.797844 | 0.978695 |
| vangl2 | 1340.450064 | -0.008595628 | 0.0860187 | -0.099927 | 0.920402 | 0.992049 |
| zgp2 | 333.5221752 | 0.108747808 | 0.1197463 | 0.9081517 | 0.363798 | 0.886174 |
| trappc4 | 505.494247 | 0.012139434 | 0.1108663 | 0.1094962 | 0.912809 | 0.991119 |
| gad1b | 3796.09525 | 0.217193101 | 0.0737326 | 2.9456879 | 0.003222 | 0.07565 |
| igflra | 70.99555177 | 0.21801433 | 0.2351483 | 0.9271355 | 0.353856 | 0.881976 |
| slc25a3a | 1109.689426 | 0.30937864 | 0.1037462 | 2.9820732 | 0.002863 | 0.06955 |
| rpp30 | 84.03765071 | 0.084244402 | 0.2156159 | 0.3907151 | 0.696008 | 0.96736 |
| mettl26 | 207.6264136 | -0.071250283 | 0.1477561 | -0.482216 | 0.629653 | 0.957354 |
| rmnd1 | 200.3597808 | 0.07150721 | 0.1488475 | 0.4804058 | 0.630939 | 0.957354 |
| hsd17b1 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| gphb5 | 6.41666387 | -0.837675077 | 0.7629314 | -1.097969 | 0.272218 | NA |
| uros | 383.9988803 | -0.083648365 | 0.1275486 | -0.655816 | 0.511943 | 0.936253 |
| elov14b | 1446.538219 | 0.170691783 | 0.1145706 | 1.4898391 | 0.136267 | 0.673089 |
| mastla | 49.56260527 | -0.612879722 | 0.2878991 | -2.128801 | 0.033271 | 0.355427 |
| oxsrlb | 417.7313092 | 0.042156348 | 0.1136574 | 0.3709072 | 0.710707 | 0.968985 |
| usp20 | 481.7070384 | 0.088838553 | 0.1080646 | 0.8220878 | 0.411027 | 0.903291 |
| trpc7a | 10.44642062 | 0.346090168 | 0.6088096 | 0.5684703 | 0.569716 | NA |
| hmx1a | 200.0015083 | 0.17105517 | 0.4732525 | 0.3614459 | 0.717766 | 0.96909 |
| noxred1 | 4.344220591 | 1.188606194 | 0.9282832 | 1.2804348 | 0.200392 | NA |
| TPGS1 | 116.6589367 | -0.457407853 | 0.1897109 | -2.411078 | 0.015905 | 0.232457 |
| mapk1 | 145.0693731 | 0.225632565 | 0.1693848 | 1.3320707 | 0.182837 | 0.745944 |
| pak6a | 9.103067784 | 0.122908312 | 0.6440096 | 0.1908486 | 0.848644 | NA |
| as3mt | 139.6591318 | -0.19381563 | 0.1733239 | -1.118228 | 0.26347 | 0.830245 |
| angpt17 | 501.1005856 | 0.352315081 | 0.117316 | 3.0031295 | 0.002672 | 0.066215 |
| ttpa | 161.7965821 | -0.191471481 | 0.1601147 | -1.195839 | 0.231759 | 0.799932 |
| top3b | 321.9034961 | -0.147560155 | 0.127465 | -1.157652 | 0.247006 | 0.816669 |
| htr7b | 3.769007976 | 0.661154778 | 0.9918423 | 0.6665926 | 0.505032 | NA |
| fzd7b | 803.3543019 | -0.060819114 | 0.0925918 | -0.656852 | 0.511276 | 0.936253 |
| 2-Sep | 1603.065428 | 0.135496004 | 0.0855595 | 1.5836464 | 0.113274 | 0.631061 |
| selenot1b | 480.1118328 | -0.196810989 | 0.1097524 | -1.793227 | 0.072937 | 0.526902 |
| fam221a | 11.16497974 | 0.395857481 | 0.6028865 | 0.6566037 | 0.511436 | 0.936253 |
| pdlim5b | 418.3687208 | -0.149752565 | 0.1250176 | -1.197852 | 0.230975 | 0.799177 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| lrfnl | 41.58739526 | 0.022315013 | 0.2995983 | 0.0744831 | 0.940626 | 0.992857 |
| hpn | 51.87295781 | -0.107459753 | 0.2942094 | -0.365249 | 0.714925 | 0.96909 |
| cavin2a | 977.1146086 | -0.026386641 | 0.0880665 | -0.299622 | 0.764466 | 0.975374 |
| gatad1 | 283.7915243 | 0.172599734 | 0.1291284 | 1.3366525 | 0.181336 | 0.742543 |
| grip2b | 12.29678042 | 0.055350815 | 0.5620326 | 0.0984833 | 0.921549 | 0.992138 |
| bco2l | 32.4157934 | -0.134193118 | 0.3480881 | -0.385515 | 0.699856 | 0.967998 |
| adralab | 55.4520092 | -0.320848229 | 0.271758 | -1.180639 | 0.237746 | 0.806474 |
| zgc:165539 | 2.158525443 | -0.615437506 | 1.3478612 | -0.456603 | 0.647956 | NA |
| cpsf3 | 1102.45833 | -0.067924333 | 0.0826418 | -0.821912 | 0.411127 | 0.903291 |
| crhb | 76.92551945 | -0.085227766 | 0.2217032 | -0.384423 | 0.700665 | 0.967998 |
| irf10 | 7.487835011 | -0.254442795 | 0.726632 | -0.350167 | 0.726213 | NA |
| si:ch211-13315.8 | 27.74674781 | -0.235271401 | 0.3727895 | -0.631111 | 0.527968 | 0.941647 |
| tmem230a | 68.49507497 | 0.086631859 | 0.2402174 | 0.3606395 | 0.718369 | 0.96909 |
| poldl | 767.1104869 | -0.051024942 | 0.0981332 | -0.519956 | 0.603094 | 0.956045 |
| zgc:103510 | 5.929972633 | 0.828624947 | 0.8334086 | 0.9942602 | 0.320096 | NA |
| btbd16 | 2.984019679 | 0.040462297 | 1.1147069 | 0.0362986 | 0.971044 | NA |
| dgkb | 15.68216541 | 0.257970987 | 0.4964672 | 0.5196133 | 0.603333 | 0.956045 |
| srsf5b | 4883.144568 | -0.072338068 | 0.0642299 | -1.126237 | 0.260065 | 0.828288 |
| si:ch211-13c6.2 | 915.1383675 | 0.031026913 | 0.0911128 | 0.3405329 | 0.733455 | 0.971993 |
| adcyp1b | 1562.021112 | 0.096177489 | 0.0823158 | 1.1683968 | 0.242647 | 0.811434 |
| gadd45ba | 741.4038669 | -0.068665002 | 0.1263244 | -0.543561 | 0.586744 | 0.953319 |
| hirip3 | 329.64455 | -0.153985801 | 0.1216632 | -1.265673 | 0.20563 | 0.77367 |
| dpp7 | 432.7442853 | 0.118148288 | 0.1341309 | 0.880843 | 0.378403 | 0.895192 |
| tnfaip3 | 19.57656429 | -0.41324449 | 0.4362287 | -0.947312 | 0.34348 | 0.878434 |
| adcyp6b | 155.5190887 | 0.030366347 | 0.162926 | 0.1863813 | 0.852146 | 0.985174 |
| ucmaa | 39.7989858 | 0.414108088 | 0.3154801 | 1.3126282 | 0.189308 | 0.753954 |
| sbds | 302.6838588 | -0.042106145 | 0.1219423 | -0.345296 | 0.729872 | 0.971143 |
| frk | 160.4308962 | 0.077035344 | 0.1634176 | 0.4714019 | 0.637354 | 0.958872 |
| nus1 | 782.160283 | 0.006035858 | 0.1007706 | 0.059897 | 0.952238 | 0.993904 |
| tmtops2b | 17.32814056 | 0.08845322 | 0.4707741 | 0.1878889 | 0.850964 | 0.985174 |
| top1mt | 408.0975146 | 0.085907997 | 0.1116793 | 0.7692384 | 0.441752 | 0.916336 |
| naa50 | 1432.720245 | -0.026491352 | 0.0921659 | -0.287431 | 0.773782 | 0.975687 |
| pudp | 80.83902266 | -0.274558661 | 0.2212335 | -1.241035 | 0.214593 | 0.782493 |
| grinla | 3625.850916 | 0.162797504 | 0.0699938 | 2.3258853 | 0.020025 | 0.266383 |
| ccdc191 | 30.42855682 | -0.28401931 | 0.38211 | -0.743292 | 0.457305 | 0.921679 |
| paplna | 349.9069806 | 0.28239483 | 0.1238226 | 2.2806397 | 0.02257 | 0.286638 |
| zfyve21 | 381.8791422 | -0.059594902 | 0.1241686 | -0.479951 | 0.631262 | 0.957356 |
| sem1 | 1864.595975 | -0.083150979 | 0.0901321 | -0.922546 | 0.356244 | 0.883307 |
| adamts13 | 12.87308652 | 0.682787293 | 0.5792836 | 1.1786754 | 0.238527 | 0.807659 |
| si:ch211-216p19.6 | 10.83317595 | 0.026148754 | 0.6340309 | 0.0412421 | 0.967103 | NA |
| zc2hc1a | 619.3730579 | 0.055559873 | 0.1051717 | 0.5282779 | 0.597307 | 0.955244 |
| fntb | 575.6134482 | -0.059789488 | 0.1092199 | -0.547423 | 0.584088 | 0.952214 |
| naprt | 381.6070187 | -0.16244779 | 0.1160119 | -1.400268 | 0.161433 | 0.715364 |
| glis1b | 31.09510505 | -0.321412483 | 0.3408459 | -0.942985 | 0.345689 | 0.87848 |
| rad18 | 179.4515918 | -0.048952241 | 0.1529576 | -0.320038 | 0.74894 | 0.97419 |
| kcnfla | 45.65244925 | -0.831038701 | 0.2940422 | -2.826257 | 0.00471 | 0.09895 |
| fgf12a | 444.5172773 | 0.097870214 | 0.1083883 | 0.9029593 | 0.366548 | 0.88734 |
| camkva | 173.0093495 | -0.024133068 | 0.1590257 | -0.151756 | 0.87938 | 0.987881 |
| apls3b | 165.6154008 | -0.062458113 | 0.1636598 | -0.381634 | 0.702733 | 0.968134 |
| yylb | 721.3062423 | -0.155343436 | 0.0947357 | -1.639756 | 0.101056 | 0.604075 |
| gstz1 | 236.7765852 | 0.157964328 | 0.1665908 | 0.9482178 | 0.343019 | 0.878434 |
| slc35d1b | 186.5297522 | -0.544226417 | 0.1567875 | -3.471109 | 0.000518 | 0.018364 |
| hao2 | 335.1694066 | -0.045739205 | 0.1279274 | -0.35754 | 0.720687 | 0.969381 |
| pfkpa | 3186.8235 | 0.04576353 | 0.069544 | 0.6580515 | 0.510505 | 0.936253 |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| tpmt.2 | 4.743827517 | 0.948095335 | 0.9263831 | 1.0234376 | 0.306101 | NA |
| tp53inp1 | 392.5497221 | 0.242403669 | 0.1111603 | 2.1806682 | 0.029208 | 0.331124 |
| trim63a | 551.9514488 | 0.026741378 | 0.1366699 | 0.195664 | 0.844873 | 0.985174 |
| rdh8a | 665.8396106 | 0.054244496 | 0.0954 | 0.5686006 | 0.569627 | 0.948983 |
| bmplb | 109.4176691 | 0.401130348 | 0.2008003 | 1.9976577 | 0.045754 | 0.419441 |
| traf6 | 265.8001418 | 0.071073227 | 0.1359667 | 0.5227251 | 0.601166 | 0.956045 |
| diras1a | 1871.879524 | 0.055945247 | 0.085266 | 0.6561258 | 0.511743 | 0.936253 |
| bnip3lb | 1251.035829 | -0.151906257 | 0.0931379 | -1.630983 | 0.102894 | 0.609169 |
| bmpla | 961.259483 | 0.092033125 | 0.0971154 | 0.9476675 | 0.343299 | 0.878434 |
| mapkapk5 | 247.5686339 | -0.041065895 | 0.1328917 | -0.309018 | 0.757308 | 0.975374 |
| zbtb2b | 606.7386234 | 0.0209601 | 0.1006678 | 0.2082106 | 0.835065 | 0.984089 |
| aldh2.2 | 1547.991252 | -0.189100412 | 0.0825735 | -2.290085 | 0.022016 | 0.281963 |
| galk1 | 67.97290343 | -0.03822238 | 0.2492594 | -0.153344 | 0.878127 | 0.987881 |
| cldn23a | 466.4501947 | 0.318534221 | 0.1118026 | 2.8490761 | 0.004385 | 0.093935 |
| fut9d | 1416.627993 | 0.391193541 | 0.0964684 | 4.0551453 | 5.01E-05 | 0.002737 |
| sh2d3ca | 113.1052446 | -0.041963021 | 0.1902071 | -0.220617 | 0.82539 | 0.982196 |
| glrx | 239.2599189 | -0.065469984 | 0.1367013 | -0.478927 | 0.63199 | 0.957356 |
| dscamb | 1256.411788 | -0.010970328 | 0.100088 | -0.109607 | 0.912721 | 0.991119 |
| sumo3a | 4451.142864 | -0.041107366 | 0.0894243 | -0.459689 | 0.645739 | 0.96029 |
| hccsa.1 | 226.7639373 | -0.057496906 | 0.1486533 | -0.386785 | 0.698915 | 0.967998 |
| pax2a | 773.8402629 | -0.015870289 | 0.0930253 | -0.170602 | 0.864537 | 0.98601 |
| tead1a | 39.21060242 | -0.170226714 | 0.3112962 | -0.546832 | 0.584494 | 0.952406 |
| prg4b | 52.45249064 | 0.447795943 | 0.3063439 | 1.4617428 | 0.143812 | 0.687224 |
| cst14a.1 | 11.55475337 | 0.265415043 | 0.59623 | 0.4451555 | 0.656207 | 0.961833 |
| slc4a2a | 352.4272401 | -0.137464226 | 0.1201831 | -1.14379 | 0.252711 | 0.822335 |
| cradd | 27.08011148 | 0.507804648 | 0.3861179 | 1.3151544 | 0.188458 | 0.753276 |
| ube2v2 | 2557.076265 | -0.03478833 | 0.0825446 | -0.421449 | 0.673427 | 0.965257 |
| commd8 | 249.913681 | -0.023184365 | 0.1392116 | -0.16654 | 0.867732 | 0.987245 |
| ttn.2 | 12557.01062 | 0.288328816 | 0.0808565 | 3.5659329 | 0.000363 | 0.013708 |
| itgb8 | 39.38620665 | -0.009983859 | 0.3095133 | -0.032257 | 0.974267 | 0.99644 |
| zbtb18 | 1304.703765 | -0.005937545 | 0.0956807 | -0.062056 | 0.950518 | 0.99381 |
| cyb561a3b | 6.168052516 | 1.071921123 | 0.7713767 | 1.3896207 | 0.164644 | NA |
| aldh3a2a | 289.8198855 | -0.288394703 | 0.1280472 | -2.252252 | 0.024306 | 0.301184 |
| sult1st1 | 895.9050311 | -0.343625762 | 0.098069 | -3.50392 | 0.000458 | 0.016695 |
| si:ch211-196h16.12 | 21.554232 | -0.823469752 | 0.4788045 | -1.719846 | 0.085461 | 0.561427 |
| mkrn4 | 200.5665588 | -0.323256635 | 0.149514 | -2.162049 | 0.030614 | 0.338573 |
| prph | 626.2100126 | 0.129635954 | 0.0999343 | 1.2972112 | 0.194559 | 0.758506 |
| synj2bp | 253.3643242 | 0.211961622 | 0.1437677 | 1.4743342 | 0.140392 | 0.680585 |
| pex14 | 393.8867322 | -0.06738555 | 0.116852 | -0.576674 | 0.56416 | 0.948739 |
| gmfb | 2234.584364 | 0.060813255 | 0.0746199 | 0.8149742 | 0.415087 | 0.906237 |
| nitr9 | | 0 NA | NA | NA | NA | NA |
| hmgala | 26455.74253 | -0.10887013 | 0.0680192 | -1.60058 | 0.10947 | 0.623766 |
| dhdh1 | 745.6625255 | -0.291356537 | 0.100846 | -2.889124 | 0.003863 | 0.085067 |
| tesca | 87.12216908 | -0.167196637 | 0.2146796 | -0.778819 | 0.436086 | 0.914408 |
| pax3b | 9.050933292 | -0.196853081 | 0.6302434 | -0.312345 | 0.754779 | NA |
| stxbp61 | 93.59950667 | 0.35915034 | 0.2346123 | 1.5308246 | 0.125813 | 0.654803 |
| sult2st3 | 123.4896905 | 0.287634054 | 0.1794611 | 1.6027653 | 0.108986 | 0.622321 |
| trub2 | 247.3932427 | 0.086111879 | 0.150513 | 0.5721227 | 0.567239 | 0.948739 |
| htatip2 | 207.0972698 | -0.194700543 | 0.1511482 | -1.288144 | 0.197696 | 0.762928 |
| rab44 | 3.351597534 | 0.290618934 | 1.0156842 | 0.2861312 | 0.774778 | NA |
| daam2 | 13.27041622 | 1.214244849 | 0.5465376 | 2.2217043 | 0.026303 | 0.312554 |
| fkbp5 | 1075.970459 | 0.422497188 | 0.0924873 | 4.5681649 | 4.92E-06 | 0.000394 |
| rhogc | 538.3353686 | -0.139543076 | 0.1057047 | -1.320121 | 0.186795 | 0.750951 |
| adnp2b | 859.2059684 | 0.065852111 | 0.090461 | 0.7279617 | 0.466637 | 0.924218 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| cplane2 | 61.37467353 | -0.152036651 | 0.2574654 | -0.590513 | 0.554847 | 0.947449 |
| edem2 | 323.9564345 | -0.2151117 | 0.1404992 | -1.531053 | 0.125756 | 0.654803 |
| rps6ka2 | 32.57713707 | -0.018374234 | 0.3464729 | -0.053032 | 0.957706 | 0.99467 |
| lin9 | 267.0048482 | 0.057736426 | 0.1442811 | 0.4001662 | 0.689034 | 0.966721 |
| si:ch211-173n18.3 | 72.17183491 | 0.287127997 | 0.2447709 | 1.1730481 | 0.240777 | 0.809163 |
| cabp5b | 162.6174957 | 0.298422178 | 0.169515 | 1.7604466 | 0.078332 | 0.545401 |
| itgb4 | 1152.838054 | -0.02883621 | 0.0880318 | -0.327566 | 0.74324 | 0.973687 |
| hbpl | 693.2390416 | -0.217303659 | 0.098544 | -2.205144 | 0.027444 | 0.320231 |
| clql3b | 49.94443213 | 0.293648102 | 0.2775015 | 1.0581858 | 0.289971 | 0.846246 |
| inip | 190.6914657 | 0.038685354 | 0.1480425 | 0.2613125 | 0.793852 | 0.977937 |
| macfla | 4891.59491 | 0.060465107 | 0.0800753 | 0.755103 | 0.450187 | 0.918761 |
| morc2 | 1243.084977 | -0.061758782 | 0.0831796 | -0.742475 | 0.457799 | 0.921978 |
| si:ch211-121a2.4 | 19.3829915 | 0.27621819 | 0.4284031 | 0.6447623 | 0.519081 | 0.938945 |
| si:ch211-114c12.2 | 1930.708697 | -0.058691268 | 0.0868372 | -0.675877 | 0.499119 | 0.934006 |
| ndufs1 | 4.858587777 | -0.655516282 | 0.9120754 | -0.718708 | 0.472321 | NA |
| plppr3b | 713.7545073 | 0.189450408 | 0.0978736 | 1.9356639 | 0.052909 | 0.451736 |
| march5l | 446.4355434 | 0.010517383 | 0.112153 | 0.0937771 | 0.925286 | 0.992676 |
| jkamp | 347.8086615 | 0.145561181 | 0.120817 | 1.2048074 | 0.228278 | 0.795541 |
| si:ch211-234h8.7 | 80.94429689 | 0.118410806 | 0.2263583 | 0.5231122 | 0.600896 | 0.956045 |
| gpr135 | 44.11078557 | 0.535459262 | 0.2924069 | 1.8312128 | 0.067069 | 0.506251 |
| mospd1 | 592.3474171 | -0.182779493 | 0.1135427 | -1.609786 | 0.107445 | 0.617344 |
| krt18b | 1048.92341 | -0.157316341 | 0.1242716 | -1.265907 | 0.205546 | 0.773646 |
| jph2 | 1071.453264 | 0.283048883 | 0.1035609 | 2.7331635 | 0.006273 | 0.120609 |
| gdap11l | 41.2137742 | -0.379467849 | 0.2968196 | -1.278446 | 0.201092 | 0.766855 |
| ms4a17c.2 | | 0 NA | NA | NA | NA | NA |
| cntfr | 1141.626222 | -0.044294522 | 0.0868485 | -0.51002 | 0.610037 | 0.95688 |
| tek | 94.31589936 | 0.05652221 | 0.2234971 | 0.2528991 | 0.800346 | 0.979377 |
| ahsala | 116.5344442 | 0.61381863 | 0.1875541 | 3.2727552 | 0.001065 | 0.032585 |
| nuak1b | 1435.227581 | -0.044920046 | 0.0821781 | -0.546618 | 0.584641 | 0.952411 |
| exosc2 | 252.3705962 | 0.086218682 | 0.1468167 | 0.5872538 | 0.557033 | 0.948478 |
| crkl | 1383.916067 | 0.101787849 | 0.0777785 | 1.3086895 | 0.19064 | 0.755212 |
| mindy3 | 723.3282302 | 0.003547859 | 0.1003841 | 0.0353428 | 0.971806 | 0.996315 |
| mapk14b | 524.6900152 | 0.245255363 | 0.1034722 | 2.370253 | 0.017776 | 0.247053 |
| adralaa | 1.863520974 | 1.446597312 | 1.5038905 | 0.9619034 | 0.336098 | NA |
| stat4 | 122.7895263 | -0.596632122 | 0.2128224 | -2.803427 | 0.005056 | 0.10404 |
| msnb | 47.20466362 | -0.285055186 | 0.3060306 | -0.93146 | 0.351616 | 0.880769 |
| tm9sf3 | 1462.92412 | 0.101648711 | 0.0800703 | 1.2694938 | 0.204265 | 0.772006 |
| gzmk | 2.054383069 | 0.550735228 | 1.428156 | 0.3856268 | 0.699773 | NA |
| si:dkey-24p1.6 | 37.41444665 | 0.139735887 | 0.3362672 | 0.4155501 | 0.677739 | 0.965257 |
| chst12a | 11.01325852 | 0.357061978 | 0.5960496 | 0.5990475 | 0.549141 | NA |
| nlk2 | 146.1696388 | 0.020776218 | 0.1659454 | 0.1251991 | 0.900366 | 0.990121 |
| CYTH2 | 31.96546021 | 0.297893693 | 0.3417181 | 0.8717527 | 0.383343 | 0.895192 |
| ankrd9 | 376.1004002 | 0.198658009 | 0.1139053 | 1.7440626 | 0.081148 | 0.551495 |
| zgc:162945 | 160.4026944 | -0.027243742 | 0.1807235 | -0.150748 | 0.880174 | 0.987881 |
| tmed3 | 489.8030619 | 0.157335856 | 0.1126471 | 1.396715 | 0.162499 | 0.717086 |
| slc34a1a | 103.966052 | 0.414816424 | 0.272524 | 1.5221283 | 0.127977 | 0.658954 |
| calcr | 69.27700428 | 0.091585262 | 0.2513722 | 0.3643412 | 0.715603 | 0.96909 |
| lsm12a | 529.2068654 | -0.025269467 | 0.1159883 | -0.217862 | 0.827536 | 0.982721 |
| btr16 | 4.581753827 | -1.870778342 | 0.9780539 | -1.912756 | 0.055779 | NA |
| sgsmla | 9.282884172 | 0.209780783 | 0.7016689 | 0.298974 | 0.76496 | NA |
| rdh20 | 23.90809798 | 0.108379954 | 0.4003535 | 0.2707106 | 0.786614 | 0.976596 |
| vipr1a | 69.6250049 | 0.098040419 | 0.2375666 | 0.4126861 | 0.679837 | 0.965311 |
| ndufb10 | 1998.893351 | -0.131602233 | 0.0797634 | -1.649907 | 0.098962 | 0.598346 |
| mrgbp | 378.8506607 | -0.006608535 | 0.1201075 | -0.055022 | 0.956121 | 0.994543 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| plpp2b | 222.6835823 | 0.04083968 | 0.1419755 | 0.2876531 | 0.773612 | 0.975687 |
| tekt4 | 44.35204615 | 0.098413255 | 0.2882545 | 0.3414109 | 0.732794 | 0.971719 |
| odf2a | 98.64574362 | 0.098820649 | 0.2000193 | 0.4940557 | 0.621267 | 0.957354 |
| si:dkey-10h3.2 | 2.945908661 | -0.971398854 | 1.1481508 | -0.846055 | 0.397522 | NA |
| taflb | 107.6408985 | 0.041538867 | 0.1965991 | 0.2112872 | 0.832663 | 0.983557 |
| mtss1la | 551.0709636 | 0.058666447 | 0.1054313 | 0.5564422 | 0.577909 | 0.951024 |
| ZBTB26 | 112.2362349 | -0.211049206 | 0.2105661 | -1.002294 | 0.316201 | 0.866931 |
| maff | 848.3308608 | -0.095053056 | 0.0933903 | -1.017805 | 0.308771 | 0.861088 |
| cpsf2 | 898.6540863 | -0.100904167 | 0.0959798 | -1.051306 | 0.293118 | 0.848999 |
| tekt2 | 14.06139806 | 0.436297576 | 0.5247933 | 0.8313703 | 0.405764 | 0.901305 |
| pus3 | 74.30386691 | -0.101297552 | 0.2242365 | -0.451744 | 0.651453 | 0.960708 |
| pcca | 948.01599 | -0.058357111 | 0.0853414 | -0.683808 | 0.494097 | 0.931926 |
| eiflaxa | 370.0782607 | -0.320159694 | 0.132473 | -2.416793 | 0.015658 | 0.229392 |
| xpnpepl | 770.9608363 | -0.3422985 | 0.0904671 | -3.783681 | 0.000155 | 0.006976 |
| cdkn1ba | 536.6987471 | -0.101858232 | 0.1041449 | -0.978044 | 0.328053 | 0.872701 |
| epb41b | 96.42518664 | 0.336490169 | 0.2347398 | 1.4334604 | 0.151726 | 0.700137 |
| rab32a | 116.8464453 | -0.025570762 | 0.1938853 | -0.131886 | 0.895074 | 0.989814 |
| zdhhc23a | 21.11253113 | 0.735028312 | 0.4315775 | 1.7031199 | 0.088546 | 0.569447 |
| nupl2 | 105.0203684 | 0.189508902 | 0.2045351 | 0.9265348 | 0.354168 | 0.882044 |
| pelii2 | 264.978851 | -0.104622876 | 0.1317726 | -0.793965 | 0.427216 | 0.91075 |
| gbela | 6.972967549 | 0.034583252 | 0.7466146 | 0.0463201 | 0.963055 | NA |
| tm6sf2 | 233.172279 | -0.296009122 | 0.1757153 | -1.684595 | 0.092067 | 0.57849 |
| rbbp4 | 2142.059943 | 0.031942728 | 0.0911639 | 0.3503881 | 0.726047 | 0.970402 |
| clpxa | 1961.674585 | 0.042311558 | 0.0755784 | 0.5598369 | 0.575591 | 0.950373 |
| uqcrq | 1729.740058 | -0.027374421 | 0.2254156 | -0.12144 | 0.903343 | 0.990121 |
| tnni2a.4 | 17601.41689 | 0.214307582 | 0.1765554 | 1.2138266 | 0.224814 | 0.792185 |
| creld2 | 156.5417807 | 0.136828114 | 0.1729406 | 0.7911854 | 0.428836 | 0.911406 |
| klf6a | 2019.332183 | -0.010147928 | 0.088375 | -0.114828 | 0.908581 | 0.990702 |
| pfkfb4b | 1173.158887 | 0.044366505 | 0.0873315 | 0.5080243 | 0.611436 | 0.95688 |
| guf1 | 164.6331177 | 0.120483598 | 0.1712839 | 0.7034146 | 0.481797 | 0.928392 |
| chchd1 | 410.97083 | -0.005616713 | 0.1392131 | -0.040346 | 0.967817 | 0.996315 |
| ftr51 | 116.3888569 | -0.26640428 | 0.1984047 | -1.342732 | 0.179359 | 0.740258 |
| ube2d1a | 350.4460062 | 0.068054433 | 0.1230359 | 0.5531268 | 0.580177 | 0.951357 |
| gem | 204.7587782 | 0.07404447 | 0.1520275 | 0.4870467 | 0.626225 | 0.957354 |
| si:dkey-40m6.8 | 1345.100593 | 0.091690727 | 0.0785103 | 1.1678821 | 0.242854 | 0.811584 |
| adamts15a | 95.02791179 | -0.015192606 | 0.2028554 | -0.074894 | 0.940299 | 0.992857 |
| tubgcp3 | 816.3657128 | 0.154186732 | 0.0894174 | 1.724349 | 0.084645 | 0.560351 |
| lrplab | 2053.636437 | -0.065655258 | 0.0933083 | -0.703638 | 0.481658 | 0.928386 |
| hsp90ab1 | 58549.49358 | -0.264230689 | 0.0645678 | -4.092296 | 4.27E-05 | 0.002379 |
| med23 | 575.6864905 | -0.119834493 | 0.1128736 | -1.06167 | 0.288386 | 0.845979 |
| ppfibp2b | 437.3728808 | -0.092650023 | 0.1085473 | -0.853545 | 0.393357 | 0.898076 |
| si:ch211-200p22.4 | 1828.339682 | 0.058997421 | 0.0784346 | 0.7521865 | 0.451939 | 0.918761 |
| lnx2a | 687.694241 | -0.092063839 | 0.1017161 | -0.905106 | 0.365409 | 0.886903 |
| foxdl | 256.103583 | -0.128800592 | 0.136472 | -0.943788 | 0.345278 | 0.878434 |
| tyrpla | 312.1228091 | -0.255197781 | 0.1363947 | -1.871024 | 0.061342 | 0.482931 |
| ube2z | 642.7232186 | 0.067075135 | 0.1023966 | 0.6550521 | 0.512434 | 0.936253 |
| avpr2ab | 2.414620719 | -0.211494448 | 1.2703758 | -0.166482 | 0.867778 | NA |
| pnp4b | 129.4829271 | 0.679561901 | 0.1952834 | 3.479875 | 0.000502 | 0.017905 |
| F0704779.1 | 20.84329809 | -0.185516437 | 0.4540568 | -0.408575 | 0.682851 | 0.965476 |
| stxbp5b | 107.0305526 | 0.07492194 | 0.2014318 | 0.3719468 | 0.709932 | 0.968928 |
| syt9b | 474.5226543 | -0.007983981 | 0.106369 | -0.075059 | 0.940168 | 0.992857 |
| fbxo3 | 427.2139853 | -0.180058663 | 0.1228148 | -1.466099 | 0.142621 | 0.684998 |
| fubpl | 6034.807156 | -0.043266786 | 0.0706208 | -0.612663 | 0.540099 | 0.944206 |
| poli | 105.7337672 | 0.002811687 | 0.2053599 | 0.0136915 | 0.989076 | 0.997589 |

| | | | | | | |
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| ssb | 1406.935588 | -0.110816814 | 0.0805367 | -1.375979 | 0.168828 | 0.725919 |
| zgc:136493 | 74.05310751 | -0.025342159 | 0.232271 | -0.109106 | 0.913118 | 0.991119 |
| hoxb3a | 985.8588457 | -0.036343151 | 0.0884346 | -0.410961 | 0.681101 | 0.965476 |
| stx11b.1 | 245.194197 | 0.217200837 | 0.13774 | 1.5768905 | 0.114821 | 0.635451 |
| ipmb | 449.6048266 | -0.061786584 | 0.1085687 | -0.569101 | 0.569287 | 0.948983 |
| zgc:55943 | 650.69849 | 0.043692997 | 0.0974292 | 0.4484592 | 0.653822 | 0.961168 |
| nexmifb | 554.6762384 | 0.145606529 | 0.1140403 | 1.2767989 | 0.201673 | 0.767736 |
| baiap211a | 192.0884809 | 0.046930552 | 0.1597564 | 0.2937631 | 0.768939 | 0.975687 |
| rmc1 | 172.9902127 | -0.047890055 | 0.164245 | -0.291577 | 0.77061 | 0.975687 |
| prr151b | 68.15575239 | -0.207480279 | 0.237753 | -0.872672 | 0.382842 | 0.895192 |
| atxn713 | 443.1084222 | -0.074599529 | 0.1254327 | -0.594738 | 0.552019 | 0.947215 |
| serpine2 | 555.3199213 | -0.09681164 | 0.1301109 | -0.74407 | 0.456834 | 0.921215 |
| mboat1 | 155.8412531 | 0.114345462 | 0.1638728 | 0.6977694 | 0.485321 | 0.930188 |
| ankrd6b | 185.0362316 | -0.208288013 | 0.1788026 | -1.164905 | 0.244057 | 0.813415 |
| rasa4 | 285.5815926 | -0.039021929 | 0.1293077 | -0.301776 | 0.762823 | 0.975374 |
| aldh3a2b | 27.97881943 | -0.655085454 | 0.3755566 | -1.744305 | 0.081106 | 0.551495 |
| si:dkey-90m5.4 | 104.3598206 | 0.932203814 | 0.2120159 | 4.3968577 | 1.10E-05 | 0.000793 |
| sort1a | 550.7339259 | 0.005116791 | 0.103371 | 0.0494993 | 0.960521 | 0.995421 |
| h2afx | 586.337296 | -0.121323027 | 0.1023406 | -1.185483 | 0.235826 | 0.804837 |
| mtx2 | 867.8139759 | 0.040885705 | 0.0918479 | 0.4451456 | 0.656215 | 0.961833 |
| si:ch211-147k10.5 | 6.651179934 | -0.732036924 | 0.7367814 | -0.993561 | 0.320437 | NA |
| tph1a | 51.3432195 | -0.297800251 | 0.2762338 | -1.078073 | 0.281001 | 0.84357 |
| atp2a2a | 779.8662111 | 0.064332001 | 0.0963199 | 0.6678995 | 0.504198 | 0.935448 |
| zgc:92242 | 557.1929398 | -0.10549128 | 0.1021935 | -1.032269 | 0.301946 | 0.856944 |
| zgc:56676 | 1594.816041 | -0.045662857 | 0.0910032 | -0.501772 | 0.615828 | 0.95688 |
| cacn1sa | 336.4281153 | 0.128625222 | 0.1293169 | 0.9946514 | 0.319906 | 0.868153 |
| cd209 | 0.349228403 | 0.005884014 | 3.2372587 | 0.0018176 | 0.99855 | NA |
| asapla | 1657.913006 | 0.02535559 | 0.0771414 | 0.3286898 | 0.74239 | 0.973154 |
| afdna | 1273.061171 | -0.109627449 | 0.0827476 | -1.324842 | 0.185224 | 0.749153 |
| gstm.2 | 134.2768548 | -0.054644727 | 0.1750682 | -0.312134 | 0.754939 | 0.97522 |
| camk1b | 527.3176951 | 0.096592144 | 0.1184662 | 0.8153563 | 0.414868 | 0.906237 |
| ldlra | 518.2046399 | -0.20090195 | 0.1187395 | -1.691956 | 0.090654 | 0.576398 |
| zgc:86609 | 245.7117411 | -0.008999748 | 0.1347237 | -0.066802 | 0.94674 | 0.99381 |
| specc1 | 150.0686342 | -0.05772196 | 0.1702865 | -0.33897 | 0.734633 | 0.972021 |
| ush2a | 55.88638938 | 0.147047419 | 0.2571525 | 0.5718296 | 0.567437 | 0.948739 |
| f9b | 93.71835718 | -0.258680129 | 0.2095639 | -1.234373 | 0.217064 | 0.784302 |
| tfcp211 | 89.65651001 | 0.597901634 | 0.2181478 | 2.7408094 | 0.006129 | 0.118579 |
| rpl34 | 11380.80053 | -0.117052356 | 0.0767952 | -1.524214 | 0.127455 | 0.657527 |
| gsk3aa | 328.5667859 | -0.029837007 | 0.126494 | -0.235877 | 0.813528 | 0.981081 |
| timml7a | 1972.451053 | 0.163928497 | 0.0822673 | 1.9926333 | 0.046302 | 0.422877 |
| kcns3b | 0.317831496 | 1.808837541 | 3.5779923 | 0.5055454 | 0.613176 | NA |
| impdh1b | 1427.433755 | -0.246687457 | 0.0793603 | -3.108451 | 0.001881 | 0.051014 |
| rpl18 | 17104.94237 | -0.287131776 | 0.068843 | -4.170819 | 3.04E-05 | 0.00176 |
| id2b | 287.0048435 | 0.058539299 | 0.1264789 | 0.4628383 | 0.64348 | 0.959994 |
| gremla | 11.82522161 | 2.046450219 | 0.662139 | 3.0906657 | 0.001997 | 0.053438 |
| kans13 | 1200.447682 | 0.023307042 | 0.0879073 | 0.265132 | 0.790908 | 0.977402 |
| snapcla | 1.920153526 | 0.036725403 | 1.5303945 | 0.0239973 | 0.980855 | NA |
| tbc1d7 | 392.0428258 | -0.018455773 | 0.1246999 | -0.148001 | 0.882342 | 0.988344 |
| msra | 236.0516817 | 0.10926954 | 0.1543494 | 0.7079361 | 0.478985 | 0.926978 |
| trim55a | 138.6180107 | 0.15447438 | 0.1787038 | 0.8644159 | 0.387359 | 0.895778 |
| wdr32 | 418.7220589 | -0.04654301 | 0.1182104 | -0.39373 | 0.69378 | 0.96736 |
| macrodl | 51.84653906 | -0.260954466 | 0.2677989 | -0.974442 | 0.329837 | 0.873938 |
| gpkow | 531.9638226 | 0.050299147 | 0.102893 | 0.4888493 | 0.624948 | 0.957354 |
| zgc:77056 | 358.2976036 | -0.034423371 | 0.1204099 | -0.285885 | 0.774966 | 0.975687 |

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| sgms1 | 289.3423774 | 0.069703794 | 0.1281161 | 0.5440674 | 0.586395 | 0.953319 |
| si:dkey-47k20.3 | 0.809821446 | 0.539374789 | 2.2312571 | 0.2417358 | 0.808985 | NA |
| tomm70a | 1823.62622 | -0.083582805 | 0.1051306 | -0.795038 | 0.426592 | 0.910189 |
| commd5 | 118.5040839 | 0.072875764 | 0.1838948 | 0.3962905 | 0.691891 | 0.96733 |
| rablab | 1745.625669 | -0.042184394 | 0.0782576 | -0.539045 | 0.589856 | 0.953762 |
| criml | 49.82547129 | 0.066065257 | 0.2800706 | 0.2358879 | 0.81352 | 0.981081 |
| xprlb | 978.3476617 | -0.000264963 | 0.096057 | -0.002758 | 0.997799 | 0.999174 |
| hsp70.1 | 410.9562 | 0.0062844 | 0.3782485 | 0.0166145 | 0.986744 | 0.997062 |
| tkta | 2689.931142 | 0.107215554 | 0.0725496 | 1.4778237 | 0.139455 | 0.678238 |
| rufy3 | 1074.664648 | 0.074488451 | 0.0939726 | 0.7926614 | 0.427975 | 0.910858 |
| pgp | 460.2945583 | 0.086401387 | 0.1124422 | 0.7684073 | 0.442245 | 0.916336 |
| lrrc30a | 42.12513299 | -0.091916967 | 0.298953 | -0.307463 | 0.758491 | 0.975374 |
| p2rx3b | 142.579741 | -0.119947793 | 0.1775562 | -0.675548 | 0.499327 | 0.934006 |
| si:dkeyp-9d4.2 | 2.990821905 | -1.027487153 | 1.2464268 | -0.824346 | 0.409743 | NA |
| hmgb2a | 11.53039839 | -0.25247504 | 0.5653764 | -0.446561 | 0.655192 | 0.961614 |
| pqbp1 | 368.7563955 | -0.196106296 | 0.1268587 | -1.545863 | 0.122138 | 0.649408 |
| clybl | 424.7162549 | -0.093336486 | 0.1103581 | -0.84576 | 0.397687 | 0.899672 |
| mepla.1 | 25.49099782 | 0.792267305 | 0.3950753 | 2.0053579 | 0.044925 | 0.417005 |
| wbp11b | 102.9169165 | 0.064437945 | 0.2021547 | 0.3187556 | 0.749912 | 0.97419 |
| mpp6b | 1101.698385 | 0.070977006 | 0.0998848 | 0.7105884 | 0.477339 | 0.926857 |
| mef2ca | 1242.24574 | 0.192123186 | 0.0907348 | 2.1174143 | 0.034225 | 0.359596 |
| nrli2 | 151.0170655 | 0.006572292 | 0.1721561 | 0.0381764 | 0.969547 | 0.996315 |
| wapl | 1130.000232 | -0.107002734 | 0.0884733 | -1.209435 | 0.226496 | 0.793959 |
| dedd | 793.7560305 | 0.01158159 | 0.0892402 | 0.12978 | 0.896741 | 0.989971 |
| prxl2b | 605.4320719 | -0.323930706 | 0.1049152 | -3.087547 | 0.002018 | 0.053856 |
| oxgr1b | 0.515216064 | 0.926382026 | 2.6525479 | 0.3492423 | 0.726907 | NA |
| srsf5a | 6985.361626 | -0.105499383 | 0.0695562 | -1.51675 | 0.12933 | 0.661083 |
| cel.2 | 179.4055394 | -0.09605189 | 0.1704635 | -0.563475 | 0.573112 | 0.949762 |
| myf6 | 29.93966577 | 0.318192466 | 0.379518 | 0.838412 | 0.401799 | 0.90084 |
| slc26a1 | 234.5977368 | -0.143645437 | 0.1351069 | -1.063198 | 0.287692 | 0.845979 |
| si:dkey-23a13.11 | 0.316103113 | 0.005883447 | 3.3519121 | 0.0017553 | 0.9986 | NA |
| tmprss9 | 161.3111445 | 0.104267854 | 0.176979 | 0.5891538 | 0.555758 | 0.947621 |
| zgc:161973 | 32.76611113 | 0.141692245 | 0.3463237 | 0.4091324 | 0.682443 | 0.965476 |
| cnm3b | 579.5347465 | 0.074761233 | 0.1019078 | 0.7336165 | 0.463183 | 0.922698 |
| armh1 | 16.32196314 | 0.037634048 | 0.4747735 | 0.0792674 | 0.93682 | 0.992702 |
| rassf2a | 665.5412076 | 0.102886782 | 0.0928652 | 1.1079156 | 0.267898 | 0.833349 |
| slc6a14 | 62.70191219 | -0.061981695 | 0.2452553 | -0.252723 | 0.800482 | 0.979377 |
| khk | 159.4204609 | -0.559789335 | 0.1619869 | -3.45577 | 0.000549 | 0.019137 |
| kcnh2a | 22.92485402 | -0.296755138 | 0.4367948 | -0.679393 | 0.496889 | 0.932829 |
| rab41 | 2194.808586 | 0.101083632 | 0.0765838 | 1.3199089 | 0.186865 | 0.750967 |
| si:dkeyp-86f7.4 | 4.292228698 | -0.737206766 | 1.0665499 | -0.691207 | 0.489435 | NA |
| slc2a15a | 73.61668058 | -0.361960435 | 0.2333025 | -1.551464 | 0.120791 | 0.645876 |
| cngala | 102.8729371 | 0.141681491 | 0.2290625 | 0.6185276 | 0.536228 | 0.943336 |
| phyhd1 | 399.3895572 | 0.04975669 | 0.119476 | 0.4164577 | 0.677075 | 0.965257 |
| trim54 | 11.51608967 | -0.594389103 | 0.5628666 | -1.056003 | 0.290967 | 0.846568 |
| casc3 | 1069.422723 | 0.090560268 | 0.0892272 | 1.0149406 | 0.310134 | 0.862409 |
| ap3m1 | 312.5754163 | 0.025411898 | 0.1256263 | 0.2022816 | 0.839697 | 0.984979 |
| SPDEF | 23.78945361 | -0.588950061 | 0.408036 | -1.443378 | 0.148914 | 0.696454 |
| atp13a1 | 799.8877481 | 0.112511122 | 0.1040747 | 1.0810609 | 0.27967 | 0.843169 |
| grtpla | 319.6808119 | 0.056314234 | 0.1216778 | 0.4628142 | 0.643498 | 0.959994 |
| parpbp | 168.6279777 | -0.38191157 | 0.1578613 | -2.419285 | 0.015551 | 0.228768 |
| ampd2b | 626.2510031 | -0.050365175 | 0.0964287 | -0.522305 | 0.601458 | 0.956045 |
| glb1l | 238.4683501 | 0.035650708 | 0.1589295 | 0.2243178 | 0.82251 | 0.982189 |
| si:dkey-42123.9 | | 0 NA | NA | NA | NA | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| tnni2b.2 | 3177.030259 | 0.363357394 | 0.0909293 | 3.9960442 | 6.44E-05 | 0.003387 |
| BX511121.1 | 4.854766203 | -0.351511331 | 0.9707965 | -0.362085 | 0.717288 | NA |
| slc6a7 | 248.5806117 | 0.099000905 | 0.1366028 | 0.7247356 | 0.468614 | 0.924328 |
| lrrfip1a | 434.375699 | 0.011368463 | 0.1208657 | 0.0940587 | 0.925063 | 0.992676 |
| agfgla | 366.801705 | 0.085072541 | 0.1165949 | 0.729642 | 0.465609 | 0.923865 |
| nup188 | 1068.237648 | -0.151030807 | 0.0841024 | -1.795797 | 0.072527 | 0.52617 |
| pimr135 | 0.332645115 | 0.005883744 | 3.2924249 | 0.0017871 | 0.998574 | NA |
| grcc10 | 403.932866 | 0.007747847 | 0.1216354 | 0.0636973 | 0.949211 | 0.99381 |
| eef1db | 2802.076706 | -0.311083456 | 0.0826538 | -3.763694 | 0.000167 | 0.007357 |
| tbx4 | 61.40248708 | 0.239412545 | 0.2707167 | 0.8843657 | 0.376499 | 0.89493 |
| plekhala | 591.1211831 | -0.063897632 | 0.102699 | -0.622184 | 0.533821 | 0.943276 |
| glipr1b | 189.2293399 | 0.240805254 | 0.1675774 | 1.436979 | 0.150724 | 0.698912 |
| nfkbi1b | 1371.603791 | -0.183681308 | 0.0917742 | -2.001449 | 0.045344 | 0.418148 |
| tram2 | 264.5081424 | 0.259392408 | 0.1323751 | 1.9595255 | 0.050051 | 0.43812 |
| malb | 74.31122367 | -0.341003916 | 0.2384788 | -1.429913 | 0.152742 | 0.701776 |
| ccdc78 | 16.13399982 | -0.739446691 | 0.5003658 | -1.477812 | 0.139458 | 0.678238 |
| sdcbp | 126.2983944 | -0.031896145 | 0.1809546 | -0.176266 | 0.860085 | 0.985773 |
| sh3bp4 | 100.6057082 | 0.685295752 | 0.2002901 | 3.4215157 | 0.000623 | 0.020942 |
| stmn4 | 1760.664316 | 0.083536461 | 0.084408 | 0.9896743 | 0.322333 | 0.870226 |
| si:ch211-207i1.2 | 568.0663336 | -0.053023351 | 0.1023253 | -0.518184 | 0.60433 | 0.95651 |
| sec22ba | 159.990318 | 0.072953824 | 0.1772305 | 0.4116324 | 0.680609 | 0.965476 |
| myod1 | 227.2560617 | 0.074350131 | 0.1398336 | 0.5317042 | 0.594931 | 0.954434 |
| vps4a | 182.6674229 | -0.099715121 | 0.1539117 | -0.647872 | 0.517067 | 0.938543 |
| susd6 | 1653.480601 | 0.151144511 | 0.0805767 | 1.8757851 | 0.060685 | 0.48134 |
| sox7 | 216.7655183 | -0.437140088 | 0.1468145 | -2.9775 | 0.002906 | 0.070337 |
| si:ch211-87m7.2 | 30.62632347 | -0.079399174 | 0.3743782 | -0.212083 | 0.832042 | 0.98349 |
| fkbp6 | 3.287703845 | 0.249847362 | 1.0749957 | 0.2324171 | 0.816214 | NA |
| sdhdb | 991.596357 | -0.050683974 | 0.0892905 | -0.56763 | 0.570286 | 0.948989 |
| gnptab | 628.5905444 | -0.008968598 | 0.1010108 | -0.088788 | 0.92925 | 0.992702 |
| pak7 | 399.9577898 | -0.05019959 | 0.1135106 | -0.442246 | 0.658311 | 0.962545 |
| ssbp3b | 2026.247662 | 0.001517672 | 0.0767459 | 0.0197753 | 0.984223 | 0.996944 |
| naglu | 157.6985188 | 0.179046207 | 0.1793528 | 0.9982904 | 0.318139 | 0.867746 |
| mybpc2a | 237.2314492 | 0.211099244 | 0.1408867 | 1.4983621 | 0.134039 | 0.669349 |
| ppplr14bb | 631.6681475 | 0.129108135 | 0.1033296 | 1.2494784 | 0.21149 | 0.778917 |
| cdk21 | 1.556139089 | 2.947626016 | 1.7933025 | 1.6436859 | 0.100241 | NA |
| hyi | 240.147613 | -0.053782841 | 0.1398599 | -0.384548 | 0.700572 | 0.967998 |
| traf2a | 99.21473833 | 0.059713457 | 0.202105 | 0.2954576 | 0.767644 | 0.975687 |
| zgc:92429 | 144.0933009 | 0.291710522 | 0.1921098 | 1.5184576 | 0.128899 | 0.659982 |
| uchl3 | 619.2465807 | 0.124967592 | 0.1036804 | 1.2053159 | 0.228081 | 0.795505 |
| sap301 | 861.3727281 | -0.089027694 | 0.1089778 | -0.816935 | 0.413966 | 0.905905 |
| matn1 | 21340.00448 | 0.016246201 | 0.0790784 | 0.2054442 | 0.837225 | 0.984645 |
| ppp2ca | 567.5588907 | 0.051447457 | 0.105849 | 0.4860457 | 0.626935 | 0.957354 |
| tmem30aa | 815.4358779 | 0.205956757 | 0.0891142 | 2.3111562 | 0.020824 | 0.272701 |
| pgrmc2 | 874.8460075 | 0.134029821 | 0.0911596 | 1.4702769 | 0.141487 | 0.682048 |
| dennd6aa | 21.57062474 | 0.271824085 | 0.4088458 | 0.6648573 | 0.506142 | 0.935724 |
| vbpl | 917.4887953 | -0.054933676 | 0.0875283 | -0.62761 | 0.530259 | 0.942209 |
| dennd2db | 44.8277097 | -0.386694142 | 0.30432 | -1.270682 | 0.203842 | 0.771579 |
| klhl36 | 66.14630542 | -0.02150367 | 0.2474087 | -0.086916 | 0.930739 | 0.992702 |
| cbln9 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:ch211-220i18.4 | 40.09460489 | -0.31252328 | 0.3055285 | -1.022894 | 0.306358 | 0.860027 |
| mfsd2b | 171.0570149 | 0.037662256 | 0.1573611 | 0.2393365 | 0.810845 | 0.981081 |
| scdb | 1391.447361 | 0.178304766 | 0.0944427 | 1.8879671 | 0.05903 | 0.475271 |
| gtf3aa | 193.0665056 | 0.187034994 | 0.1509946 | 1.238687 | 0.215461 | 0.783025 |
| grtplb | 14.49503185 | -0.226056273 | 0.4957826 | -0.455958 | 0.64842 | 0.960708 |

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| tnnt3a | 4066.842918 | 0.067193883 | 0.0943676 | 0.7120442 | 0.476437 | 0.926541 |
| idh3a | 1409.507326 | 0.040360775 | 0.0816212 | 0.4944889 | 0.620961 | 0.957354 |
| jagla | 187.0451281 | -0.050518972 | 0.1584745 | -0.318783 | 0.749891 | 0.97419 |
| sox13 | 570.1462254 | 0.08401693 | 0.1062229 | 0.790949 | 0.428974 | 0.911406 |
| hspal2b | 67.11498117 | 0.123065487 | 0.2392814 | 0.5143128 | 0.607033 | 0.956718 |
| tmc2b | 13.84726086 | 0.706344808 | 0.5379534 | 1.3130223 | 0.189175 | 0.753954 |
| efnala | 570.0762586 | 0.064955633 | 0.1210967 | 0.5363948 | 0.591686 | 0.954434 |
| zc3h10 | 358.1086823 | -0.039039229 | 0.1278138 | -0.305438 | 0.760032 | 0.975374 |
| gukla | 843.9670389 | -0.062151643 | 0.0911058 | -0.682192 | 0.495118 | 0.931928 |
| mespba | | 0 NA | NA | NA | NA | NA |
| cryba2a | 12297.35249 | 0.02453412 | 0.0744484 | 0.3295453 | 0.741744 | 0.973154 |
| mnx2b | 25.2049369 | 0.621705858 | 0.3832948 | 1.6220045 | 0.104802 | 0.612652 |
| zgc:66313 | 30.85141093 | -0.434316984 | 0.3490173 | -1.2444 | 0.213353 | 0.781631 |
| angpt1 | 64.00714735 | 0.1072619 | 0.279006 | 0.3844429 | 0.70065 | 0.967998 |
| metrn | 448.8691374 | 0.033482771 | 0.1076265 | 0.3111014 | 0.755724 | 0.975374 |
| naal5b | 1009.279912 | 0.088442518 | 0.0871057 | 1.0153466 | 0.309941 | 0.861992 |
| grin2bb | 698.368122 | 0.063243857 | 0.0987321 | 0.6405602 | 0.521808 | 0.939056 |
| prfl.1 | 1.22848649 | -0.350511206 | 1.8878393 | -0.185668 | 0.852705 | NA |
| twist1a | 214.4798739 | -0.060496001 | 0.1650545 | -0.366521 | 0.713976 | 0.96909 |
| rps26l | 8923.849353 | -0.19256921 | 0.089953 | -2.140776 | 0.032292 | 0.349696 |
| crygn2 | 24739.47617 | 0.19920185 | 0.0795966 | 2.5026442 | 0.012327 | 0.196417 |
| pkd1a | 397.2615646 | -0.117999555 | 0.1315844 | -0.89676 | 0.369847 | 0.889487 |
| rsrpl | 2324.753731 | 0.139280533 | 0.0978944 | 1.4227629 | 0.154805 | 0.704573 |
| ppalb | 1896.643777 | -0.061510236 | 0.0788823 | -0.779773 | 0.435525 | 0.914408 |
| sppl2 | 855.2368028 | 0.002729517 | 0.0936708 | 0.0291395 | 0.976753 | 0.996762 |
| crabp2b | 901.3408969 | 0.052878417 | 0.0904545 | 0.5845858 | 0.558826 | 0.948478 |
| tppp3 | 109.3068261 | 0.068090232 | 0.1951336 | 0.3489416 | 0.727133 | 0.970402 |
| tmem263 | 532.4027805 | 0.245713302 | 0.1039141 | 2.3645815 | 0.01805 | 0.249253 |
| slc16a5a | 33.36033795 | 0.297197255 | 0.3393632 | 0.8757497 | 0.381166 | 0.895192 |
| zgc:66484 | 258.167811 | -0.497100117 | 0.1347935 | -3.687864 | 0.000226 | 0.009434 |
| hmgb1b | 6747.990559 | -0.054338331 | 0.0654389 | -0.830367 | 0.406331 | 0.901305 |
| sptb | 497.7712533 | 0.182611208 | 0.1174428 | 1.5548953 | 0.119971 | 0.645215 |
| hju | 107.1085394 | 0.226311992 | 0.2024335 | 1.1179572 | 0.263585 | 0.830245 |
| si:dkey-167k11.5 | | 0 NA | NA | NA | NA | NA |
| tsnaxipl | 28.36361228 | 0.020182023 | 0.362875 | 0.055617 | 0.955647 | 0.994543 |
| acs11a | 540.6057281 | -0.030324036 | 0.1054724 | -0.287507 | 0.773724 | 0.975687 |
| slc22a2 | 150.858741 | 0.216910474 | 0.1780831 | 1.2180298 | 0.223213 | 0.789115 |
| arhgef12a | 745.0796723 | -0.109706637 | 0.097703 | -1.122859 | 0.261498 | 0.829593 |
| psmcla | 2352.916686 | -0.129930944 | 0.07969 | -1.630454 | 0.103005 | 0.609625 |
| rnd1a | 1515.84689 | 0.005609621 | 0.0839398 | 0.0668291 | 0.946718 | 0.99381 |
| helz | 896.4885377 | 0.038384754 | 0.1047378 | 0.3664844 | 0.714004 | 0.96909 |
| zgc:77880 | 247.7101083 | 0.06071563 | 0.1374036 | 0.441878 | 0.658577 | 0.962545 |
| nudt1 | 56.11045358 | 0.174543873 | 0.2760426 | 0.6323077 | 0.527186 | 0.941186 |
| foxk2 | 1096.753951 | -0.039013362 | 0.0898237 | -0.434333 | 0.664047 | 0.964736 |
| slc10a1 | 22.55424046 | -0.47596262 | 0.400802 | -1.187525 | 0.23502 | 0.803894 |
| lrrc42 | 85.05117258 | -0.171911964 | 0.2294022 | -0.749391 | 0.453621 | 0.920041 |
| nampta | 328.3469692 | 0.038385978 | 0.1225498 | 0.3132277 | 0.754108 | 0.975056 |
| rps19 | 14091.2773 | -0.231763397 | 0.0857858 | -2.701652 | 0.0069 | 0.128953 |
| phkgla | 334.5805352 | 0.410442571 | 0.1320911 | 3.1072689 | 0.001888 | 0.051148 |
| rhogd | 129.307861 | 0.108405328 | 0.189533 | 0.5719602 | 0.567349 | 0.948739 |
| sytl | 6407.391851 | 0.051618121 | 0.0652996 | 0.7904816 | 0.429247 | 0.911406 |
| nfe211a | 296.8386173 | 0.022901104 | 0.1268664 | 0.1805135 | 0.856749 | 0.985597 |
| th | 123.782626 | 0.238085421 | 0.1881637 | 1.2653103 | 0.20576 | 0.773784 |
| lrit2 | 52.96141837 | 0.148873502 | 0.2689003 | 0.5536382 | 0.579826 | 0.951257 |

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| mfsd2aa | 161.6421855 | 0.435074815 | 0.1617948 | 2.6890533 | 0.007165 | 0.132793 |
| ccdc3b | 290.4195945 | 0.246530359 | 0.1294664 | 1.9042032 | 0.056884 | 0.468089 |
| plekhn3 | 236.4105957 | 0.047630122 | 0.1375115 | 0.346372 | 0.729063 | 0.970822 |
| pimr189 | 2.49942042 | -1.435466538 | 1.2329926 | -1.164213 | 0.244338 | NA |
| tex30 | 18.97709376 | 0.627028627 | 0.4354173 | 1.4400638 | 0.149849 | 0.697935 |
| letmdl | 144.6593973 | 0.08977036 | 0.1652824 | 0.5431332 | 0.587038 | 0.953319 |
| gnai3 | 60.99220448 | -0.20370051 | 0.2492923 | -0.817115 | 0.413863 | 0.905864 |
| r3hdml | 21.52317375 | 0.680903551 | 0.4320519 | 1.5759764 | 0.115031 | 0.635519 |
| 3-Sep | 1482.402374 | -0.078902303 | 0.0882768 | -0.893806 | 0.371426 | 0.891981 |
| CU929230.1 | 610.6535247 | -0.08276046 | 0.1046464 | -0.790858 | 0.429027 | 0.911406 |
| phka2 | 1043.211004 | 0.09096834 | 0.0972896 | 0.9350266 | 0.349775 | 0.880195 |
| atp6v1e1b | 3803.728803 | 0.002183224 | 0.0730193 | 0.0298993 | 0.976147 | 0.996762 |
| ctpsla | 1056.856895 | 0.0307454 | 0.098432 | 0.3123518 | 0.754773 | 0.975207 |
| otx2a | 113.2727706 | 0.072592683 | 0.1915204 | 0.3790338 | 0.704663 | 0.968134 |
| ing4 | 1844.296847 | -0.079967143 | 0.076291 | -1.048186 | 0.294553 | 0.850664 |
| xirpl | 169.2015726 | -0.218502484 | 0.1639242 | -1.332949 | 0.182549 | 0.745308 |
| cldn11b | 203.8540156 | 0.215174343 | 0.1531873 | 1.4046486 | 0.160126 | 0.712495 |
| b3gat2 | 317.5392036 | 0.025501837 | 0.1280237 | 0.1991962 | 0.842109 | 0.985174 |
| sptlc3 | 252.8244887 | -0.41856371 | 0.1351067 | -3.098024 | 0.001948 | 0.052555 |
| gabrr3b | 78.7074804 | 0.087748914 | 0.2236707 | 0.392313 | 0.694827 | 0.96736 |
| prrg4 | 321.8307565 | -0.155847103 | 0.1267734 | -1.229336 | 0.218946 | 0.785734 |
| dnmt1 | 1805.032233 | -0.072967312 | 0.0902259 | -0.808718 | 0.418678 | 0.906406 |
| gucalc | 111.0996392 | 0.265441058 | 0.1965058 | 1.3508053 | 0.176758 | 0.737285 |
| melk | 175.0279322 | -0.137154152 | 0.160378 | -0.855193 | 0.392444 | 0.897688 |
| sytl6 | 5.142382242 | -0.297337992 | 0.8383955 | -0.354651 | 0.722851 | NA |
| hadh | 853.1101057 | -0.130809269 | 0.087011 | -1.503364 | 0.132745 | 0.667381 |
| sybl1 | 487.1306495 | 0.049650239 | 0.1084732 | 0.4577189 | 0.647154 | 0.960435 |
| BX323854.1 | 0.981152638 | -0.049279921 | 1.9490317 | -0.025284 | 0.979828 | NA |
| acads | 558.4142122 | 0.066548431 | 0.1041638 | 0.6388825 | 0.522899 | 0.939336 |
| exoc3l2b | 184.9461722 | -0.234185286 | 0.1574365 | -1.487491 | 0.136885 | 0.673303 |
| mpi | 107.7355016 | -0.133116782 | 0.2059286 | -0.646422 | 0.518006 | 0.938592 |
| ddx18 | 813.2848742 | 0.003858051 | 0.1078537 | 0.0357712 | 0.971465 | 0.996315 |
| zgc:110006 | 25.03278261 | -0.32985649 | 0.3799106 | -0.868248 | 0.385259 | 0.89551 |
| fam120b | 126.8470121 | 0.17706552 | 0.1767242 | 1.0019316 | 0.316377 | 0.867129 |
| znhit2 | 61.82023236 | -0.029975484 | 0.2539876 | -0.118019 | 0.906052 | 0.990702 |
| esyt2a | 453.4124595 | -0.035961623 | 0.1078333 | -0.333493 | 0.738762 | 0.972722 |
| cmtrl | 628.8759009 | -0.154154608 | 0.1116706 | -1.380441 | 0.167451 | 0.724546 |
| otofa | 377.5568798 | -0.06217603 | 0.1202021 | -0.517263 | 0.604973 | 0.95651 |
| tescb | 75.76247404 | -0.051001321 | 0.2307051 | -0.221067 | 0.82504 | 0.982196 |
| klf11a | 1463.380624 | -0.221583008 | 0.092057 | -2.407019 | 0.016083 | 0.233847 |
| opn7c | 13.68905764 | -0.447038587 | 0.5330434 | -0.838653 | 0.401664 | 0.90084 |
| siah1 | 958.7629308 | 0.024880848 | 0.08704 | 0.2858552 | 0.774989 | 0.975687 |
| cetp | 122.9206754 | 0.22984925 | 0.2146093 | 1.0710123 | 0.284164 | 0.844697 |
| baxb | 57.95112112 | -0.031830297 | 0.2677867 | -0.118864 | 0.905383 | 0.990702 |
| phf23a | 312.7545494 | 0.073608215 | 0.1251457 | 0.5881799 | 0.556412 | 0.947918 |
| foxqla | 202.9858389 | 0.27876234 | 0.1842692 | 1.5127996 | 0.130331 | 0.662797 |
| cited2 | 702.5860745 | -0.296208263 | 0.1033451 | -2.866205 | 0.004154 | 0.089484 |
| cluha | 1636.846483 | 0.034547242 | 0.0820675 | 0.4209615 | 0.673783 | 0.965257 |
| tmem120a | 157.7838462 | 0.21732483 | 0.1668111 | 1.3028202 | 0.192636 | 0.756795 |
| cpal | 56.91505938 | -0.228748049 | 0.2808539 | -0.814473 | 0.415374 | 0.906237 |
| fgf10a | 116.4340325 | -0.055981535 | 0.1903657 | -0.294074 | 0.768702 | 0.975687 |
| ksr1b | 145.2738321 | 0.224591433 | 0.165193 | 1.3595698 | 0.173966 | 0.733946 |
| fermt3b | 8.226191573 | -0.442148224 | 0.6803323 | -0.6499 | 0.515757 | NA |
| si:ch211-259g3.4 | 664.5677582 | 0.134555447 | 0.1071031 | 1.2563169 | 0.209001 | 0.776073 |

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| srprb | 671.2049757 | -0.073275594 | 0.0961554 | -0.762054 | 0.446028 | 0.917154 |
| ftr56 | 28.32919935 | -0.261170097 | 0.4011495 | -0.651054 | 0.515011 | 0.937646 |
| yipf4 | 877.2990064 | 0.018122331 | 0.0862488 | 0.210117 | 0.833576 | 0.983583 |
| ak8 | 28.4324582 | 0.018768754 | 0.3727428 | 0.0503531 | 0.959841 | 0.995379 |
| pde12 | 199.2559608 | 0.044951545 | 0.1505149 | 0.2986518 | 0.765206 | 0.975374 |
| si:ch211-51a6.2 | 158.3511773 | 0.206333457 | 0.1663619 | 1.2402687 | 0.214876 | 0.782493 |
| dnajal | 189.2060469 | 0.041167615 | 0.157662 | 0.2611131 | 0.794005 | 0.977937 |
| ccdc8011 | 112.0742667 | 0.389423043 | 0.1917152 | 2.0312581 | 0.042229 | 0.403776 |
| csrplb | 74.46558996 | -0.691675954 | 0.2394742 | -2.888311 | 0.003873 | 0.085098 |
| tmem127 | 269.7159201 | 0.145356168 | 0.1278097 | 1.1372857 | 0.255419 | 0.823924 |
| mybl1 | 200.7679949 | -0.033738992 | 0.152698 | -0.220952 | 0.825129 | 0.982196 |
| dtna | 79.86185227 | 0.034885228 | 0.2210823 | 0.157793 | 0.87462 | 0.987881 |
| pip4k2ca | 1092.788584 | -0.118528624 | 0.0861513 | -1.37582 | 0.168877 | 0.725919 |
| lipg | 302.91557 | 0.260130345 | 0.1296555 | 2.0063188 | 0.044822 | 0.416612 |
| nrlh5 | 59.85187282 | 0.196268449 | 0.2524656 | 0.7774068 | 0.436919 | 0.914408 |
| gspt1 | 598.7474652 | 0.178182561 | 0.1010547 | 1.7632284 | 0.077862 | 0.543659 |
| igsf21a | 597.6940442 | 0.010390195 | 0.098436 | 0.1055528 | 0.915937 | 0.991314 |
| cadmla | 338.7454026 | 0.246826253 | 0.1186721 | 2.0799016 | 0.037535 | 0.379013 |
| veph1 | 10.45330074 | 0.037535833 | 0.619974 | 0.0605442 | 0.951722 | NA |
| tim50 | 482.791335 | 0.014482109 | 0.1150752 | 0.125849 | 0.899851 | 0.990121 |
| ivnslabpa | 4337.382656 | -0.106550078 | 0.0732552 | -1.454505 | 0.145806 | 0.691641 |
| lrba | 1224.218913 | -0.018222397 | 0.0839 | -0.217192 | 0.828059 | 0.982721 |
| dnal4a | 19.9493037 | 0.061617857 | 0.4289452 | 0.1436497 | 0.885777 | 0.988936 |
| baiap211b | 133.4819358 | -0.339054043 | 0.1764041 | -1.922031 | 0.054602 | 0.457793 |
| notumla | 105.8116517 | 0.26332026 | 0.2039947 | 1.2908194 | 0.196766 | 0.761944 |
| moxdl | 100.2603654 | -0.285210203 | 0.2041236 | -1.397243 | 0.162341 | 0.716781 |
| irx3b | 46.71013288 | -0.146054186 | 0.2840319 | -0.514218 | 0.6071 | 0.956718 |
| gba3 | 21.89186869 | -0.502651643 | 0.4184664 | -1.201176 | 0.229683 | 0.79764 |
| nrl4a | 74.64823908 | -0.283083173 | 0.228829 | -1.237095 | 0.216052 | 0.783484 |
| tuba812 | 1683.41635 | 0.073522079 | 0.1014765 | 0.7245231 | 0.468745 | 0.924328 |
| hmg20a | 385.771878 | -0.080629613 | 0.113781 | -0.708638 | 0.478549 | 0.926978 |
| ppp2r5cb | 1249.008392 | -0.023895559 | 0.0844113 | -0.283085 | 0.777112 | 0.975826 |
| alg11 | 216.2156816 | 0.030758288 | 0.1429527 | 0.215164 | 0.829639 | 0.982805 |
| commdl | 225.5641322 | -0.141101322 | 0.1548763 | -0.911058 | 0.362265 | 0.885944 |
| arcnlb | 1586.108603 | 0.029109271 | 0.0835593 | 0.3483666 | 0.727565 | 0.970402 |
| ssu72 | 762.6100351 | -0.024101155 | 0.1038468 | -0.232084 | 0.816473 | 0.981594 |
| lhx2b | 320.1968097 | -0.188467969 | 0.1359489 | -1.386315 | 0.165651 | 0.721576 |
| podxl | 685.6912126 | 0.174969201 | 0.09745 | 1.7954767 | 0.072578 | 0.52617 |
| kidins220a | 402.1642273 | 0.04112303 | 0.112942 | 0.3641076 | 0.715778 | 0.96909 |
| snai3 | 4.118754577 | -0.360553045 | 0.9440361 | -0.381927 | 0.702515 | NA |
| hbegfb | 93.75717813 | -0.141586079 | 0.2106977 | -0.671987 | 0.501592 | 0.934648 |
| enkur | 59.22780067 | -0.034616756 | 0.2567835 | -0.134809 | 0.892763 | 0.989291 |
| sap30bp | 509.2090585 | 0.002180515 | 0.1181062 | 0.0184623 | 0.98527 | 0.996944 |
| rnf123 | 56.83103782 | -0.351345739 | 0.257974 | -1.361943 | 0.173216 | 0.732435 |
| si:ch73-193i2.2 | 7.540720479 | -0.994698797 | 0.7830061 | -1.270359 | 0.203957 | NA |
| vampl | 1770.213196 | 0.136413131 | 0.0783104 | 1.7419535 | 0.081517 | 0.552315 |
| dnajc9 | 337.5839895 | -0.011833754 | 0.1211504 | -0.097678 | 0.922188 | 0.992292 |
| dhrl1b | 276.1750518 | -0.616189613 | 0.134718 | -4.573923 | 4.79E-06 | 0.000386 |
| smap1 | 1964.40787 | -0.000378404 | 0.0763085 | -0.004959 | 0.996043 | 0.998888 |
| zic4 | 337.4612004 | -0.074905374 | 0.1238933 | -0.604596 | 0.545448 | 0.945526 |
| six6b | 418.8237318 | -0.00068434 | 0.1314216 | -0.005207 | 0.995845 | 0.998888 |
| ppdpfb | 7886.070615 | -0.209013143 | 0.08555 | -2.44317 | 0.014559 | 0.219929 |
| tmedla | 93.18864812 | -0.206223772 | 0.2129946 | -0.968211 | 0.332939 | 0.874926 |
| hsd20b2 | 163.9751387 | 0.100496771 | 0.1690958 | 0.5943184 | 0.552299 | 0.947265 |

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|------------------|-------------|--------------|-----------|-----------|----------|----------|
| hoxa10b | 141.8320966 | 0.021872765 | 0.1868333 | 0.117071 | 0.906804 | 0.990702 |
| rab6bb | 1274.481473 | 0.073891139 | 0.0856624 | 0.862585 | 0.388366 | 0.896271 |
| RTKN | 64.07361094 | -0.062549665 | 0.2486234 | -0.251584 | 0.801363 | 0.979377 |
| rbml7 | 459.1120979 | -0.016062785 | 0.1058639 | -0.151731 | 0.879399 | 0.987881 |
| mc5ra | 57.90111392 | -0.119196778 | 0.2625271 | -0.454036 | 0.649803 | 0.960708 |
| cmpk2 | 2.351582791 | -1.306968304 | 1.303324 | -1.002796 | 0.315959 | NA |
| rtn4ipl | 261.7471094 | -0.129399566 | 0.1368253 | -0.945729 | 0.344287 | 0.878434 |
| efna2a | 393.0110818 | -0.041179528 | 0.1233658 | -0.3338 | 0.73853 | 0.972722 |
| reep2 | 774.1783006 | 0.051880701 | 0.0931524 | 0.556944 | 0.577566 | 0.95086 |
| klhl38a | 32.25911429 | -0.273522781 | 0.3352598 | -0.815853 | 0.414584 | 0.906237 |
| cers4a | 243.4251617 | 0.210644201 | 0.149283 | 1.4110394 | 0.158233 | 0.709224 |
| dctn2 | 1912.4497 | -0.034494448 | 0.0763294 | -0.451916 | 0.65133 | 0.960708 |
| wtla | 57.72195159 | 0.070374988 | 0.2578209 | 0.2729607 | 0.784883 | 0.97627 |
| igfbp2b | 29.65478995 | 0.654795776 | 0.3582614 | 1.827704 | 0.067594 | 0.508988 |
| csrnpla | 350.0910832 | -0.028428092 | 0.1264617 | -0.224796 | 0.822138 | 0.982186 |
| calm2a | 4260.914011 | 0.069579079 | 0.0779746 | 0.8923301 | 0.372216 | 0.892686 |
| rcor1 | 785.2440885 | 0.024059623 | 0.0915866 | 0.262698 | 0.792783 | 0.977937 |
| TXN | 3949.199139 | -0.173397703 | 0.086115 | -2.013559 | 0.044056 | 0.412803 |
| kcnj11l | 249.332635 | 0.234860249 | 0.1405905 | 1.6705272 | 0.094815 | 0.585466 |
| syt6b | 193.6901204 | -0.072448255 | 0.1503293 | -0.48193 | 0.629855 | 0.957354 |
| col9a1b | 3888.790585 | 0.206851781 | 0.2614462 | 0.7911829 | 0.428837 | 0.911406 |
| ognb | 4.813156262 | 0.172530225 | 0.9608674 | 0.1795567 | 0.857501 | NA |
| prrc2a | 4057.229724 | 0.086699536 | 0.0662653 | 1.3083701 | 0.190748 | 0.755212 |
| seta | 6062.557573 | -0.055931655 | 0.0689999 | -0.810605 | 0.417593 | 0.906237 |
| aplar | 313.6549195 | 0.277785444 | 0.1327756 | 2.0921419 | 0.036426 | 0.372818 |
| flvcr2b | 212.3124888 | -0.037201335 | 0.1491502 | -0.249422 | 0.803034 | 0.979643 |
| psmb2 | 1741.123169 | -0.114842669 | 0.0784683 | -1.463555 | 0.143316 | 0.686804 |
| ap5ml | 91.40839121 | 0.048126251 | 0.2069372 | 0.2325645 | 0.8161 | 0.981594 |
| CU571315.1 | 39.07633662 | -1.006992777 | 0.3155231 | -3.191502 | 0.001415 | 0.040718 |
| tmem200a | 64.61379509 | -0.065398757 | 0.2581936 | -0.253293 | 0.800041 | 0.979377 |
| ephb3a | 1088.850142 | -0.057651805 | 0.0829368 | -0.695129 | 0.486974 | 0.931104 |
| srpk1b | 608.1867476 | -0.005349926 | 0.0992308 | -0.053914 | 0.957004 | 0.994543 |
| tada2a | 339.5445635 | -0.260801883 | 0.120925 | -2.156724 | 0.031027 | 0.340851 |
| flvcr1 | 432.6029142 | 0.192025716 | 0.1109568 | 1.7306357 | 0.083517 | 0.557158 |
| si:dkey-239b22.1 | 984.5550421 | 0.331671985 | 0.3247143 | 1.0214272 | 0.307052 | 0.860982 |
| calb1 | 339.1290763 | 0.073979699 | 0.1305438 | 0.566704 | 0.570915 | 0.949078 |
| rd3 | 124.3242874 | 0.068082532 | 0.2059796 | 0.3305304 | 0.740999 | 0.973154 |
| g6pca.1 | 136.6798332 | 0.349912034 | 0.1740785 | 2.0100819 | 0.044423 | 0.41454 |
| unm_sal261 | 97.66874889 | -0.00013675 | 0.2060445 | -0.000664 | 0.99947 | 0.999704 |
| chst10 | 253.9804265 | 0.02141117 | 0.1469513 | 0.1457025 | 0.884156 | 0.988784 |
| pan3 | 645.7524677 | 0.007104212 | 0.0973866 | 0.0729486 | 0.941847 | 0.993099 |
| stat2 | 220.3723472 | -0.339902379 | 0.141463 | -2.402764 | 0.016272 | 0.235374 |
| cort | 340.2548309 | 0.300008687 | 0.1191734 | 2.5174137 | 0.011822 | 0.191129 |
| fahd1 | 170.6375097 | -0.295124349 | 0.1612283 | -1.830475 | 0.067179 | 0.506828 |
| si:ch211-207d6.2 | 255.7312557 | 0.00433089 | 0.131782 | 0.032864 | 0.973783 | 0.996315 |
| sox21a | 80.04690451 | 0.234323222 | 0.2394115 | 0.9787466 | 0.327705 | 0.872701 |
| col5a2a | 6780.851469 | 0.308623814 | 0.082946 | 3.7207806 | 0.000199 | 0.008482 |
| ercc1 | 187.4282571 | -0.334014801 | 0.1684754 | -1.982573 | 0.047415 | 0.427732 |
| atp6v0b | 2375.434182 | 0.100748268 | 0.072208 | 1.3952515 | 0.16294 | 0.717875 |
| fosab | 512.8442281 | 0.361525487 | 0.3701454 | 0.976712 | 0.328712 | 0.872945 |
| kif9 | 11.91561838 | -0.31291303 | 0.5439226 | -0.57529 | 0.565095 | 0.948739 |
| mylk2 | 33.69982449 | 0.092842975 | 0.3405538 | 0.2726235 | 0.785143 | 0.97627 |
| prkg1b | 300.9947125 | 0.389324339 | 0.1427709 | 2.7269169 | 0.006393 | 0.122178 |
| ml1t1b | 189.7557334 | 0.228332371 | 0.1528735 | 1.4936036 | 0.135279 | 0.670689 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| grm3 | 66.08198633 | -0.459403109 | 0.26822 | -1.712785 | 0.086752 | 0.564768 |
| clstnl | 8050.42157 | 0.102131855 | 0.076459 | 1.3357733 | 0.181623 | 0.743565 |
| si:ch73-27e22.6 | | 0 NA | NA | NA | NA | NA |
| pthlha | 81.54673663 | -0.275523388 | 0.2460968 | -1.119573 | 0.262896 | 0.830166 |
| si:busml-266f07.2 | 15.05728342 | -0.141321013 | 0.5264892 | -0.268421 | 0.788375 | 0.976703 |
| C3AR1 | 5.201428251 | 0.292323701 | 0.8980163 | 0.3255216 | 0.744786 | NA |
| np1a | 84.2272015 | 0.168980406 | 0.2172777 | 0.7777161 | 0.436736 | 0.914408 |
| mef2aa | 118.2785069 | -0.124705908 | 0.1935627 | -0.644266 | 0.519403 | 0.938945 |
| tmc4 | 56.08508643 | -0.403528872 | 0.2684834 | -1.502994 | 0.132841 | 0.667545 |
| dab2 | 271.6586157 | -0.385650963 | 0.1415287 | -2.724897 | 0.006432 | 0.122415 |
| smad6b | 380.7180452 | 0.144066448 | 0.1162936 | 1.2388161 | 0.215414 | 0.783013 |
| rora | 2110.959657 | 0.010153236 | 0.0870347 | 0.1166574 | 0.907132 | 0.990702 |
| kat7b | 719.0028301 | -0.056683446 | 0.0998991 | -0.567407 | 0.570438 | 0.949061 |
| pus7 | 470.1433128 | 0.008218601 | 0.1112545 | 0.0738721 | 0.941112 | 0.992857 |
| ube2s | 993.6404521 | 0.042546549 | 0.0853609 | 0.4984313 | 0.61818 | 0.957354 |
| fthl27 | 5800.424858 | -0.077266556 | 0.0950195 | -0.813165 | 0.416124 | 0.906237 |
| ppara | 62.20077939 | 0.254863277 | 0.2449279 | 1.0405644 | 0.298078 | 0.85401 |
| crybg1a | 735.108635 | -0.023120488 | 0.0931501 | -0.248207 | 0.803974 | 0.979643 |
| adcyl8 | 271.8964853 | -0.080846985 | 0.1303888 | -0.620046 | 0.535228 | 0.943336 |
| abcf1 | 2252.693071 | -0.019620376 | 0.079163 | -0.247848 | 0.804252 | 0.979643 |
| ache | 1810.447774 | 0.195677627 | 0.0745546 | 2.6246214 | 0.008675 | 0.153289 |
| rbm24b | 21.8317574 | 0.291132831 | 0.4563271 | 0.6379915 | 0.523479 | 0.939336 |
| dhrs13b.1 | 112.2163408 | -0.022547736 | 0.1854321 | -0.121596 | 0.903219 | 0.990121 |
| trim2a | 44.3875197 | 0.084774247 | 0.2953923 | 0.2869887 | 0.774121 | 0.975687 |
| eif4ebp2 | 4047.428287 | 0.064384602 | 0.0742858 | 0.8667144 | 0.386099 | 0.89551 |
| vps37c | 879.9908829 | -0.026062014 | 0.0873786 | -0.298265 | 0.765501 | 0.975374 |
| mboat2a | 28.76519169 | 0.073014096 | 0.3613657 | 0.2020505 | 0.839877 | 0.984979 |
| pparg | 71.51472461 | -0.9685406 | 0.2384487 | -4.061841 | 4.87E-05 | 0.002674 |
| trpalb | 84.59565935 | -0.302534318 | 0.2225189 | -1.35959 | 0.17396 | 0.733946 |
| pard6ga | 1.806499777 | 1.423624041 | 1.4738733 | 0.9659067 | 0.334091 | NA |
| psmb12 | 2.004323476 | -1.017052804 | 1.4085527 | -0.722055 | 0.470261 | NA |
| ift140 | 285.1035748 | 0.02530335 | 0.1263945 | 0.2001935 | 0.841329 | 0.985174 |
| mapk8a | 286.4992455 | 0.092352667 | 0.1282307 | 0.7202069 | 0.471398 | 0.924838 |
| tcp1111 | 492.3030255 | 0.044543247 | 0.1049165 | 0.4245592 | 0.671158 | 0.965257 |
| tbx1 | 423.6314166 | 0.016301268 | 0.1183609 | 0.1377251 | 0.890458 | 0.989291 |
| lef1 | 938.8033225 | -0.056559445 | 0.0874784 | -0.646553 | 0.517921 | 0.938592 |
| ptbplb | 1150.800428 | -0.017512635 | 0.080837 | -0.216641 | 0.828488 | 0.982721 |
| tns3.2 | 627.6879353 | -0.033442804 | 0.100656 | -0.332248 | 0.739702 | 0.972943 |
| hiflan | 815.3116477 | -0.383806885 | 0.1124208 | -3.414019 | 0.00064 | 0.021454 |
| stard14 | 430.7839814 | 0.002284026 | 0.1194709 | 0.0191178 | 0.984747 | 0.996944 |
| erclb | 0.484248244 | 0.852636534 | 2.8793247 | 0.2961238 | 0.767136 | NA |
| mb | 1568.096508 | -0.362612805 | 0.1049883 | -3.45384 | 0.000553 | 0.019206 |
| rbck1 | 68.00911025 | -0.250333222 | 0.2431179 | -1.029678 | 0.303161 | 0.85729 |
| tmem63a | 149.5148918 | -0.050478906 | 0.1671843 | -0.301936 | 0.762701 | 0.975374 |
| cpped1 | 178.5937446 | 0.051671034 | 0.167452 | 0.3085722 | 0.757647 | 0.975374 |
| poglut2 | 204.0895413 | 0.133483389 | 0.1598502 | 0.8350528 | 0.403688 | 0.900979 |
| nos2b | 25.49451827 | 0.671346146 | 0.3853011 | 1.7423934 | 0.08144 | 0.552315 |
| pcbd1 | 194.9875161 | -0.101528444 | 0.1637006 | -0.620208 | 0.535121 | 0.943336 |
| six4b | 223.7306698 | -0.121752111 | 0.1470323 | -0.828064 | 0.407634 | 0.901327 |
| ptpa | 692.1754661 | -0.079848507 | 0.0936755 | -0.852395 | 0.393995 | 0.898496 |
| ccdc65 | 28.7021781 | 0.05118254 | 0.3538417 | 0.1446481 | 0.884989 | 0.988911 |
| slc15a2 | 177.1357943 | -0.044106348 | 0.1544034 | -0.285657 | 0.775141 | 0.975687 |
| pafahlb1a | 1630.293876 | -0.024655684 | 0.0787355 | -0.313146 | 0.75417 | 0.975056 |
| bet11 | 122.1237445 | -0.025215 | 0.186593 | -0.135134 | 0.892506 | 0.989291 |

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|-------------|--------------|---------------|------------|------------|-----------|-----------|
| mxdl | 18. 1735812 | -0. 22633839 | 0. 4504955 | -0. 502421 | 0. 615371 | 0. 95688 |
| ftr16 | 14. 11145778 | -0. 401916502 | 0. 5204765 | -0. 772209 | 0. 439991 | 0. 916082 |
| enah | 1426. 228782 | -0. 003663619 | 0. 0774307 | -0. 047315 | 0. 962262 | 0. 995907 |
| arl6 | 455. 7060538 | 0. 140028291 | 0. 1084812 | 1. 2908068 | 0. 196771 | 0. 761944 |
| cdk16 | 322. 2337806 | 0. 083066707 | 0. 1331955 | 0. 6236448 | 0. 532861 | 0. 942805 |
| BX323082. 1 | 8. 855239477 | 0. 012933078 | 0. 6472384 | 0. 0199819 | 0. 984058 | NA |
| acs13a | 70. 34720798 | -0. 264320687 | 0. 2324077 | -1. 137315 | 0. 255407 | 0. 823924 |
| dpysl2b | 1189. 158127 | 0. 006621458 | 0. 0870811 | 0. 0760378 | 0. 939389 | 0. 992857 |
| sgsh | 144. 5177628 | -0. 113972273 | 0. 1968166 | -0. 579078 | 0. 562536 | 0. 948728 |
| c8g | 152. 4181414 | 0. 24179757 | 0. 1999049 | 1. 2095627 | 0. 226447 | 0. 793959 |
| prdx3 | 1186. 658599 | -0. 062431243 | 0. 0859779 | -0. 726131 | 0. 467758 | 0. 924328 |
| mapk6 | 1331. 388913 | 0. 155975704 | 0. 09563 | 1. 6310332 | 0. 102883 | 0. 609169 |
| slain2 | 400. 9629305 | 0. 262944048 | 0. 1169686 | 2. 2479882 | 0. 024577 | 0. 302262 |
| cnot7 | 73. 79565565 | -0. 03171709 | 0. 2430461 | -0. 130498 | 0. 896172 | 0. 989971 |
| ddx1 | 964. 3180647 | 0. 152990581 | 0. 0878394 | 1. 7417079 | 0. 08156 | 0. 552315 |
| scg5 | 307. 9607764 | 0. 198993117 | 0. 1292245 | 1. 5399025 | 0. 123584 | 0. 651905 |
| gtf2f1 | 752. 1757141 | -0. 15350307 | 0. 0988515 | -1. 552865 | 0. 120455 | 0. 645323 |
| drd3 | 55. 65697351 | -0. 285589926 | 0. 2573155 | -1. 109882 | 0. 26705 | 0. 833191 |
| ppmlaa | 277. 1276702 | -0. 041067356 | 0. 1305935 | -0. 314467 | 0. 753166 | 0. 97481 |
| zgc:171776 | 0. 48983248 | -0. 887840757 | 2. 6934859 | -0. 329625 | 0. 741683 | NA |
| grk6 | 21. 84988901 | 1. 002220313 | 0. 4142569 | 2. 4193208 | 0. 01555 | 0. 228768 |
| srgap2 | 979. 8876349 | -0. 060469596 | 0. 0864361 | -0. 699587 | 0. 484185 | 0. 929542 |
| puf60a | 1485. 020068 | -0. 107571389 | 0. 0859163 | -1. 252048 | 0. 210552 | 0. 778338 |
| lrrc8aa | 54. 93892741 | 0. 164510215 | 0. 2605709 | 0. 6313452 | 0. 527815 | 0. 941629 |
| klf12b | 28. 62278318 | 0. 320499423 | 0. 3538115 | 0. 905848 | 0. 365016 | 0. 886714 |
| gpc3 | 11. 45009976 | -0. 093831349 | 0. 5774403 | -0. 162495 | 0. 870916 | 0. 987697 |
| cthl | 56. 74617254 | -0. 627804577 | 0. 2895443 | -2. 168251 | 0. 03014 | 0. 335575 |
| acss3 | 292. 9959768 | -0. 380053032 | 0. 1286597 | -2. 95394 | 0. 003137 | 0. 073769 |
| phactr4b | 392. 5759763 | -0. 099554617 | 0. 1121894 | -0. 88738 | 0. 374874 | 0. 894316 |
| wnt2bb | 30. 33312978 | 0. 205489889 | 0. 343288 | 0. 5985934 | 0. 549444 | 0. 946312 |
| anapc4 | 224. 3315206 | -0. 050077819 | 0. 1407015 | -0. 355915 | 0. 721904 | 0. 970024 |
| dnm3a | 64. 82849102 | 0. 110363495 | 0. 2629659 | 0. 4196875 | 0. 674714 | 0. 965257 |
| tnnt2c | 171. 7731422 | -0. 157222261 | 0. 1713553 | -0. 917522 | 0. 358869 | 0. 884602 |
| tmtopsb | 38. 50275633 | 0. 290857844 | 0. 3263109 | 0. 891352 | 0. 37274 | 0. 892868 |
| txndc16 | 113. 6810335 | -0. 071899226 | 0. 2055734 | -0. 34975 | 0. 726527 | 0. 970402 |
| rngtt | 564. 8444785 | -0. 027179066 | 0. 1142825 | -0. 237823 | 0. 812018 | 0. 981081 |
| zgc:110224 | 53. 88457458 | -0. 025197827 | 0. 2876312 | -0. 087605 | 0. 930191 | 0. 992702 |
| mybl2b | 451. 9236989 | -0. 09266588 | 0. 11072 | -0. 836939 | 0. 402627 | 0. 90084 |
| sat1b | 87. 42258741 | -0. 216711844 | 0. 2306617 | -0. 939522 | 0. 347463 | 0. 880195 |
| rars2 | 91. 51040458 | -0. 03154488 | 0. 2082172 | -0. 1515 | 0. 879581 | 0. 987881 |
| zgc:113294 | 57. 22415619 | -0. 186388736 | 0. 2894776 | -0. 64388 | 0. 519653 | 0. 938945 |
| pomp | 1735. 210522 | -0. 039545529 | 0. 0762852 | -0. 51839 | 0. 604186 | 0. 95651 |
| tbc1d20 | 108. 961629 | -0. 069740228 | 0. 1911632 | -0. 36482 | 0. 715246 | 0. 96909 |
| tox | 2540. 540778 | -0. 098820166 | 0. 0803679 | -1. 229598 | 0. 218848 | 0. 785734 |
| mfsd6a | 164. 9224972 | -0. 371129537 | 0. 1712541 | -2. 167128 | 0. 030225 | 0. 336193 |
| mest | 181. 4683648 | -0. 211809599 | 0. 1536596 | -1. 378434 | 0. 168069 | 0. 725792 |
| epb4115 | 772. 4207871 | -0. 050798623 | 0. 0908522 | -0. 559135 | 0. 57607 | 0. 950611 |
| mecr | 169. 1589357 | 0. 043553501 | 0. 1729774 | 0. 2517872 | 0. 801206 | 0. 979377 |
| usp36 | 1242. 112842 | -0. 115647892 | 0. 0841529 | -1. 374259 | 0. 169361 | 0. 726744 |
| serhl | 202. 836043 | 0. 126083803 | 0. 1502556 | 0. 8391287 | 0. 401397 | 0. 90084 |
| pde4a | 539. 9016223 | 0. 13963963 | 0. 1015412 | 1. 3752023 | 0. 169069 | 0. 726144 |
| tipr1 | 316. 6600241 | -0. 109953846 | 0. 123501 | -0. 890308 | 0. 373301 | 0. 893554 |
| btbd6b | 1066. 212271 | -0. 027040363 | 0. 0838568 | -0. 322459 | 0. 747105 | 0. 97419 |
| ccdc180 | 20. 18856039 | 0. 796385778 | 0. 4644059 | 1. 7148485 | 0. 086373 | 0. 563305 |

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|------------------|-------|-------------|--------------|-----------|-----------|----------|----------|
| rnf145b | | 776.7867358 | 0.203424559 | 0.0898955 | 2.2629006 | 0.023642 | 0.296445 |
| ombp | | 54.19806449 | 0.156370373 | 0.309284 | 0.5055882 | 0.613146 | 0.95688 |
| tspan12 | | 128.9965825 | 0.276986119 | 0.181216 | 1.528486 | 0.126392 | 0.655289 |
| ckap4 | | 848.7321133 | 0.185011747 | 0.1011979 | 1.8282166 | 0.067517 | 0.508678 |
| coq8ab | | 72.44905026 | 0.050877999 | 0.2365796 | 0.2150566 | 0.829723 | 0.982805 |
| ppp2r1bb | | 5065.453824 | 0.077944299 | 0.0774797 | 1.0059969 | 0.314417 | 0.865529 |
| mpv17 | | 167.2312872 | -0.353660838 | 0.1573195 | -2.248043 | 0.024573 | 0.302262 |
| itga9 | | 54.33673317 | 0.248713114 | 0.2856407 | 0.8707201 | 0.383907 | 0.895192 |
| mark2b | | 1276.305929 | -0.064724559 | 0.0780676 | -0.829083 | 0.407057 | 0.901305 |
| slc1a8b | | 48.83774121 | 0.949503549 | 0.3068529 | 3.0943282 | 0.001973 | 0.052997 |
| ampd3b | | 222.7528767 | -0.031056541 | 0.1468967 | -0.211418 | 0.832561 | 0.983557 |
| si:dkey-40c11.2 | | 242.8130853 | 0.031094926 | 0.1370014 | 0.2269679 | 0.820449 | 0.981594 |
| pon1 | | 213.9782886 | 0.077540431 | 0.1724527 | 0.4496329 | 0.652975 | 0.960792 |
| rrp36 | | 131.5047565 | -0.180095654 | 0.1787719 | -1.007405 | 0.31374 | 0.865132 |
| arppi9a | | 1928.523215 | 0.030739399 | 0.0761263 | 0.403795 | 0.686364 | 0.966376 |
| praf2 | | 381.6751834 | 0.018979574 | 0.114266 | 0.1660999 | 0.868078 | 0.987245 |
| | 5-Mar | 92.4781952 | 0.066865209 | 0.209713 | 0.3188414 | 0.749847 | 0.97419 |
| egln3 | | 843.6339407 | -0.398383005 | 0.2415072 | -1.64957 | 0.099031 | 0.598346 |
| cacng2a | | 564.4107908 | -0.080038249 | 0.1048067 | -0.763675 | 0.445061 | 0.916958 |
| il20ra | | 93.98563507 | -0.490798592 | 0.2261227 | -2.170497 | 0.029969 | 0.335036 |
| ywhaz | | 4601.52413 | 0.036742104 | 0.0791709 | 0.464086 | 0.642586 | 0.959994 |
| clcn6 | | 80.69014286 | 0.09649607 | 0.2210758 | 0.4364841 | 0.662486 | 0.964665 |
| pax2b | | 21.50680085 | -0.461084892 | 0.4366128 | -1.05605 | 0.290945 | 0.846568 |
| thns12 | | 33.940834 | -0.280454747 | 0.3272531 | -0.856996 | 0.391447 | 0.897688 |
| macrod2 | | 676.1016732 | -0.044708576 | 0.0985686 | -0.453578 | 0.650132 | 0.960708 |
| st71 | | 214.9076849 | -0.303845276 | 0.1613591 | -1.883037 | 0.059695 | 0.478288 |
| sept8a | | 1098.303993 | -0.121162395 | 0.0859293 | -1.410024 | 0.158533 | 0.709224 |
| msi2b | | 404.5520038 | -0.026064145 | 0.1120358 | -0.232641 | 0.81604 | 0.981594 |
| fgfr11a | | 1037.959209 | 0.047228448 | 0.0855077 | 0.55233 | 0.580722 | 0.951731 |
| mgst1.1 | | 209.8078279 | -0.02582048 | 0.1416504 | -0.182283 | 0.855361 | 0.985174 |
| tob1a | | 1976.268691 | 0.12606233 | 0.0733151 | 1.7194592 | 0.085531 | 0.561521 |
| rca3 | | 966.9170101 | 0.089594286 | 0.0925769 | 0.967782 | 0.333153 | 0.874926 |
| SCYL2 | | 553.909734 | -0.029492456 | 0.1008951 | -0.292308 | 0.770051 | 0.975687 |
| neb | | 10842.20208 | 0.306343573 | 0.0805744 | 3.8019948 | 0.000144 | 0.006578 |
| ltb4r | | 23.70461936 | -0.124757463 | 0.3956187 | -0.315348 | 0.752498 | 0.974708 |
| si:dkey-261m9.12 | | 5.805654315 | 0.060763996 | 0.9100331 | 0.0667712 | 0.946764 | NA |
| cd36 | | 362.421438 | -0.357832843 | 0.1201388 | -2.978496 | 0.002897 | 0.070195 |
| fuk | | 168.173498 | -0.054053097 | 0.1554849 | -0.347642 | 0.728109 | 0.970402 |
| ppplr10 | | 1758.87049 | 0.246664356 | 0.0869073 | 2.8382468 | 0.004536 | 0.09614 |
| sinhcaf | | 452.0922119 | -0.064418841 | 0.116375 | -0.553545 | 0.57989 | 0.951257 |
| qrsl1 | | 151.0297194 | -0.036390689 | 0.1877931 | -0.193781 | 0.846348 | 0.985174 |
| foxglb | | 1172.386041 | -0.052130139 | 0.1005858 | -0.518265 | 0.604273 | 0.95651 |
| arl4cb | | 475.7023867 | -0.084390931 | 0.1070114 | -0.788616 | 0.430336 | 0.911957 |
| grialb | | 74.04009262 | -0.214446015 | 0.2271893 | -0.943909 | 0.345216 | 0.878434 |
| rps27a | | 17264.42165 | -0.24926128 | 0.0747519 | -3.334513 | 0.000854 | 0.027297 |
| gria3a | | 1417.133545 | 0.114795614 | 0.0830395 | 1.3824225 | 0.166842 | 0.723339 |
| si:dkey-11p23.7 | | 3.192094564 | 0.509355849 | 1.0778534 | 0.4725651 | 0.636524 | NA |
| tnfsf1013 | | 41.38072069 | 0.258657362 | 0.3186654 | 0.8116895 | 0.41697 | 0.906237 |
| pde4d | | 12.3050101 | 0.708067413 | 0.5594569 | 1.2656335 | 0.205644 | 0.77367 |
| net1 | | 1606.92309 | -0.071218848 | 0.092859 | -0.766957 | 0.443107 | 0.916336 |
| slc38a9 | | 96.022799 | -0.062763024 | 0.2114073 | -0.296882 | 0.766557 | 0.97561 |
| pigf | | 292.1047969 | 0.033477812 | 0.1336845 | 0.250424 | 0.802259 | 0.979492 |
| tmem8a | | 58.208002 | -0.241934418 | 0.2720189 | -0.889403 | 0.373787 | 0.893677 |
| kcnd2 | | 485.9695519 | 0.042889712 | 0.1081938 | 0.3964155 | 0.691799 | 0.967305 |

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|------------------|-------------|--------------|-----------|-----------|----------|----------|
| grk5 | 26.01279579 | 0.336229125 | 0.3929041 | 0.8557537 | 0.392134 | 0.897688 |
| ktn1 | 2677.754445 | -0.083835736 | 0.073307 | -1.143625 | 0.252779 | 0.822335 |
| tdrd7a | 10.33711334 | -0.230200057 | 0.589614 | -0.390425 | 0.696222 | NA |
| tm7sf2 | 190.5973077 | -0.059049854 | 0.1595924 | -0.370004 | 0.711379 | 0.969006 |
| rxfp2a | 53.68240873 | 0.130873502 | 0.2689084 | 0.4866842 | 0.626482 | 0.957354 |
| htrala | 373.8143639 | 0.273082913 | 0.122489 | 2.2294492 | 0.025784 | 0.310555 |
| pvalb5 | 698.4260806 | -0.009506181 | 0.1113314 | -0.085386 | 0.931954 | 0.992702 |
| si:dkey-206f10.1 | 371.8253157 | 0.176014987 | 0.1266497 | 1.3897784 | 0.164596 | 0.72071 |
| ndrgla | 2955.974389 | -0.169094135 | 0.0844605 | -2.00205 | 0.045279 | 0.418148 |
| ccdc120 | 151.4175016 | 0.076558146 | 0.1688651 | 0.4533688 | 0.650283 | 0.960708 |
| lratd2 | 47.3133346 | -0.195256252 | 0.2877743 | -0.678505 | 0.497452 | 0.933353 |
| ugt5gl | 107.1264943 | 0.193986486 | 0.2035122 | 0.9531935 | 0.340492 | 0.87805 |
| pacsin1a | 606.6515097 | 0.047171172 | 0.1135042 | 0.4155896 | 0.67771 | 0.965257 |
| erh | 1784.332916 | -0.105096049 | 0.0832068 | -1.26307 | 0.206564 | 0.774129 |
| pde4ba | 2856.902008 | 0.027977736 | 0.0793565 | 0.3525578 | 0.72442 | 0.970402 |
| trit1 | 290.4699904 | -0.086304456 | 0.1344263 | -0.64202 | 0.52086 | 0.939056 |
| si:ch211-226m7.4 | 30.0124533 | 0.151785783 | 0.3854596 | 0.3937787 | 0.693744 | 0.96736 |
| xgb | 4.806469737 | -0.099160752 | 0.8520856 | -0.116374 | 0.907356 | NA |
| chchd3a | 781.8562821 | 0.056498768 | 0.0987923 | 0.5718942 | 0.567394 | 0.948739 |
| cryball1 | 25698.837 | -0.027382854 | 0.0842839 | -0.324888 | 0.745266 | 0.974094 |
| cnksr1 | 89.8076796 | -0.061169975 | 0.2099869 | -0.291304 | 0.770819 | 0.975687 |
| dtx2 | 412.6366759 | -0.06002611 | 0.1117945 | -0.536933 | 0.591314 | 0.954193 |
| nrbp2a | 287.5196942 | -0.096422428 | 0.1413109 | -0.682342 | 0.495022 | 0.931926 |
| kenc1b | 163.7190058 | 0.196076727 | 0.1629878 | 1.2030147 | 0.228971 | 0.796691 |
| her12 | 188.3197714 | -0.415976551 | 0.1734059 | -2.39886 | 0.016446 | 0.236409 |
| cox4i1 | 4100.221049 | -0.031918541 | 0.0894306 | -0.356909 | 0.72116 | 0.969602 |
| cm1c1 | 278.2987896 | -0.008561685 | 0.1383776 | -0.061872 | 0.950665 | 0.99381 |
| mrp127 | 310.5679773 | -0.116656316 | 0.1295481 | -0.900486 | 0.367861 | 0.887482 |
| plxnb3 | 34.64003062 | -0.105702535 | 0.3269127 | -0.323336 | 0.746441 | 0.97419 |
| cc134b.3 | 1.369090567 | -0.712833094 | 1.6541989 | -0.430923 | 0.666524 | NA |
| rnf185 | 363.1745881 | -0.107782837 | 0.1252381 | -0.860624 | 0.389445 | 0.896421 |
| h3f3c | 21326.88863 | 0.07868136 | 0.0683153 | 1.1517387 | 0.249428 | 0.819036 |
| pcnt | 846.4534782 | -0.077299653 | 0.0875053 | -0.883371 | 0.377036 | 0.895192 |
| ppcdc | 30.5331885 | -0.191123706 | 0.3550822 | -0.538252 | 0.590403 | 0.954193 |
| pkd1b | 220.3340512 | 0.04565226 | 0.1386523 | 0.3292572 | 0.741961 | 0.973154 |
| ptrprja | 30.1268431 | 0.504044483 | 0.3475344 | 1.450344 | 0.146963 | 0.693731 |
| ccni2 | 48.2522336 | -0.312242178 | 0.2918601 | -1.069835 | 0.284694 | 0.844955 |
| zgc:171927 | 7.309455989 | 0.107317492 | 0.7431221 | 0.1444144 | 0.885173 | NA |
| trim35-10 | 1.497897664 | 1.006742206 | 1.6084322 | 0.6259152 | 0.531371 | NA |
| CR735102.1 | 191.6831343 | 0.453242904 | 0.1564263 | 2.8974859 | 0.003762 | 0.083577 |
| kif7 | 233.3620579 | -0.003058071 | 0.1475234 | -0.020729 | 0.983462 | 0.996944 |
| tmc2a | 31.93590553 | 0.116044836 | 0.358899 | 0.3233357 | 0.746441 | 0.97419 |
| prkrip1 | 168.7504776 | 0.050123228 | 0.1599366 | 0.3133944 | 0.753981 | 0.975056 |
| ndufaf7 | 178.6671329 | -0.22299565 | 0.1518278 | -1.46874 | 0.141903 | 0.683173 |
| lyrm2 | 212.5596059 | 0.038099073 | 0.1459399 | 0.2610601 | 0.794046 | 0.977937 |
| desila | 948.48995 | 0.120881097 | 0.0871547 | 1.3869709 | 0.165451 | 0.721223 |
| psme2 | 27.67697367 | -0.016188587 | 0.3823865 | -0.042336 | 0.966231 | 0.996315 |
| nr1d1 | 1662.544858 | 0.085704271 | 0.0914359 | 0.9373158 | 0.348596 | 0.880195 |
| sst1.2 | 141.3430779 | -0.417367859 | 0.187115 | -2.230542 | 0.025711 | 0.310555 |
| sult2st1 | 323.5918564 | 0.222624271 | 0.1256842 | 1.7712986 | 0.076511 | 0.538876 |
| trappe6b1 | 279.2476611 | -0.034680649 | 0.1304291 | -0.265897 | 0.790319 | 0.977338 |
| nr2f5 | 675.8371948 | 0.061667028 | 0.1006763 | 0.612528 | 0.540188 | 0.944279 |
| snrpe | 656.2489996 | 0.033671876 | 0.1129239 | 0.2981821 | 0.765564 | 0.975374 |
| tmem243b | 175.0081647 | -0.142035269 | 0.1640815 | -0.865638 | 0.386688 | 0.89551 |

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| arl4ab | 334.785747 | -0.105029397 | 0.1215116 | -0.864357 | 0.387392 | 0.895778 |
| prkar2aa | 2092.44984 | -0.019352602 | 0.0798345 | -0.242409 | 0.808463 | 0.980642 |
| zgc:101840 | 675.7468001 | -0.054862987 | 0.0983674 | -0.557735 | 0.577025 | 0.950762 |
| lect2l | 205.9658817 | -0.669853798 | 0.3833451 | -1.747391 | 0.080569 | 0.550664 |
| mcm6l | 3.540424925 | -0.022458673 | 1.0842534 | -0.020713 | 0.983474 | NA |
| stmn2a | 4968.272881 | 0.066508372 | 0.0781343 | 0.8512056 | 0.394655 | 0.898861 |
| osbpl3a | 171.7297952 | -0.007181059 | 0.1598078 | -0.044936 | 0.964159 | 0.995927 |
| dis3l2 | 292.4126985 | -0.044194273 | 0.1380925 | -0.320034 | 0.748943 | 0.97419 |
| primpol | 209.3047416 | 0.039886829 | 0.1434512 | 0.2780516 | 0.780973 | 0.97627 |
| gsto2 | 560.3420737 | -0.220957689 | 0.1199235 | -1.842488 | 0.065404 | 0.500198 |
| gpr37b | 156.7047866 | -0.023012681 | 0.1684585 | -0.136607 | 0.891341 | 0.989291 |
| igf2b | 687.3324407 | 0.130669958 | 0.1061017 | 1.2315536 | 0.218116 | 0.785379 |
| sarlab | 367.8421663 | 0.262034627 | 0.1281527 | 2.0447056 | 0.040884 | 0.394957 |
| unc5b | 93.37777911 | 0.024748511 | 0.2313623 | 0.1069686 | 0.914814 | 0.991119 |
| cntl | 93.38814542 | -0.375933325 | 0.2066784 | -1.818929 | 0.068922 | 0.513259 |
| zgc:101699 | 7.579023286 | -0.142453756 | 0.7710738 | -0.184747 | 0.853427 | NA |
| asl | 141.6806486 | -0.0990081 | 0.170871 | -0.579432 | 0.562298 | 0.948728 |
| mgst3b | 1985.175364 | -0.197784492 | 0.0949721 | -2.082554 | 0.037292 | 0.377702 |
| rrm2b | 720.6465691 | 0.158681027 | 0.0954888 | 1.6617755 | 0.096558 | 0.591675 |
| ppil3 | 44.43830173 | 0.079579001 | 0.3167954 | 0.2512 | 0.80166 | 0.979492 |
| chhd4a | 182.6145449 | 0.140167937 | 0.1504753 | 0.9315015 | 0.351594 | 0.880769 |
| gyg2 | 20.71329797 | 0.46120942 | 0.4337659 | 1.0632681 | 0.28766 | 0.845979 |
| grifin | 357.7076979 | -0.059729231 | 0.1235166 | -0.483573 | 0.628689 | 0.957354 |
| cabplb | 27.70749319 | -0.032995752 | 0.367775 | -0.089717 | 0.928512 | 0.992702 |
| acot18 | 223.2685626 | -0.211171073 | 0.1466289 | -1.440174 | 0.149818 | 0.697935 |
| gpatchl | 519.6999825 | -0.07743627 | 0.1083173 | -0.714902 | 0.474669 | 0.925287 |
| mboat7 | 441.1613024 | 0.041992861 | 0.1119928 | 0.3749605 | 0.70769 | 0.968664 |
| rps6ka1 | 576.1444474 | -0.052843998 | 0.0994135 | -0.531558 | 0.595032 | 0.954434 |
| metapl | 1174.176486 | -0.189719151 | 0.0872271 | -2.175002 | 0.02963 | 0.333089 |
| mdm2 | 671.7239835 | 0.221880057 | 0.1042065 | 2.1292335 | 0.033235 | 0.355427 |
| map4k6 | 243.52125 | -0.054970856 | 0.1469628 | -0.374046 | 0.70837 | 0.968664 |
| tap2t | 50.72050073 | -0.11990889 | 0.2902733 | -0.41309 | 0.679541 | 0.965257 |
| nxph1 | 1100.533745 | -0.015706932 | 0.0853412 | -0.184049 | 0.853975 | 0.985174 |
| nkap | 539.424474 | -0.112118834 | 0.1102728 | -1.01674 | 0.309277 | 0.861381 |
| atpsckmt | 81.42491999 | 0.236114604 | 0.2196849 | 1.0747876 | 0.28247 | 0.843666 |
| pimr1l1 | | 0 NA | NA | NA | NA | NA |
| tagln2 | 1010.02956 | -0.042947337 | 0.0976538 | -0.439792 | 0.660088 | 0.963432 |
| ube2jl | 529.0083952 | -0.029776352 | 0.1082118 | -0.275167 | 0.783188 | 0.97627 |
| rorb | 17.8390004 | 0.108855372 | 0.4471151 | 0.2434616 | 0.807648 | 0.980642 |
| zgc:64189 | 6.146881346 | -0.097578686 | 0.7816034 | -0.124844 | 0.900647 | NA |
| efr3ba | 174.4937479 | 0.006283455 | 0.1545486 | 0.0406568 | 0.967569 | 0.996315 |
| ccdc115 | 175.3108949 | 0.101727073 | 0.1522426 | 0.6681905 | 0.504012 | 0.93532 |
| p4hala | 382.8041076 | 0.252248721 | 0.1228019 | 2.0541114 | 0.039965 | 0.391511 |
| paics | 2251.348741 | -0.095654092 | 0.1120457 | -0.853706 | 0.393268 | 0.898076 |
| adamts15b | 134.9088725 | 0.25965973 | 0.1850915 | 1.4028719 | 0.160655 | 0.713726 |
| fbxw4 | 264.3588046 | -0.020808619 | 0.1422612 | -0.146271 | 0.883708 | 0.988706 |
| cyp17a1 | 197.6517499 | 0.312531775 | 0.1612315 | 1.9384044 | 0.052574 | 0.449847 |
| fkbp1ab | 142.7518691 | -0.064287813 | 0.1729598 | -0.371692 | 0.710122 | 0.968928 |
| mtrfl | 42.68201385 | 0.081739003 | 0.2903387 | 0.2815298 | 0.778304 | 0.975942 |
| CABZ01088134.1 | 14.9676207 | -0.882862438 | 0.5191858 | -1.700475 | 0.089042 | 0.571473 |
| idol | 13.89243067 | -1.142653014 | 0.553977 | -2.062636 | 0.039147 | 0.388646 |
| polr2c | 432.5415914 | 0.033754111 | 0.1211807 | 0.2785436 | 0.780595 | 0.97627 |
| api5 | 2079.744236 | 0.074197211 | 0.0753812 | 0.9842928 | 0.324972 | 0.87132 |
| pdia8 | 528.5974512 | 0.099550312 | 0.1089157 | 0.9140128 | 0.36071 | 0.885686 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| lrpapl | 657.2162685 | -0.054050212 | 0.1061535 | -0.50917 | 0.610633 | 0.95688 |
| map1lc3a | 497.0096428 | -0.094603465 | 0.1044853 | -0.905424 | 0.365241 | 0.886714 |
| morn5 | 6.617055783 | 1.034623976 | 0.801545 | 1.2907871 | 0.196778 | NA |
| rasgef1ba | 1038.420538 | -0.010972912 | 0.0846397 | -0.129643 | 0.896849 | 0.989971 |
| selenon | 691.4174344 | 0.071916214 | 0.0977462 | 0.7357443 | 0.461886 | 0.922466 |
| NPFFR2 | 17.30381756 | 0.587008398 | 0.479579 | 1.2240077 | 0.220949 | 0.787641 |
| smarcbla | 875.4934014 | -0.107240545 | 0.0944323 | -1.135634 | 0.25611 | 0.824633 |
| stmn1b | 7487.064134 | 0.063404789 | 0.0620014 | 1.0226354 | 0.30648 | 0.860027 |
| scd | 24.42843932 | 0.471609098 | 0.3933638 | 1.1989133 | 0.230562 | 0.798726 |
| pi4k2a | 383.0496135 | 0.094908779 | 0.1187723 | 0.7990815 | 0.424243 | 0.908243 |
| tpma | 73449.63554 | 0.307305791 | 0.1761713 | 1.7443582 | 0.081097 | 0.551495 |
| oxgr1a.1 | 1.67359612 | 1.199668891 | 1.5082627 | 0.7953978 | 0.426382 | NA |
| adora2aa | 43.06665539 | 0.10806634 | 0.2994892 | 0.3608355 | 0.718222 | 0.96909 |
| jadel | 699.1174773 | -0.19068306 | 0.0921284 | -2.069754 | 0.038475 | 0.384637 |
| tshba | 22.13121135 | 0.363663044 | 0.4199022 | 0.866066 | 0.386454 | 0.89551 |
| il12ba | 0.643043639 | 1.435364982 | 2.5984886 | 0.5523846 | 0.580685 | NA |
| ncf1 | 168.717135 | -0.667512963 | 0.173777 | -3.841204 | 0.000122 | 0.005778 |
| zgc:153867 | 4763.131446 | -0.129444913 | 0.0721907 | -1.793098 | 0.072957 | 0.526902 |
| nt5c1bb | 66.13761225 | 0.108729855 | 0.2645255 | 0.4110374 | 0.681045 | 0.965476 |
| rbm48 | 106.615 | -0.433237476 | 0.1985484 | -2.182024 | 0.029108 | 0.330497 |
| ncaph2 | 241.605188 | -0.137410798 | 0.1417198 | -0.969595 | 0.332249 | 0.874653 |
| pmelb | 726.9066287 | -0.422258772 | 0.1420745 | -2.972094 | 0.002958 | 0.071412 |
| trappc13 | 502.5105287 | -0.068123843 | 0.1089656 | -0.625187 | 0.531848 | 0.942359 |
| hspbap1 | 26.02955684 | 0.375384282 | 0.408311 | 0.9193588 | 0.357908 | 0.884398 |
| ndufb7 | 1648.592417 | -0.070009577 | 0.10418 | -0.672006 | 0.50158 | 0.934648 |
| cyp27a7 | 135.8785706 | 0.323023254 | 0.1724887 | 1.8727209 | 0.061107 | 0.482482 |
| snx27a | 61.25018866 | -0.105040686 | 0.2496598 | -0.420735 | 0.673948 | 0.965257 |
| ampd1 | 5101.154273 | 0.49505485 | 0.0954671 | 5.1856093 | 2.15E-07 | 2.69E-05 |
| fat3a | 138.2992401 | 0.086973672 | 0.1714219 | 0.5073661 | 0.611898 | 0.95688 |
| igsf9ba | 1070.690447 | 0.021191168 | 0.0911556 | 0.2324726 | 0.816171 | 0.981594 |
| mad111 | 267.5528645 | 0.030987177 | 0.1323563 | 0.2341194 | 0.814892 | 0.981081 |
| abrab | 190.6616526 | 0.203961825 | 0.1622433 | 1.2571353 | 0.208705 | 0.775884 |
| cnot9 | 779.0301558 | 0.035511623 | 0.0962125 | 0.3690958 | 0.712056 | 0.969006 |
| sepsecs | 94.53861106 | -0.081031576 | 0.2010325 | -0.403077 | 0.686892 | 0.966376 |
| der13 | 178.0095251 | -0.113441937 | 0.1539718 | -0.736771 | 0.461262 | 0.922161 |
| spty2d1 | 454.528543 | -0.072095969 | 0.1102248 | -0.654081 | 0.513059 | 0.936253 |
| ap2mlb | 3951.416995 | 0.050872595 | 0.0767229 | 0.6630692 | 0.507286 | 0.935734 |
| msi2a | 660.7812412 | 0.009660409 | 0.0945159 | 0.1022094 | 0.91859 | 0.991623 |
| si:ch211-243j20.2 | 506.689671 | -0.520702395 | 0.1099772 | -4.734637 | 2.19E-06 | 0.000195 |
| ndfip2 | 2100.668971 | 0.132326542 | 0.0721856 | 1.8331434 | 0.066781 | 0.50537 |
| fbxol6 | 74.2310539 | -0.463651596 | 0.2396012 | -1.935098 | 0.052978 | 0.451939 |
| lamb2l | 760.8985635 | -0.010354914 | 0.1054311 | -0.098215 | 0.921762 | 0.992138 |
| entpd2a.2 | 59.84609598 | -0.081253294 | 0.264741 | -0.306916 | 0.758907 | 0.975374 |
| CABZ01088025.1 | 2.661404136 | -1.558289373 | 1.2647212 | -1.232121 | 0.217904 | NA |
| oxtr | 3.987679569 | 1.29972836 | 1.0108459 | 1.2857829 | 0.198519 | NA |
| trmt44 | 139.1122461 | -0.037883583 | 0.1792722 | -0.211319 | 0.832638 | 0.983557 |
| nitrli | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| nup58 | 483.562898 | -0.038074633 | 0.1076838 | -0.353578 | 0.723655 | 0.970402 |
| trmt2b | 33.83757766 | 0.148937001 | 0.3368443 | 0.4421538 | 0.658378 | 0.962545 |
| prrxla | 540.9573515 | -0.037144538 | 0.1047894 | -0.354469 | 0.722988 | 0.970375 |
| mrps23 | 225.0287152 | 0.208372226 | 0.1424732 | 1.4625363 | 0.143594 | 0.686804 |
| nxn | 768.8347899 | 0.035719634 | 0.0935715 | 0.3817364 | 0.702657 | 0.968134 |
| rsrcl | 421.3169528 | -0.158499933 | 0.126974 | -1.248287 | 0.211926 | 0.77986 |
| slc19a1 | 67.80321394 | 0.239652843 | 0.251302 | 0.9536447 | 0.340264 | 0.87805 |

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| cyp26a1 | 686.592787 | -0.085065024 | 0.0964241 | -0.882197 | 0.37767 | 0.895192 |
| tango6 | 159.7925396 | -0.243879717 | 0.1689412 | -1.443578 | 0.148858 | 0.69636 |
| prom1b | 2163.776811 | 0.1054497 | 0.0736401 | 1.4319611 | 0.152155 | 0.701049 |
| rgmd | 986.6514484 | 0.015094902 | 0.0894202 | 0.1688086 | 0.865947 | 0.986517 |
| dnall | 52.0476008 | -0.146521936 | 0.2918805 | -0.501993 | 0.615673 | 0.95688 |
| irx5a | 664.8551579 | -0.150162717 | 0.0973684 | -1.542212 | 0.123022 | 0.65095 |
| zgc:92275 | 81.94103658 | 0.155660357 | 0.2549113 | 0.6106452 | 0.541434 | 0.944954 |
| csnk1g2b | 840.0832711 | 0.134998629 | 0.0948873 | 1.4227262 | 0.154816 | 0.704573 |
| elac2 | 343.2304979 | 0.028172175 | 0.124035 | 0.2271308 | 0.820322 | 0.981594 |
| unm_sa911 | 86.1553219 | -0.338030318 | 0.253463 | -1.333648 | 0.182319 | 0.744719 |
| lrp11 | 127.8793621 | 0.183502441 | 0.1772205 | 1.0354469 | 0.30046 | 0.856251 |
| plcd1b | 489.1431006 | -0.083681154 | 0.1085205 | -0.771109 | 0.440642 | 0.916336 |
| zgc:65895 | 937.8142662 | 0.020959072 | 0.1083709 | 0.1934013 | 0.846645 | 0.985174 |
| dclk2a | 495.8585457 | -0.105859429 | 0.1100532 | -0.961893 | 0.336103 | 0.876088 |
| si:dkey-59111.10 | 1.01990345 | -0.910958137 | 1.9547665 | -0.466019 | 0.641202 | NA |
| mtus1b | 870.0011319 | 0.046614694 | 0.0924867 | 0.5040151 | 0.614251 | 0.95688 |
| act16b | 48.82944647 | 0.128222871 | 0.2969738 | 0.4317649 | 0.665912 | 0.964736 |
| rarga | 1331.533085 | -0.039974784 | 0.0877353 | -0.455629 | 0.648657 | 0.960708 |
| shisa2a | 8.023954674 | -0.595637322 | 0.6745508 | -0.883013 | 0.377229 | NA |
| ccnk | 278.0575396 | -0.052375473 | 0.1283554 | -0.408051 | 0.683237 | 0.965476 |
| slc4a1ap | 379.173874 | 0.042485271 | 0.1182305 | 0.3593427 | 0.719339 | 0.969183 |
| lingola | 34.99106152 | -0.194347629 | 0.3507241 | -0.554132 | 0.579488 | 0.951257 |
| serpin1l | 1364.452325 | -0.026831384 | 0.0901005 | -0.297794 | 0.765861 | 0.975374 |
| prkcq | 45.91756958 | 0.088072347 | 0.2970155 | 0.2965244 | 0.76683 | 0.975687 |
| mrrf | 321.2651156 | -0.075980203 | 0.126957 | -0.598472 | 0.549525 | 0.946312 |
| cpsfl | 1211.579232 | -0.138065657 | 0.0855833 | -1.613231 | 0.106694 | 0.615633 |
| esr2b | 27.96088722 | 0.068341295 | 0.3831028 | 0.1783889 | 0.858418 | 0.985773 |
| calm3a | 4526.044145 | 0.111164584 | 0.0689025 | 1.6133606 | 0.106666 | 0.615633 |
| oxsrla | 760.222527 | -0.062399185 | 0.1015486 | -0.614476 | 0.538901 | 0.943697 |
| top2b | 2548.279967 | -0.066073685 | 0.0723067 | -0.913797 | 0.360823 | 0.885686 |
| cx44.2 | 75.34657435 | 0.224530871 | 0.2333495 | 0.9622087 | 0.335945 | 0.876088 |
| si:dkey-240h12.4 | 17.77452839 | -0.237209361 | 0.4554927 | -0.520775 | 0.602523 | 0.956045 |
| capn2l | 766.1957085 | 0.038410905 | 0.100227 | 0.3832392 | 0.701542 | 0.968134 |
| rab42a | 176.1895773 | -0.010558399 | 0.1545143 | -0.068333 | 0.945521 | 0.993589 |
| hslbp3 | 34.11741862 | -0.253104471 | 0.3338964 | -0.758033 | 0.448431 | 0.917768 |
| si:dkey-243i1.1 | 265.2575492 | 0.031578407 | 0.1381756 | 0.2285382 | 0.819228 | 0.981594 |
| kcnip3a | 456.077507 | 0.172648513 | 0.1240977 | 1.391231 | 0.164155 | 0.71945 |
| capzala | 2657.116979 | 0.007249036 | 0.0709054 | 0.1022353 | 0.91857 | 0.991623 |
| cdk10 | 262.5179016 | 0.023544673 | 0.1487268 | 0.1583082 | 0.874214 | 0.987881 |
| pld2 | 234.5432849 | -0.010559428 | 0.1422152 | -0.07425 | 0.940812 | 0.992857 |
| slit3 | 2162.496216 | 0.069630803 | 0.0845123 | 0.8239131 | 0.409989 | 0.902615 |
| ogdha | 4726.755475 | 0.087615568 | 0.0673069 | 1.3017332 | 0.193008 | 0.756795 |
| rpl37 | 9000.164147 | -0.336401106 | 0.2373579 | -1.417274 | 0.156403 | 0.706639 |
| hif1ab | 2911.044048 | 0.091175704 | 0.0955025 | 0.9546939 | 0.339733 | 0.87805 |
| sema3c | 98.57357761 | 0.255193045 | 0.2017062 | 1.2651721 | 0.20581 | 0.773784 |
| chrne | 516.9794309 | 0.401899385 | 0.1155429 | 3.4783576 | 0.000504 | 0.017975 |
| cox10 | 735.9377734 | 0.056685627 | 0.0916959 | 0.6181915 | 0.536449 | 0.943336 |
| ppp5c | 1716.689477 | -0.016116302 | 0.0947367 | -0.170117 | 0.864918 | 0.986212 |
| palmdb | 60.82376969 | 0.267701865 | 0.253082 | 1.0577671 | 0.290162 | 0.846262 |
| ing3 | 940.2587184 | -0.156155844 | 0.092744 | -1.683729 | 0.092234 | 0.57849 |
| si:dkey-88n24.7 | 0 | NA | NA | NA | NA | NA |
| pcdh19 | 1654.367135 | 0.06003861 | 0.0796917 | 0.7533863 | 0.451218 | 0.918761 |
| hexb | 1481.518006 | 0.003746848 | 0.0771463 | 0.0485681 | 0.961263 | 0.995758 |
| chst11 | 246.3037991 | -0.06303019 | 0.1497195 | -0.420989 | 0.673763 | 0.965257 |

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| mars | 714.1631668 | -0.049381921 | 0.135026 | -0.365722 | 0.714573 | 0.96909 |
| zgc:173443 | 44.10488423 | -0.03879662 | 0.2864126 | -0.135457 | 0.89225 | 0.989291 |
| pik3r3b | 1933.848266 | 0.160936529 | 0.0719669 | 2.2362576 | 0.025335 | 0.308291 |
| irx6a | 185.7858791 | -0.030105506 | 0.1543809 | -0.195008 | 0.845387 | 0.985174 |
| sncga | 976.5675184 | 0.171907264 | 0.1130068 | 1.5212117 | 0.128207 | 0.658954 |
| atplb2b | 1009.153848 | 0.290684009 | 0.1050751 | 2.7664395 | 0.005667 | 0.113081 |
| jpt2 | 1419.144832 | -0.036857812 | 0.0832324 | -0.44283 | 0.657889 | 0.962545 |
| zgc:172121 | 60.95444113 | -0.201034425 | 0.2487876 | -0.808056 | 0.419058 | 0.906406 |
| igflrb | 541.8308915 | 0.02245838 | 0.1094907 | 0.2051168 | 0.837481 | 0.984665 |
| mpped2 | 415.0487493 | -0.213743783 | 0.1128366 | -1.894277 | 0.058188 | 0.472993 |
| unc119a | 129.3490056 | 0.054882777 | 0.1828068 | 0.3002228 | 0.764007 | 0.975374 |
| si:ch211-163121.7 | 11.72713087 | 0.284079139 | 0.5553602 | 0.5115223 | 0.608985 | 0.956718 |
| aldoab | 4945.810232 | 0.187620675 | 0.0939921 | 1.9961323 | 0.04592 | 0.420766 |
| ttyh3a | 895.8384808 | 0.05108224 | 0.0912492 | 0.5598103 | 0.575609 | 0.950373 |
| grin2aa | 722.1423457 | 0.119331478 | 0.0970845 | 1.2291502 | 0.219015 | 0.785734 |
| fbxl14a | 316.9687712 | 0.045243864 | 0.1267148 | 0.3570527 | 0.721052 | 0.969602 |
| per2 | 3881.140663 | 0.122582103 | 0.0809141 | 1.514965 | 0.129781 | 0.662436 |
| lmo1 | 1164.458191 | -0.064407227 | 0.0913788 | -0.704838 | 0.480911 | 0.92776 |
| trdmt1 | 93.12869068 | -0.139716953 | 0.2037709 | -0.685657 | 0.492929 | 0.931926 |
| rab6ba | 816.6949067 | 0.212265639 | 0.0971702 | 2.1844719 | 0.028928 | 0.329881 |
| chod1 | 174.1277123 | 0.307135087 | 0.1687209 | 1.8203734 | 0.068702 | 0.513248 |
| atp6vlaa | 5254.451318 | 0.045954415 | 0.0696503 | 0.6597877 | 0.50939 | 0.936123 |
| tgfbr2b | 531.220258 | 0.017967496 | 0.1167141 | 0.1539445 | 0.877653 | 0.987881 |
| pard3bb | 141.8837881 | 0.118339882 | 0.171266 | 0.6909714 | 0.489584 | 0.931926 |
| srpx2 | 8.445758875 | 0.033948888 | 0.6630463 | 0.0512014 | 0.959165 | NA |
| fitm2 | 227.6144723 | -0.077691562 | 0.1449422 | -0.536017 | 0.591947 | 0.954434 |
| gpr143 | 112.643377 | -0.246799389 | 0.1875304 | -1.31605 | 0.188157 | 0.753063 |
| si:dkey-23o4.6 | 49.44078022 | 0.08881641 | 0.2774268 | 0.3201436 | 0.748859 | 0.97419 |
| scn4ab | 471.1580384 | 0.251382446 | 0.1089267 | 2.3078138 | 0.021009 | 0.273449 |
| tmem165 | 970.6258858 | -0.048176174 | 0.0873838 | -0.551317 | 0.581416 | 0.951731 |
| zgc:153169 | 65.60973448 | -0.067649478 | 0.2477327 | -0.273074 | 0.784796 | 0.97627 |
| insb | 1.930681209 | -1.008161712 | 1.4919778 | -0.675722 | 0.499217 | NA |
| mlf2 | 2208.903346 | 0.041877235 | 0.0777747 | 0.5384427 | 0.590271 | 0.954143 |
| nuf2 | 200.7063143 | -0.301589363 | 0.1487828 | -2.027045 | 0.042658 | 0.406074 |
| emc9 | 307.776919 | 0.033711638 | 0.134157 | 0.251285 | 0.801594 | 0.979492 |
| fh13a | 508.1402801 | -0.105253094 | 0.1056116 | -0.996605 | 0.318956 | 0.867746 |
| fabp7b | 155.9171718 | -0.162829046 | 0.1671549 | -0.974121 | 0.329997 | 0.874009 |
| CABZ01090041.1 | 26.41477269 | -0.509194043 | 0.3749525 | -1.358023 | 0.174456 | 0.734611 |
| celf3a | 1897.485379 | -0.069836439 | 0.0893679 | -0.781449 | 0.434538 | 0.914297 |
| ube2e2 | 1595.919287 | -0.079740915 | 0.0971094 | -0.821145 | 0.411564 | 0.903549 |
| scel | 609.1012887 | -0.083479099 | 0.1013587 | -0.823601 | 0.410166 | 0.902747 |
| tmem198b | 627.8786253 | 0.032262657 | 0.1054505 | 0.3059506 | 0.759642 | 0.975374 |
| mysml | 274.5641213 | 0.071767269 | 0.1445059 | 0.4966391 | 0.619444 | 0.957354 |
| vegfab | 446.8945438 | -0.209911128 | 0.1280576 | -1.639194 | 0.101173 | 0.604409 |
| pvalb7 | 739.8923171 | 0.025666914 | 0.1027871 | 0.2497094 | 0.802812 | 0.979643 |
| ftr85 | 26.15819207 | -0.012198744 | 0.3778086 | -0.032288 | 0.974242 | 0.99644 |
| esytla | 29.65901947 | -0.14022973 | 0.3732242 | -0.375725 | 0.707121 | 0.968664 |
| def6c | 38.95821218 | -0.627812728 | 0.3086376 | -2.034142 | 0.041937 | 0.401972 |
| tfpia | 689.8366787 | 0.025555487 | 0.0969811 | 0.2635101 | 0.792157 | 0.977937 |
| med6 | 382.6951567 | 0.038099032 | 0.1147853 | 0.3319156 | 0.739953 | 0.972943 |
| tspan3a | 1872.814909 | 0.011064042 | 0.0812595 | 0.1361569 | 0.891697 | 0.989291 |
| zdhhc2 | 107.8688389 | 0.0685371 | 0.1980182 | 0.3461151 | 0.729256 | 0.970822 |
| phf3 | 688.4335548 | -0.162039668 | 0.1005754 | -1.611126 | 0.107152 | 0.617015 |
| rab13 | 183.7327283 | 0.25960894 | 0.1614359 | 1.6081238 | 0.107808 | 0.618989 |

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| ncapd3 | 467.9378072 | -0.194478854 | 0.1109698 | -1.752539 | 0.079681 | 0.548406 |
| txn2 | 459.6984871 | -0.080707513 | 0.110402 | -0.731033 | 0.464759 | 0.92354 |
| dachb | 271.4704294 | -0.080468734 | 0.1328968 | -0.605498 | 0.544848 | 0.945463 |
| mylka | 355.9495064 | 0.121795602 | 0.116396 | 1.0463899 | 0.295381 | 0.851935 |
| kcnip1b | 615.4636977 | -0.086443048 | 0.0986807 | -0.875988 | 0.381037 | 0.895192 |
| asahlb | 478.6908623 | -0.034360016 | 0.1111322 | -0.309182 | 0.757183 | 0.975374 |
| copg2 | 2821.570717 | 0.02191079 | 0.0717401 | 0.3054191 | 0.760047 | 0.975374 |
| uspl1 | 540.2630263 | 0.045929433 | 0.1115213 | 0.4118446 | 0.680453 | 0.965431 |
| si:dkey-222n6.2 | 116.9126224 | 0.085709022 | 0.191599 | 0.4473354 | 0.654633 | 0.961305 |
| nt5c211 | 445.4121607 | 0.257709948 | 0.1493519 | 1.7255222 | 0.084433 | 0.559138 |
| ccnb3 | 337.6603391 | 0.028936655 | 0.1378333 | 0.2099395 | 0.833715 | 0.983583 |
| f7 | 195.11155 | 0.093244488 | 0.154719 | 0.6026699 | 0.546728 | 0.945526 |
| mid2 | 104.9490901 | 0.061787063 | 0.2043964 | 0.3022904 | 0.762431 | 0.975374 |
| acbd5a | 476.8028639 | 0.052293392 | 0.1048269 | 0.4988547 | 0.617882 | 0.957354 |
| bet1 | 321.961883 | 0.029604341 | 0.1244757 | 0.2378324 | 0.812011 | 0.981081 |
| rarab | 1078.490089 | -0.013288336 | 0.0868021 | -0.153088 | 0.878329 | 0.987881 |
| tgfb1b | 19.0206672 | -0.471489711 | 0.4356808 | -1.082191 | 0.279168 | 0.842806 |
| ldb2b | 887.2372549 | 0.069986368 | 0.0984987 | 0.7105307 | 0.477375 | 0.926857 |
| rps10 | 12912.06614 | -0.337844157 | 0.079742 | -4.236714 | 2.27E-05 | 0.001407 |
| paqr7b | 27.09076034 | 0.005760784 | 0.3797466 | 0.0151701 | 0.987896 | 0.997369 |
| si:ch211-152f2.2 | 0.647019846 | -1.455099716 | 2.4289208 | -0.599073 | 0.549125 | NA |
| hat1 | 1213.450624 | -0.053101151 | 0.0952949 | -0.55723 | 0.577371 | 0.950805 |
| cx52.6 | 20.79686644 | -0.187264134 | 0.4201671 | -0.44569 | 0.655821 | 0.961833 |
| chchd3b | 228.4595404 | -0.009611727 | 0.1373736 | -0.069968 | 0.944219 | 0.993364 |
| slc1a7a | 39.10837918 | -0.131020207 | 0.3179691 | -0.412053 | 0.6803 | 0.965431 |
| si:dkey-224e22.2 | 94.09447812 | 0.021807799 | 0.2325905 | 0.0937605 | 0.925299 | 0.992676 |
| tm9sf5 | 755.8049298 | -0.011569607 | 0.0952742 | -0.121435 | 0.903347 | 0.990121 |
| myclb | 523.5556854 | 0.066993421 | 0.1070087 | 0.6260556 | 0.531278 | 0.942209 |
| hddc2 | 206.4783498 | -0.128953096 | 0.1425212 | -0.904799 | 0.365572 | 0.887073 |
| gpr157 | 55.52945458 | -0.240181254 | 0.262002 | -0.916715 | 0.359292 | 0.884762 |
| zcchc8 | 486.9951941 | -0.08444114 | 0.1067306 | -0.791162 | 0.42885 | 0.911406 |
| asb4 | 44.82021051 | -0.107901329 | 0.314004 | -0.34363 | 0.731124 | 0.971557 |
| retsat1 | 1.151545593 | -2.472760569 | 2.0114878 | -1.229319 | 0.218952 | NA |
| bag2 | 162.9327992 | 0.038406955 | 0.1628332 | 0.2358669 | 0.813536 | 0.981081 |
| trim35-27 | 12.36503124 | 0.712002534 | 0.5584662 | 1.274925 | 0.202336 | 0.768682 |
| thyl | 553.4316541 | 0.124671876 | 0.131308 | 0.9494616 | 0.342386 | 0.878434 |
| khdc4 | 1064.753574 | 0.015261824 | 0.0979595 | 0.1557973 | 0.876193 | 0.987881 |
| lpcat4 | 188.4306229 | -0.181441805 | 0.1538615 | -1.179254 | 0.238297 | 0.807449 |
| pfdn5 | 972.0776642 | -0.133650733 | 0.0899454 | -1.485909 | 0.137303 | 0.674358 |
| or115-10 | | 0 NA | NA | NA | NA | NA |
| pdc10a | 763.840579 | -0.150650679 | 0.0931536 | -1.617229 | 0.105829 | 0.615489 |
| fgf13a | 1247.717198 | 0.002289129 | 0.0825704 | 0.0277234 | 0.977883 | 0.996762 |
| ubtf | 2905.894162 | 0.00451546 | 0.0694833 | 0.0649863 | 0.948185 | 0.99381 |
| rtell | 181.0095679 | -0.112126651 | 0.1576814 | -0.711096 | 0.477025 | 0.926857 |
| hsf2bp | 1.329752533 | 0.767635872 | 1.650511 | 0.4650898 | 0.641867 | NA |
| si:ch211-254c8.3 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| tdgfl | 21.39216049 | -0.15855901 | 0.4334458 | -0.36581 | 0.714506 | 0.96909 |
| dicp2.1 | 0.330916733 | -1.849579229 | 3.2489867 | -0.569279 | 0.569167 | NA |
| glc | 793.1835263 | -0.166589217 | 0.115284 | -1.445033 | 0.148449 | 0.696298 |
| camsap1b | 612.3669688 | -0.036232645 | 0.0986324 | -0.36735 | 0.713358 | 0.96909 |
| rxrab | 5.887710319 | 0.43350323 | 0.7858465 | 0.5516386 | 0.581196 | NA |
| zgc:101858 | 294.2120831 | -0.216955681 | 0.1384687 | -1.566822 | 0.117156 | 0.640585 |
| surf4l | 209.2833216 | 0.224169388 | 0.157051 | 1.4273668 | 0.153474 | 0.702578 |
| rgs3b | 325.3457182 | 0.074369475 | 0.1275356 | 0.5831272 | 0.559808 | 0.948478 |

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|-----------------|-------------|--------------|-----------|-----------|----------|----------|
| pho | 84.42913956 | 0.07296273 | 0.2189762 | 0.3331994 | 0.738984 | 0.972722 |
| selenow1 | 2414.740272 | 0.046743354 | 0.0760286 | 0.6148124 | 0.538679 | 0.943391 |
| ehd2a | 2.075640094 | 0.572762562 | 1.4177906 | 0.4039825 | 0.686226 | NA |
| polr2j | 299.9162823 | -0.004434688 | 0.1402879 | -0.031611 | 0.974782 | 0.996605 |
| lrwd1 | 130.7286215 | 0.045002416 | 0.1936049 | 0.2324446 | 0.816193 | 0.981594 |
| orai2 | 53.52873779 | 0.137272452 | 0.2675742 | 0.5130257 | 0.607933 | 0.956718 |
| pex12 | 60.78908709 | -0.110023167 | 0.2521903 | -0.43627 | 0.662641 | 0.964665 |
| dr11.2 | 0.94955631 | 1.001959126 | 2.2550603 | 0.4443159 | 0.656814 | NA |
| dr11.1 | 3.521124531 | 1.023895559 | 1.0368561 | 0.9875001 | 0.323398 | NA |
| ap2b1 | 3142.700913 | -0.022397297 | 0.0687346 | -0.325852 | 0.744536 | 0.974094 |
| pkdcca | 89.60037056 | 0.650013533 | 0.2173477 | 2.9906616 | 0.002784 | 0.06821 |
| tmem136b | 109.3068756 | 0.140942 | 0.1909637 | 0.7380567 | 0.46048 | 0.921978 |
| mrpl48 | 264.886069 | -0.060434668 | 0.1457441 | -0.414663 | 0.678389 | 0.965257 |
| layna | 9.060547097 | 0.922873293 | 0.6393997 | 1.4433434 | 0.148924 | NA |
| btg4 | | 0 NA | NA | NA | NA | NA |
| schipl | 1334.632506 | 0.006364272 | 0.0781834 | 0.0814018 | 0.935122 | 0.992702 |
| gna14 | 115.7317235 | 0.147312825 | 0.1927715 | 0.7641837 | 0.444758 | 0.916777 |
| slc25a46 | 340.5541215 | 0.086859497 | 0.1202658 | 0.7222292 | 0.470154 | 0.924787 |
| tmem150ab | 18.88608119 | 0.280740945 | 0.4470293 | 0.6280147 | 0.529994 | 0.942209 |
| fzd9a | 39.9199466 | 0.147762268 | 0.3114334 | 0.4744586 | 0.635173 | 0.957927 |
| abl1 | 379.5024013 | 0.194894136 | 0.1314621 | 1.4825124 | 0.138204 | 0.675945 |
| rab141 | 880.771039 | 0.033951062 | 0.0985894 | 0.3443684 | 0.730569 | 0.97149 |
| fam81b | 1.275648953 | -2.653845067 | 1.9988247 | -1.327703 | 0.184276 | NA |
| gcnt4a | 187.5478867 | 0.229423802 | 0.1615028 | 1.4205564 | 0.155446 | 0.705158 |
| si:dkey-47k20.8 | 1.161805827 | -3.660681204 | 1.934818 | -1.892003 | 0.058491 | NA |
| zgc:110249 | 27.72638471 | 0.062497302 | 0.380246 | 0.1643602 | 0.869448 | 0.987282 |
| npr3 | 509.5597203 | 0.017684761 | 0.1174989 | 0.15051 | 0.880362 | 0.987881 |
| eef212 | 5184.497046 | 0.262728398 | 0.0843258 | 3.1156344 | 0.001835 | 0.050201 |
| akrl1a | 68.30067983 | 0.513220244 | 0.2715094 | 1.8902487 | 0.058725 | 0.474103 |
| riok2 | 423.9246242 | -0.037921928 | 0.1115645 | -0.33991 | 0.733924 | 0.971993 |
| tmtc2b | 14.50390572 | -0.728258054 | 0.5266498 | -1.382813 | 0.166722 | 0.723339 |
| emc6 | 885.4880454 | 0.039481888 | 0.0913299 | 0.4322999 | 0.665523 | 0.964736 |
| ncor1 | 2200.641252 | -0.018857857 | 0.0916687 | -0.205717 | 0.837012 | 0.984645 |
| dmrt3a | 51.49428565 | -0.107513976 | 0.2774044 | -0.387571 | 0.698333 | 0.967998 |
| grb10b | 46.70757006 | -0.306447919 | 0.2792017 | -1.097586 | 0.272385 | 0.837519 |
| entpd3 | 738.8830699 | 0.35544157 | 0.0963418 | 3.6893817 | 0.000225 | 0.009418 |
| myh7bb | 638.3923207 | -0.103861994 | 0.0958042 | -1.084107 | 0.278317 | 0.84215 |
| hnrnp1 | 4616.640357 | -0.079985769 | 0.0889833 | -0.898885 | 0.368714 | 0.888057 |
| srsf7a | 2198.633909 | -0.110555118 | 0.0724361 | -1.526243 | 0.126949 | 0.656588 |
| nccrp1 | 504.4208466 | -0.102879855 | 0.117832 | -0.873106 | 0.382605 | 0.895192 |
| ckma | 31894.38711 | 0.193639969 | 0.1059803 | 1.8271315 | 0.06768 | 0.509442 |
| capns1a | 1904.302011 | -0.078899374 | 0.0804438 | -0.980801 | 0.326691 | 0.872642 |
| taf1 | 1150.892615 | 0.003715859 | 0.0912955 | 0.0407014 | 0.967534 | 0.996315 |
| cfap298 | 176.8359599 | 0.149693364 | 0.1516653 | 0.9869982 | 0.323644 | 0.870928 |
| mis18a | 69.03777269 | -0.134576386 | 0.2481695 | -0.542276 | 0.587628 | 0.953319 |
| tppp2 | 350.1015415 | 0.239564187 | 0.1289346 | 1.8580289 | 0.063165 | 0.490775 |
| ftr99 | 5.729467772 | 0.942180337 | 0.8054694 | 1.1697283 | 0.24211 | NA |
| ins | 401.4358231 | 0.202388649 | 0.158149 | 1.2797341 | 0.200639 | 0.766801 |
| pafah1b2 | 138.0307906 | 0.289547654 | 0.1802629 | 1.6062521 | 0.108219 | 0.620087 |
| gnb2 | 1613.50764 | 0.061873181 | 0.0829681 | 0.7457463 | 0.455821 | 0.921215 |
| mink1 | 992.8643295 | -0.072109644 | 0.0843689 | -0.854694 | 0.39272 | 0.897688 |
| fgf5 | 10.68569519 | -0.254745924 | 0.6312963 | -0.403528 | 0.68656 | NA |
| tmem174 | 20.91067354 | 0.042291909 | 0.4268905 | 0.0990697 | 0.921083 | 0.992138 |
| fcho2 | 654.0976699 | -0.000173409 | 0.095514 | -0.001816 | 0.998551 | 0.999364 |

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|------------------|-------------|--------------|-----------|-----------|----------|----------|
| tnpol | 1013.593289 | -0.117445406 | 0.0949057 | -1.237495 | 0.215903 | 0.783484 |
| ptcd2 | 59.9765326 | 0.232580291 | 0.2546631 | 0.9132864 | 0.361092 | 0.885686 |
| encl | 1208.53634 | 0.040168606 | 0.0799961 | 0.5021318 | 0.615575 | 0.95688 |
| ankra2 | 700.0606541 | 0.142868964 | 0.1103058 | 1.2952077 | 0.195249 | 0.760159 |
| btf3 | 7308.645749 | -0.287111959 | 0.2503109 | -1.147021 | 0.251373 | 0.820814 |
| ttc33 | 230.9942663 | -0.081103357 | 0.1370562 | -0.591753 | 0.554016 | 0.947449 |
| ptger4b | 16.18188731 | -0.360052 | 0.4743876 | -0.758983 | 0.447863 | 0.917154 |
| ophn1 | 196.3824398 | -0.031112619 | 0.1550859 | -0.200615 | 0.840999 | 0.985174 |
| ccn111 | 83.10189089 | -0.085887548 | 0.2200069 | -0.390386 | 0.696251 | 0.96736 |
| surf6 | 30.01990967 | 0.106758183 | 0.4052692 | 0.2634253 | 0.792223 | 0.977937 |
| arpc51b | 299.2597777 | -0.129514278 | 0.1248307 | -1.037519 | 0.299494 | 0.855609 |
| zmat5 | 199.9762914 | 0.075817788 | 0.1553146 | 0.4881561 | 0.625439 | 0.957354 |
| ml7 | 6.956593726 | -0.414851316 | 0.7334017 | -0.565654 | 0.571629 | NA |
| myhc4 | 565.72056 | 0.677693323 | 0.3733908 | 1.8149706 | 0.069528 | 0.514708 |
| camkk1a | 41.05807289 | 0.019783533 | 0.3050321 | 0.0648572 | 0.948288 | 0.99381 |
| atp2a11 | 7767.008865 | 0.579192188 | 0.1038007 | 5.5798507 | 2.41E-08 | 3.78E-06 |
| spns3 | 58.17496945 | -0.529097784 | 0.2661142 | -1.988236 | 0.046786 | 0.424961 |
| slc25a25b | 49.96348116 | 0.587934279 | 0.2939328 | 2.0002336 | 0.045475 | 0.418148 |
| sh3glb2b | 1056.42921 | 0.091744814 | 0.0846546 | 1.0837545 | 0.278474 | 0.842429 |
| si:dkey-220k22.1 | 375.7766055 | 0.094355226 | 0.1194168 | 0.7901335 | 0.42945 | 0.911489 |
| nelfb | 475.8520594 | -0.131980791 | 0.1075251 | -1.227442 | 0.219657 | 0.786189 |
| entpd2a.1 | 66.50191572 | -0.371891059 | 0.2577928 | -1.442597 | 0.149134 | 0.696454 |
| ddx31 | 144.3903456 | -0.100621613 | 0.179269 | -0.561288 | 0.574601 | 0.950037 |
| barh11a | 252.4589627 | -0.25585176 | 0.1332996 | -1.919374 | 0.054937 | 0.459334 |
| adam28 | 201.2984158 | 0.002864015 | 0.1565513 | 0.0182944 | 0.985404 | 0.996944 |
| tm2d2 | 290.5702883 | -0.003654435 | 0.1280002 | -0.02855 | 0.977223 | 0.996762 |
| histh11 | 30342.84999 | -0.29890524 | 0.0799064 | -3.74069 | 0.000184 | 0.007935 |
| sfrpla | 290.5050992 | 0.189874501 | 0.1416819 | 1.3401467 | 0.180198 | 0.74128 |
| zgc:110329 | 183.2686814 | -0.091859865 | 0.1565993 | -0.586592 | 0.557478 | 0.948478 |
| tacrla | 20.08649692 | -0.592532922 | 0.4367514 | -1.356682 | 0.174882 | 0.735545 |
| rasala | 786.9982332 | -0.09990792 | 0.0933985 | -1.069695 | 0.284757 | 0.844955 |
| atp6v0a2a | 522.9853799 | 0.085064603 | 0.1153618 | 0.7373725 | 0.460896 | 0.921978 |
| brwd3 | 681.2373693 | -0.00764621 | 0.0985404 | -0.077595 | 0.93815 | 0.99279 |
| etnpp1 | 337.9487106 | 0.445019502 | 0.1181305 | 3.767187 | 0.000165 | 0.007304 |
| jmjd7 | 96.25690486 | -0.111131107 | 0.1985707 | -0.559655 | 0.575715 | 0.950373 |
| uprt | 513.505003 | 0.000446111 | 0.1091887 | 0.0040857 | 0.99674 | 0.998936 |
| cfap73 | 6.019629955 | -0.50373326 | 0.7955628 | -0.633179 | 0.526617 | NA |
| iqcd | 11.65437111 | 0.274028117 | 0.5687198 | 0.4818333 | 0.629924 | 0.957354 |
| agtr2 | 160.4136065 | -0.03541318 | 0.1582048 | -0.223844 | 0.822879 | 0.982189 |
| cx27.5 | 33.44633159 | -0.240630627 | 0.3396224 | -0.708524 | 0.47862 | 0.926978 |
| gbgt113 | 78.14393356 | -0.332223323 | 0.2206632 | -1.505567 | 0.132178 | 0.666055 |
| rps6ka3a | 954.7560419 | 0.046162242 | 0.0876402 | 0.5267247 | 0.598385 | 0.955488 |
| gabarapa | 1609.31227 | 0.068003729 | 0.0779178 | 0.8727627 | 0.382792 | 0.895192 |
| gps2 | 581.6641722 | -0.033629484 | 0.1019321 | -0.329921 | 0.74146 | 0.973154 |
| tp53 | 891.0741354 | 0.035749782 | 0.0957153 | 0.3735014 | 0.708775 | 0.968664 |
| capga | 13.12428292 | 0.263628697 | 0.5605212 | 0.4703278 | 0.638121 | 0.959194 |
| mpdula | 147.6785088 | 0.193107396 | 0.1640579 | 1.1770683 | 0.239168 | 0.807768 |
| znf703 | 1164.069927 | -0.090100815 | 0.0913416 | -0.986416 | 0.323929 | 0.870928 |
| dgcr8 | 1042.314734 | -0.013662506 | 0.085884 | -0.159081 | 0.873605 | 0.987858 |
| atp6v0a2b | 304.3272264 | -0.059478163 | 0.1298548 | -0.458036 | 0.646927 | 0.960362 |
| cyp1d1 | 272.9379826 | 0.092691989 | 0.1311518 | 0.7067537 | 0.47972 | 0.927091 |
| zgc:101016 | 145.2614948 | 0.109004392 | 0.1804799 | 0.6039697 | 0.545864 | 0.945526 |
| abhd17b | 415.0981712 | 0.105329006 | 0.1103913 | 0.9541427 | 0.340011 | 0.87805 |
| AK6 | 201.2119411 | 0.061980486 | 0.1453757 | 0.4263469 | 0.669855 | 0.965223 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| cds2 | 1584.683214 | 0.059556453 | 0.0771375 | 0.7720822 | 0.440066 | 0.916082 |
| hs3st112 | 180.6223366 | -0.17617664 | 0.1611282 | -1.093394 | 0.274221 | 0.839127 |
| si:dkey-174n20.1 | 92.1164919 | -0.060030787 | 0.2043042 | -0.29383 | 0.768887 | 0.975687 |
| ficd | 157.2980634 | 0.523339765 | 0.1668043 | 3.1374472 | 0.001704 | 0.047485 |
| ISCU (1 of many) | 494.6359486 | -0.039779721 | 0.1151783 | -0.345375 | 0.729812 | 0.971143 |
| corolca | 1538.451765 | -0.106754332 | 0.0856566 | -1.246306 | 0.212652 | 0.780725 |
| dao.3 | 4.418772514 | 0.092866402 | 0.892773 | 0.1040202 | 0.917153 | NA |
| dao.1 | 23.47197977 | 0.011592158 | 0.3988213 | 0.029066 | 0.976812 | 0.996762 |
| dao.2 | 126.2377491 | 0.132743472 | 0.1921655 | 0.6907768 | 0.489706 | 0.931926 |
| tchp | 222.6835673 | -0.133635875 | 0.1393304 | -0.959129 | 0.337494 | 0.876395 |
| aldh3b2 | 49.35218318 | -0.078102804 | 0.2748373 | -0.284178 | 0.776274 | 0.975826 |
| ankle2 | 72.90738658 | 0.148192838 | 0.240774 | 0.6154853 | 0.538234 | 0.943336 |
| pgam5 | 747.2699591 | -0.024168073 | 0.09766 | -0.247472 | 0.804543 | 0.979705 |
| mtnrlc | 2.794455884 | -0.163811091 | 1.100302 | -0.148878 | 0.88165 | NA |
| zgc:113208 | 363.0724184 | -0.018422938 | 0.1164566 | -0.158196 | 0.874303 | 0.987881 |
| coq5 | 316.7668347 | -0.157378472 | 0.1256345 | -1.252669 | 0.210326 | 0.778043 |
| xbp1 | 4673.393986 | 0.041385416 | 0.0931362 | 0.4443537 | 0.656787 | 0.96205 |
| snrnp27 | 522.1167941 | 0.049524311 | 0.1034958 | 0.4785153 | 0.632283 | 0.957356 |
| parvab | 94.41834059 | 0.197867304 | 0.2084134 | 0.9493981 | 0.342418 | 0.878434 |
| ypell | 182.5741364 | -0.278999363 | 0.1751931 | -1.592525 | 0.111267 | 0.627048 |
| sdf211 | 598.7822956 | -0.046597997 | 0.1238398 | -0.376277 | 0.706711 | 0.968636 |
| ccl19a.2 | | 0 NA | NA | NA | NA | NA |
| tctn2 | 127.4566388 | -0.297126838 | 0.1798446 | -1.652131 | 0.098508 | 0.597984 |
| rfc5 | 511.2185712 | -0.027858155 | 0.1130492 | -0.246425 | 0.805353 | 0.979883 |
| pimr123 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| irx4a | 233.4933618 | -0.125052512 | 0.1363329 | -0.917258 | 0.359007 | 0.884725 |
| extlc | 352.6913115 | -0.13406258 | 0.1243696 | -1.077937 | 0.281062 | 0.84357 |
| evla | 738.1987192 | 0.055300903 | 0.0953339 | 0.580076 | 0.561863 | 0.948728 |
| sat1a.1 | 566.0646926 | -0.054879379 | 0.1159874 | -0.47315 | 0.636106 | 0.958498 |
| rad21b | 571.1725698 | 0.049491421 | 0.125325 | 0.3949045 | 0.692913 | 0.96736 |
| BX649384.1 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:ch211-193k19.1 | 139.9117889 | -0.106993104 | 0.1839836 | -0.581536 | 0.560879 | 0.948728 |
| zgc:103438 | 19.46419554 | -0.44092352 | 0.4415951 | -0.998479 | 0.318047 | 0.867746 |
| si:dkey-267n13.1 | 9.647646204 | 0.138166811 | 0.6435076 | 0.2147089 | 0.829994 | NA |
| ptp4a2b | 2095.29743 | 0.025851158 | 0.0864649 | 0.2989788 | 0.764956 | 0.975374 |
| bmp8a | 40.74326913 | -0.225946876 | 0.3121858 | -0.723758 | 0.469214 | 0.924496 |
| zgc:91910 | 982.9402637 | 0.135680342 | 0.1152 | 1.1777806 | 0.238884 | 0.807768 |
| si:rp71-45k5.4 | 1285.427961 | -0.009382041 | 0.0926866 | -0.101223 | 0.919373 | 0.991639 |
| zgc:113424 | 0.688986717 | 0.114008068 | 2.399209 | 0.047519 | 0.9621 | NA |
| FP102018.1 | 580.156157 | 0.141040553 | 0.1027703 | 1.3723858 | 0.169943 | 0.727155 |
| mon1ba | 9.598511244 | -0.140859765 | 0.6565765 | -0.214537 | 0.830129 | NA |
| rps3a | 21389.87662 | -0.302487006 | 0.0803193 | -3.766056 | 0.000166 | 0.007304 |
| stm | 3275.960146 | 0.224167223 | 0.0768199 | 2.9180879 | 0.003522 | 0.079772 |
| scxa | 101.7415934 | 0.045399696 | 0.2064168 | 0.2199419 | 0.825916 | 0.982196 |
| spinb | 33.95972126 | -0.426651288 | 0.3325348 | -1.283027 | 0.199482 | 0.764896 |
| srp19 | 362.6968329 | -0.132010092 | 0.1204342 | -1.096118 | 0.273027 | 0.838141 |
| zgc:101664 | 128.6542535 | 0.279221227 | 0.1812084 | 1.5408845 | 0.123345 | 0.651258 |
| dock6 | 316.5738292 | -0.248993163 | 0.1386313 | -1.796082 | 0.072482 | 0.526156 |
| marcks11b | 14645.34273 | 0.048275744 | 0.0630104 | 0.7661554 | 0.443584 | 0.916631 |
| cbln6 | | 0 NA | NA | NA | NA | NA |
| arl5c | 208.6213273 | 0.066670101 | 0.1464228 | 0.4553261 | 0.648875 | 0.960708 |
| arntl1b | 215.4061308 | 0.096410545 | 0.1441246 | 0.6689388 | 0.503535 | 0.935304 |
| gsx1 | 189.7629905 | -0.128126141 | 0.1523285 | -0.841117 | 0.400282 | 0.90084 |
| slc25a11 | 2201.504836 | 0.169847929 | 0.0762722 | 2.2268651 | 0.025956 | 0.311101 |

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| ipo7 | 3550.383786 | -0.159612695 | 0.0703092 | -2.270154 | 0.023198 | 0.292366 |
| stx18 | 246.6115895 | -0.247455608 | 0.1378979 | -1.794485 | 0.072736 | 0.526264 |
| CU633984.1 | 12.39482494 | 0.59999009 | 0.5719065 | 1.0491053 | 0.29413 | 0.849999 |
| si:ch1073-157b13.1 | 360.5487376 | -0.045013319 | 0.1250244 | -0.360036 | 0.71882 | 0.969092 |
| ctdnep1b | 235.4304465 | 0.095518756 | 0.1388894 | 0.6877323 | 0.491621 | 0.931926 |
| cdh3l | 0.489712128 | -0.887840729 | 2.693685 | -0.329601 | 0.741702 | NA |
| si:dkey-17m8.2 | 0 NA | NA | NA | NA | NA | NA |
| nggt1 | 1169.484885 | 0.226132091 | 0.1223087 | 1.8488636 | 0.064478 | 0.496874 |
| clcn4 | 570.4525757 | 0.00284314 | 0.1139751 | 0.0249453 | 0.980099 | 0.996879 |
| colla1b | 24425.24927 | 0.302513317 | 0.1804292 | 1.6766313 | 0.093615 | 0.582118 |
| rgcc | 917.5282218 | 0.179142291 | 0.0956398 | 1.8730933 | 0.061056 | 0.482482 |
| sirt3 | 157.763201 | 0.225513289 | 0.1766667 | 1.2764902 | 0.201782 | 0.767736 |
| drd4b | 15.66494091 | 0.735684888 | 0.5138907 | 1.431598 | 0.152259 | 0.701157 |
| si:ch211-173p18.3 | 1341.097117 | -0.035127396 | 0.0805422 | -0.436137 | 0.662738 | 0.964665 |
| zymy4 | 515.3381818 | -0.201259498 | 0.1057946 | -1.902361 | 0.057124 | 0.468896 |
| pyyb | 74.90209154 | -0.79841942 | 0.2558182 | -3.121042 | 0.001802 | 0.049493 |
| eef2k | 1529.932693 | -0.209412401 | 0.0839698 | -2.493901 | 0.012635 | 0.199712 |
| mosmob | 122.5712642 | 0.023121087 | 0.1885978 | 0.1225947 | 0.902428 | 0.990121 |
| cart3 | 49.38022207 | -0.563454055 | 0.294047 | -1.916204 | 0.055339 | 0.460942 |
| cdkn2aip | 131.3078957 | -0.05381335 | 0.1727286 | -0.311549 | 0.755384 | 0.975318 |
| cnn2 | 1452.255347 | 0.088715018 | 0.0818091 | 1.0844156 | 0.278181 | 0.841891 |
| angpt14 | 2820.828928 | 0.012725239 | 0.0834041 | 0.1525733 | 0.878735 | 0.987881 |
| rps28 | 6078.463899 | -0.344473406 | 0.1866891 | -1.845172 | 0.065013 | 0.497901 |
| si:rp71-39b20.4 | 121.0344612 | 0.445760999 | 0.1917044 | 2.3252523 | 0.020058 | 0.266383 |
| insl3 | 1.695240948 | 0.547460725 | 1.6714392 | 0.3275385 | 0.743261 | NA |
| spirela | 333.9815304 | -0.276362683 | 0.1332737 | -2.073648 | 0.038112 | 0.382552 |
| azin1b | 7047.988435 | 0.019053283 | 0.0834502 | 0.2283193 | 0.819398 | 0.981594 |
| laptm4b | 1088.548372 | 0.162111275 | 0.0846208 | 1.9157377 | 0.055398 | 0.461238 |
| rpl30 | 11598.17475 | -0.428287654 | 0.0855712 | -5.005042 | 5.58E-07 | 6.20E-05 |
| hsd17b12b | 662.4809373 | 0.010894398 | 0.097746 | 0.1114562 | 0.911255 | 0.991066 |
| fjx1 | 57.31713551 | -0.058294609 | 0.2689774 | -0.216727 | 0.828421 | 0.982721 |
| tmem54b | 9.450117642 | 0.678979344 | 0.6705313 | 1.012599 | 0.311252 | NA |
| fucal.2 | 217.4355621 | -0.136542503 | 0.1492772 | -0.914691 | 0.360354 | 0.885686 |
| atp6v1c1b | 996.3707516 | 0.066562853 | 0.0912484 | 0.7294689 | 0.465715 | 0.923865 |
| rida | 428.7370409 | -0.187538377 | 0.1193199 | -1.571728 | 0.116014 | 0.63841 |
| nt5claa | 135.1483844 | 0.349790176 | 0.1850957 | 1.8897796 | 0.058787 | 0.474281 |
| zgc:91944 | 314.0067643 | -0.060101021 | 0.1320176 | -0.45525 | 0.648929 | 0.960708 |
| zbtb8b | 324.1588776 | -0.027396057 | 0.1215645 | -0.225362 | 0.821697 | 0.982004 |
| fucal.1 | 951.636247 | -0.155345597 | 0.0960809 | -1.616821 | 0.105917 | 0.615567 |
| acana | 2042.10585 | 0.153276964 | 0.0844741 | 1.8144855 | 0.069603 | 0.514708 |
| fncl5b | 139.8965916 | 0.096581935 | 0.172063 | 0.5613173 | 0.574581 | 0.950037 |
| lingo1b | 448.9626701 | 0.071666554 | 0.1069542 | 0.6700679 | 0.502814 | 0.935304 |
| crabp1b | 280.6867503 | 0.088878299 | 0.1404971 | 0.6325988 | 0.526996 | 0.941016 |
| slc25a44b | 270.7539674 | 0.033689668 | 0.1324388 | 0.2543792 | 0.799203 | 0.979293 |
| fam49a1 | 2634.107822 | 0.047284893 | 0.0799071 | 0.5917483 | 0.554019 | 0.947449 |
| mfsd2ab | 944.0922444 | 0.266282362 | 0.0918047 | 2.9005295 | 0.003725 | 0.082862 |
| znf281b | 710.1068963 | -0.0923196 | 0.0921676 | -1.001649 | 0.316513 | 0.867129 |
| yars | 1008.518916 | 0.107886041 | 0.0844625 | 1.2773247 | 0.201488 | 0.767524 |
| tmem167a | 393.5483969 | -0.187165795 | 0.1409724 | -1.327677 | 0.184285 | 0.747376 |
| bzw2 | 910.4937262 | 0.152632476 | 0.0891604 | 1.7118867 | 0.086918 | 0.565027 |
| dync11i2 | 1081.514591 | 0.142009641 | 0.0994473 | 1.4279889 | 0.153295 | 0.702578 |
| hrh3 | 52.52880471 | 0.52209264 | 0.2715551 | 1.9226031 | 0.05453 | 0.457793 |
| sync | 40.2997506 | 0.077190691 | 0.3083207 | 0.2503584 | 0.80231 | 0.979492 |
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| cdr2a | 22.14088844 | 0.755307001 | 0.4229757 | 1.7856982 | 0.074148 | 0.530917 |
| tdp2b | 107.2536573 | 0.209548615 | 0.1926748 | 1.0875764 | 0.276782 | 0.840075 |
| gmnn | 151.5693199 | -0.227806516 | 0.1757695 | -1.296053 | 0.194957 | 0.759324 |
| tnni2b.1 | 1143.610844 | -0.041892536 | 0.1039636 | -0.402954 | 0.686982 | 0.966376 |
| kcng2 | 45.72293694 | 0.094446826 | 0.2862607 | 0.3299329 | 0.741451 | 0.973154 |
| ccdc96 | 23.05268582 | 0.233807717 | 0.4065303 | 0.5751298 | 0.565204 | 0.948739 |
| pgr | 5.806923612 | -0.095873505 | 0.7779919 | -0.123232 | 0.901923 | NA |
| ptprn2 | 1913.857317 | 0.059335952 | 0.0721913 | 0.8219262 | 0.411119 | 0.903291 |
| ube3c | 555.0847083 | -0.045755533 | 0.0994338 | -0.460161 | 0.645401 | 0.96029 |
| mx1 | 80.37551493 | 0.241349763 | 0.2304596 | 1.0472543 | 0.294982 | 0.851519 |
| fam210aa | 387.1023077 | 0.194480273 | 0.1268823 | 1.5327607 | 0.125335 | 0.654648 |
| ptpn2b | 432.8962414 | -0.06628821 | 0.1126554 | -0.588416 | 0.556253 | 0.947902 |
| psmg2 | 298.6894335 | -0.254127542 | 0.1302433 | -1.951176 | 0.051036 | 0.443404 |
| cited4a | 1579.245688 | 0.047321638 | 0.0957957 | 0.4939849 | 0.621317 | 0.957354 |
| sumo3b | 1328.50363 | 0.011398604 | 0.1011489 | 0.1126913 | 0.910275 | 0.990702 |
| pitpnb | 189.1291285 | 0.13692202 | 0.1558992 | 0.8782727 | 0.379796 | 0.895192 |
| caly | 926.3828671 | 0.136235361 | 0.0957094 | 1.4234266 | 0.154613 | 0.704307 |
| arrdc3b | 7017.827578 | -0.091748988 | 0.0808296 | -1.135091 | 0.256337 | 0.824633 |
| sept5b | 98.77849349 | 0.143874404 | 0.2032367 | 0.7079154 | 0.478998 | 0.926978 |
| mdka | 8024.308945 | 0.149363211 | 0.0657218 | 2.2726603 | 0.023047 | 0.291198 |
| harbil | 196.9755498 | -0.1519982 | 0.1587101 | -0.95771 | 0.338209 | 0.876778 |
| atg13 | 1331.916971 | -0.048834147 | 0.0876058 | -0.557431 | 0.577233 | 0.950788 |
| f2 | 1741.683771 | 0.384834235 | 0.0855275 | 4.4995384 | 6.81E-06 | 0.00052 |
| znf408 | 31.89224422 | 0.364162772 | 0.3378367 | 1.0779254 | 0.281067 | 0.84357 |
| rps20 | 15728.25926 | -0.381267769 | 0.0860454 | -4.431007 | 9.38E-06 | 0.000687 |
| penkb | 188.5053293 | -0.131039412 | 0.1554469 | -0.842985 | 0.399237 | 0.900683 |
| irx4b | 105.9333299 | -0.009477228 | 0.1905648 | -0.049732 | 0.960336 | 0.995421 |
| thapl1 | 219.4402195 | -0.079581854 | 0.143995 | -0.552671 | 0.580489 | 0.951621 |
| vrk3 | 192.7365606 | 0.020127514 | 0.1484999 | 0.1355389 | 0.892186 | 0.989291 |
| tradd | 138.7403448 | -0.28998844 | 0.1755963 | -1.651449 | 0.098647 | 0.59799 |
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| tmppe | 221.3096848 | -0.02207279 | 0.1428557 | -0.154511 | 0.877207 | 0.987881 |
| exosc6 | 174.9953947 | 0.303581157 | 0.1673063 | 1.8145231 | 0.069597 | 0.514708 |
| ogfod1 | 130.868922 | -0.139396199 | 0.1782114 | -0.782196 | 0.434099 | 0.914001 |
| ppplr11 | 568.7626054 | 0.09279122 | 0.0996086 | 0.9315585 | 0.351565 | 0.880769 |
| cnplr1 | 242.5854829 | -0.020616026 | 0.1360838 | -0.151495 | 0.879585 | 0.987881 |
| mgatl1b | 295.5113376 | 0.107418546 | 0.124753 | 0.8610499 | 0.389211 | 0.896362 |
| si:dkey-78a14.4 | 18.49194307 | 0.085881997 | 0.4591797 | 0.1870335 | 0.851634 | 0.985174 |
| ddx39b | 537.6849243 | 0.067916202 | 0.1067774 | 0.6360538 | 0.524741 | 0.939791 |
| znrd1 | 35.59758815 | -0.057155649 | 0.3474257 | -0.164512 | 0.869328 | 0.987274 |
| gtf2h4 | 0.878629579 | 0.686795053 | 2.2010162 | 0.3120354 | 0.755014 | NA |
| cebpg | 1637.115459 | -0.060321226 | 0.0837291 | -0.720433 | 0.471258 | 0.924838 |
| cebpa | 706.5715793 | -0.069495512 | 0.0928338 | -0.748602 | 0.454097 | 0.920295 |
| heatr3 | 335.2954066 | -0.077469759 | 0.123697 | -0.626287 | 0.531127 | 0.942209 |
| cd81a | 12915.05454 | 0.083714581 | 0.0653986 | 1.2800663 | 0.200522 | 0.766801 |
| tph1b | 65.03190566 | -0.40228566 | 0.2431763 | -1.654296 | 0.098067 | 0.59749 |
| itln2 | 3.996604593 | -0.338518989 | 1.1163666 | -0.303233 | 0.761712 | NA |
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| pard6gb | 321.7548881 | -0.037611485 | 0.1297196 | -0.289945 | 0.771859 | 0.975687 |
| sdhaf3 | 181.7243823 | 0.141538839 | 0.151248 | 0.9358061 | 0.349373 | 0.880195 |
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| myo1g | 3. 387788532 | 0. 01564599 | 1. 0558498 | 0. 0148184 | 0. 988177 | NA |
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| EIF3hb | 246. 0667624 | -0. 127721441 | 0. 1405676 | -0. 908612 | 0. 363555 | 0. 886101 |
| mchr2 | 3. 620070472 | 0. 266801763 | 0. 9818007 | 0. 2717474 | 0. 785816 | NA |
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| bbox1 | 540. 4590575 | -0. 099454193 | 0. 1150887 | -0. 864153 | 0. 387504 | 0. 895884 |
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| lctla | 891. 876563 | 0. 259888152 | 0. 1027347 | 2. 5297024 | 0. 011416 | 0. 186316 |
| crybgx | 3230. 925751 | -0. 013696973 | 0. 0786802 | -0. 174084 | 0. 861799 | 0. 985841 |
| tssc4 | 546. 2178205 | 0. 057660283 | 0. 1244175 | 0. 463442 | 0. 643048 | 0. 959994 |
| ano5b | 600. 2971093 | 0. 162344646 | 0. 1074003 | 1. 5115849 | 0. 130639 | 0. 662797 |
| gas2b | 30. 20299339 | -0. 027133905 | 0. 3433246 | -0. 079033 | 0. 937007 | 0. 992786 |
| gla | 66. 40277066 | 0. 171475408 | 0. 2405873 | 0. 7127366 | 0. 476009 | 0. 926338 |
| fnbpla | 14. 79347469 | 0. 538325068 | 0. 5519758 | 0. 9752693 | 0. 329427 | 0. 873436 |
| nudcd1 | 287. 2091381 | 0. 003152154 | 0. 127407 | 0. 0247408 | 0. 980262 | 0. 996879 |
| trhrb | 5. 141155378 | 0. 705224634 | 0. 94431 | 0. 7468147 | 0. 455175 | NA |
| hnrnpa01 | 7828. 145469 | -0. 171417358 | 0. 065485 | -2. 61766 | 0. 008853 | 0. 156033 |
| hnrnpa0b | 144. 8131953 | 0. 239016813 | 0. 1848352 | 1. 2931346 | 0. 195964 | 0. 761148 |
| cars | 864. 9525141 | 0. 024356215 | 0. 0916195 | 0. 265841 | 0. 790362 | 0. 977338 |
| nfatc1 | 202. 8547274 | -0. 139402543 | 0. 1519781 | -0. 917254 | 0. 35901 | 0. 884725 |
| rnase13 | 265. 8087248 | 0. 703707405 | 0. 1427305 | 4. 9303242 | 8. 21E-07 | 8. 54E-05 |
| pcdh1b | 889. 4402005 | -0. 0091982 | 0. 1023558 | -0. 089865 | 0. 928395 | 0. 992702 |
| myolea | 585. 1266275 | -0. 142461219 | 0. 097667 | -1. 458643 | 0. 144663 | 0. 688975 |
| ccnb2 | 100. 7299182 | -0. 189482765 | 0. 2102847 | -0. 901077 | 0. 367547 | 0. 887458 |
| mbpa | 915. 414934 | 0. 224129248 | 0. 088351 | 2. 5368063 | 0. 011187 | 0. 183548 |
| spata4 | 15. 69817846 | -0. 270081473 | 0. 4722542 | -0. 571898 | 0. 567391 | 0. 948739 |
| txn14a | 415. 5387521 | 0. 113757428 | 0. 1194067 | 0. 9526889 | 0. 340748 | 0. 878134 |
| pitx2 | 649. 40057 | -0. 051492106 | 0. 0980657 | -0. 525077 | 0. 599529 | 0. 956045 |
| tbcld5 | 781. 5900865 | 0. 014679351 | 0. 0931356 | 0. 1576126 | 0. 874762 | 0. 987881 |
| daz1 | 6. 721575763 | 0. 896369832 | 0. 7484045 | 1. 1977077 | 0. 231031 | NA |
| lcp2b | 3. 249393254 | -0. 740375907 | 1. 1675185 | -0. 634145 | 0. 525986 | NA |
| npy | 78. 78881066 | 0. 29929389 | 0. 2225624 | 1. 3447638 | 0. 178702 | 0. 739486 |
| npvf | 90. 66554345 | 0. 052963373 | 0. 2124461 | 0. 2493027 | 0. 803127 | 0. 979643 |
| trpm7 | 897. 3705932 | 0. 095376699 | 0. 0923681 | 1. 0325719 | 0. 301804 | 0. 856944 |
| zbtb3 | 163. 309103 | 0. 047977192 | 0. 1630908 | 0. 2941747 | 0. 768624 | 0. 975687 |
| slc27a2a | 664. 0244862 | 0. 067233525 | 0. 1180671 | 0. 5694516 | 0. 56905 | 0. 948983 |
| gatm | 3189. 814182 | 0. 092280991 | 0. 0944751 | 0. 9767762 | 0. 32868 | 0. 872945 |
| sb:cb649 | 51. 4923668 | -0. 180433156 | 0. 2720542 | -0. 663225 | 0. 507186 | 0. 935734 |
| tmem144b | 1. 999048969 | 0. 975922653 | 1. 3685926 | 0. 7130849 | 0. 475793 | NA |
| rras2 | 641. 0498406 | 0. 148869723 | 0. 0959307 | 1. 5518461 | 0. 120699 | 0. 645578 |
| hoxa13b | 19. 82217617 | -0. 045519769 | 0. 4333557 | -0. 10504 | 0. 916344 | 0. 991314 |
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| gcgrb | 27. 90390589 | 0. 19537566 | 0. 3800181 | 0. 514122 | 0. 607167 | 0. 956718 |
| lamc1 | 3609. 719755 | 0. 049088438 | 0. 0715361 | 0. 6862049 | 0. 492584 | 0. 931926 |
| CC2D1A | 150. 1908449 | 0. 127677946 | 0. 1698954 | 0. 751509 | 0. 452346 | 0. 919102 |
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| nucb2b | 281. 2460372 | -0. 230715817 | 0. 1456507 | -1. 584035 | 0. 113186 | 0. 631061 |
| cdx4 | 12. 02654714 | 0. 364450955 | 0. 5533108 | 0. 6586731 | 0. 510106 | 0. 936253 |
| gnb11 | 24. 31356122 | 0. 63930459 | 0. 4056861 | 1. 5758604 | 0. 115058 | 0. 635519 |
| golga7ba | 616. 7209573 | 0. 153445296 | 0. 0992044 | 1. 5467586 | 0. 121921 | 0. 649101 |
| rps13 | 9187. 232908 | -0. 343211151 | 0. 0861208 | -3. 985231 | 6. 74E-05 | 0. 003508 |

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| nucb2a | 1854.448803 | 0.107179923 | 0.0837768 | 1.2793506 | 0.200774 | 0.766855 |
| dnaaf3l | 12.0448701 | 0.220719095 | 0.5752578 | 0.3836873 | 0.70121 | 0.968134 |
| phf23b | 292.0934712 | 0.044454141 | 0.133479 | 0.3330422 | 0.739102 | 0.972722 |
| nod1 | 3.149578253 | 0.483808077 | 1.1210099 | 0.4315823 | 0.666045 | NA |
| rpl39 | 9418.477417 | -0.312311335 | 0.1111039 | -2.810985 | 0.004939 | 0.102322 |
| ndufal | 1097.738302 | -0.009045462 | 0.1196831 | -0.075578 | 0.939754 | 0.992857 |
| clgalt1c1 | 435.384513 | 0.067111425 | 0.1079581 | 0.6216434 | 0.534176 | 0.943276 |
| cers3b | 51.33161818 | -0.238119715 | 0.2742275 | -0.868329 | 0.385214 | 0.89551 |
| vps1l | 509.7416884 | -0.042858957 | 0.1095397 | -0.391264 | 0.695602 | 0.96736 |
| calb2b | 4149.288071 | 0.058830713 | 0.0793685 | 0.7412353 | 0.458551 | 0.921978 |
| cmtr2 | 178.1089941 | -0.279417933 | 0.1605621 | -1.740248 | 0.081815 | 0.552725 |
| riox2 | 103.1769683 | 0.003929872 | 0.192092 | 0.0204583 | 0.983678 | 0.996944 |
| actala | 3813.02881 | 0.126324246 | 0.096861 | 1.3041803 | 0.192172 | 0.756673 |
| cyfip2 | 2945.314734 | 0.03420618 | 0.0746164 | 0.4584272 | 0.646646 | 0.960362 |
| cldn7a | 975.142405 | 0.112555678 | 0.1002246 | 1.123034 | 0.261423 | 0.829593 |
| ponzr6 | 57.9007738 | -0.54338247 | 0.2734264 | -1.987308 | 0.046888 | 0.425112 |
| slc24a6a | 539.736304 | 0.177054151 | 0.1057239 | 1.6746845 | 0.093996 | 0.58339 |
| rbm4.1 | 540.829899 | 0.006053285 | 0.1142272 | 0.0529934 | 0.957737 | 0.99467 |
| pop7 | 566.061554 | 0.102537114 | 0.1002343 | 1.0229748 | 0.30632 | 0.860027 |
| si:ch211-81a5.5 | 22.81840159 | 0.345856196 | 0.4257208 | 0.8124014 | 0.416561 | 0.906237 |
| si:ch73-335121.1 | 831.4429766 | 0.113186648 | 0.1003592 | 1.1278158 | 0.259398 | 0.827693 |
| glb1 | 196.5772029 | 0.254054132 | 0.1554775 | 1.6340249 | 0.102254 | 0.607744 |
| si:dkey-33c9.6 | 22.23597324 | -0.15870962 | 0.4146104 | -0.382792 | 0.701874 | 0.968134 |
| ntn5 | 282.3771741 | -0.010972148 | 0.1384695 | -0.079239 | 0.936843 | 0.992702 |
| pcdh20 | 195.8037749 | 0.247896123 | 0.1535828 | 1.6140874 | 0.106508 | 0.615567 |
| zgc:103586 | 178.7526449 | 0.211458261 | 0.1623576 | 1.3024231 | 0.192772 | 0.756795 |
| slc3a2a | 2312.443312 | -0.039348432 | 0.0858536 | -0.45832 | 0.646722 | 0.960362 |
| si:dkey-264d12.4 | 127.6023788 | -0.195068187 | 0.1888296 | -1.033038 | 0.301586 | 0.856944 |
| sat2a | | 0 NA | NA | NA | NA | NA |
| ndufv1 | 4983.424477 | 0.079831768 | 0.0812524 | 0.9825153 | 0.325846 | 0.871896 |
| atp11c | 233.9800828 | 0.257121965 | 0.1403824 | 1.8315823 | 0.067014 | 0.506251 |
| serpinh2 | 261.4395394 | 0.265014392 | 0.1321701 | 2.0051006 | 0.044952 | 0.417005 |
| PRKAR2B | 255.5214947 | 0.067773725 | 0.1614554 | 0.4197674 | 0.674655 | 0.965257 |
| anxa4 | 1679.68595 | -0.445492591 | 0.0881889 | -5.051571 | 4.38E-07 | 5.04E-05 |
| cacng6a | 195.0753388 | 0.379931571 | 0.1491039 | 2.5480988 | 0.010831 | 0.180681 |
| prlhr2b | 3.29685416 | 0.27107151 | 1.0351481 | 0.2618674 | 0.793424 | NA |
| tmtops3a | 7.788023212 | 0.074835965 | 0.6869267 | 0.1089432 | 0.913248 | NA |
| rab11fip1b | 27.52116728 | -0.456904244 | 0.3757246 | -1.216061 | 0.223962 | 0.790824 |
| dand5 | 3.422964639 | -0.680587392 | 1.0643958 | -0.639412 | 0.522555 | NA |
| snape2 | 134.1536674 | -0.193505488 | 0.1722615 | -1.123324 | 0.2613 | 0.829527 |
| si:dkeyp-80c12.4 | 2.200210324 | -0.168395489 | 1.3110895 | -0.128439 | 0.897801 | NA |
| tcn2 | 1344.620755 | -0.320366391 | 0.1017811 | -3.147601 | 0.001646 | 0.046303 |
| hexim1 | 1015.365432 | 0.078362544 | 0.0881441 | 0.8890273 | 0.373988 | 0.893685 |
| clql3b | 27.03553014 | -0.170098885 | 0.3680454 | -0.462168 | 0.643961 | 0.96009 |
| zgc:l12356 | 2037.614885 | -0.052304025 | 0.0848272 | -0.616595 | 0.537502 | 0.943336 |
| si:ch73-174h16.4 | 178.5576768 | 0.077616701 | 0.1581535 | 0.4907682 | 0.62359 | 0.957354 |
| gstcd | 89.75318361 | -0.018022144 | 0.2093612 | -0.086082 | 0.931402 | 0.992702 |
| zgc:l62171 | 22.04469244 | -0.534526599 | 0.4085099 | -1.308479 | 0.190711 | 0.755212 |
| fam122b | 545.8232609 | -0.017683423 | 0.1031352 | -0.171459 | 0.863863 | 0.985952 |
| rab39bb | 348.4342034 | 0.027741038 | 0.1355284 | 0.204688 | 0.837816 | 0.984701 |
| syt4 | 1289.987458 | -0.013206675 | 0.0801449 | -0.164785 | 0.869113 | 0.987245 |
| ccnt2b | 1186.97025 | 0.074772947 | 0.0850586 | 0.8790757 | 0.37936 | 0.895192 |
| rhbdf1a | 568.55187 | 0.010301456 | 0.124648 | 0.0826444 | 0.934134 | 0.992702 |
| pknox1.2 | 145.6508024 | 0.078496325 | 0.1730986 | 0.4534774 | 0.650205 | 0.960708 |

| | | | | | | |
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| tmprss3b | 8. 658108658 | 0. 223657562 | 0. 6466522 | 0. 34587 | 0. 72944 | NA |
| pdxkb | 53. 40906296 | 0. 371385494 | 0. 2770878 | 1. 340317 | 0. 180142 | 0. 74128 |
| s1pr2 | 343. 2244035 | 0. 093315293 | 0. 1346588 | 0. 692976 | 0. 488325 | 0. 93189 |
| agpat3 | 2180. 156069 | 0. 055541361 | 0. 0823191 | 0. 6747079 | 0. 499861 | 0. 934224 |
| coll8a1a | 5909. 841402 | 0. 14193449 | 0. 0808212 | 1. 7561543 | 0. 079062 | 0. 547489 |
| gpr185b | 10. 45034184 | 0. 391100294 | 0. 6069167 | 0. 6444053 | 0. 519313 | NA |
| aanat1 | 38. 7272989 | 0. 343465004 | 0. 3090529 | 1. 1113468 | 0. 266419 | 0. 832634 |
| bach2a | 59. 83655816 | -0. 26166064 | 0. 2673923 | -0. 978564 | 0. 327795 | 0. 872701 |
| sema3e | 238. 1190913 | 0. 094001578 | 0. 1359182 | 0. 6916038 | 0. 489186 | 0. 931926 |
| si:ch73-71d17. 2 | 90. 70254905 | -0. 23221627 | 0. 2149291 | -1. 080432 | 0. 27995 | 0. 843423 |
| atp6v0cb | 8108. 633239 | 0. 132610506 | 0. 075532 | 1. 7556857 | 0. 079142 | 0. 547489 |
| st8sia5 | 278. 0350583 | 0. 092688553 | 0. 1363282 | 0. 6798926 | 0. 496572 | 0. 932588 |
| cbrl | 417. 121542 | 0. 02872445 | 0. 1152718 | 0. 2491888 | 0. 803215 | 0. 979643 |
| mhc1zba | 540. 1312915 | 0. 271926958 | 0. 1344292 | 2. 0228267 | 0. 043091 | 0. 4075 |
| setd4 | 117. 4156673 | -0. 14575333 | 0. 2020833 | -0. 721254 | 0. 470753 | 0. 924838 |
| kdm2ba | 1966. 504252 | -0. 009910267 | 0. 0801466 | -0. 123652 | 0. 901591 | 0. 990121 |
| tab1 | 287. 6934541 | -0. 219677408 | 0. 1366387 | -1. 607724 | 0. 107896 | 0. 619311 |
| gpr182 | 61. 45878333 | 0. 1414214 | 0. 2638067 | 0. 5360796 | 0. 591904 | 0. 954434 |
| mgat3b | 82. 97390653 | 0. 00152686 | 0. 2485665 | 0. 0061427 | 0. 995099 | 0. 998694 |
| polr2f | 581. 9772464 | -0. 267971672 | 0. 0980508 | -2. 732988 | 0. 006276 | 0. 120609 |
| sema6ba | 5. 289353913 | 0. 546020313 | 0. 8487747 | 0. 6433042 | 0. 520027 | NA |
| cd74b | 5. 656557411 | 0. 510670674 | 0. 8385901 | 0. 6089634 | 0. 542549 | NA |
| rps14 | 13612. 0504 | -0. 481959569 | 0. 0709401 | -6. 793894 | 1. 09E-11 | 3. 08E-09 |
| plp2 | 726. 3495281 | -0. 08027229 | 0. 1053228 | -0. 762155 | 0. 445968 | 0. 917154 |
| ebpl | 51. 48719525 | -0. 264480832 | 0. 2841946 | -0. 930633 | 0. 352044 | 0. 880844 |
| arl11 | 35. 75138902 | 0. 050933315 | 0. 3206104 | 0. 1588636 | 0. 873776 | 0. 987881 |
| rcbtb1 | 240. 7586567 | 0. 122495481 | 0. 14059 | 0. 8712959 | 0. 383593 | 0. 895192 |
| cdadcl | 187. 0389791 | -0. 034848141 | 0. 1659514 | -0. 20999 | 0. 833675 | 0. 983583 |
| cab391 | 1590. 53996 | -0. 079542019 | 0. 0753114 | -1. 056176 | 0. 290888 | 0. 846568 |
| aplrb | 252. 3860781 | -0. 156705201 | 0. 1392232 | -1. 125568 | 0. 260348 | 0. 828473 |
| tnni4b. 2 | 317. 990272 | 0. 396904405 | 0. 135486 | 2. 9294856 | 0. 003395 | 0. 077847 |
| hnrnpa1b | 6402. 587256 | -0. 146730436 | 0. 0867174 | -1. 692052 | 0. 090636 | 0. 576398 |
| trmt10a | 96. 79572276 | 0. 216475041 | 0. 2154194 | 1. 0049006 | 0. 314945 | 0. 866054 |
| ndufa7 | 608. 7579077 | -0. 165811624 | 0. 1277678 | -1. 297758 | 0. 194371 | 0. 758233 |
| ccnt2a | 852. 0671409 | 0. 062584418 | 0. 0926091 | 0. 6757912 | 0. 499173 | 0. 934006 |
| bcl9 | 2024. 109686 | -0. 038219372 | 0. 0870518 | -0. 439042 | 0. 660631 | 0. 963881 |
| calcocola | 768. 5734247 | -0. 112078918 | 0. 0987367 | -1. 135129 | 0. 256321 | 0. 824633 |
| znf865 | 1680. 523818 | 0. 022431782 | 0. 0766171 | 0. 2927776 | 0. 769692 | 0. 975687 |
| si:ch211-114n24. 6 | 1034. 618262 | 0. 169663894 | 0. 0929146 | 1. 8260193 | 0. 067847 | 0. 509884 |
| tmem18 | 325. 4850369 | -0. 18619891 | 0. 119671 | -1. 555924 | 0. 119726 | 0. 644854 |
| tomm401 | 733. 0576282 | 0. 057547281 | 0. 0974474 | 0. 5905468 | 0. 554824 | 0. 947449 |
| slc9a3. 2 | 23. 02664648 | 0. 462245041 | 0. 4134925 | 1. 1179042 | 0. 263608 | 0. 830245 |
| si:dkey-211g8. 1 | | 0 NA | NA | NA | NA | NA |
| nitr7a | 0. 158795395 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| nitr8 | 0. 157187365 | -0. 955901296 | 4. 0804729 | -0. 234262 | 0. 814781 | NA |
| hmgn3 | 3840. 743442 | 0. 036287779 | 0. 0697533 | 0. 5202303 | 0. 602903 | 0. 956045 |
| prmt9 | 119. 628876 | 0. 106416008 | 0. 1903677 | 0. 5590023 | 0. 57616 | 0. 950611 |
| hax1 | 504. 9092059 | -0. 088842692 | 0. 1099669 | -0. 807904 | 0. 419146 | 0. 906406 |
| urgcp | 70. 9284736 | -0. 094204636 | 0. 2533459 | -0. 371842 | 0. 71001 | 0. 968928 |
| pygo2 | 1044. 58088 | 0. 042118589 | 0. 0846532 | 0. 4975431 | 0. 618806 | 0. 957354 |
| s100s | 337. 1385292 | 0. 065036789 | 0. 1214605 | 0. 5354561 | 0. 592335 | 0. 954434 |
| rgs12b | 773. 6045662 | 0. 037692108 | 0. 0942823 | 0. 3997792 | 0. 689319 | 0. 966763 |
| dtd2 | 61. 9927229 | -0. 287709222 | 0. 2649742 | -1. 085801 | 0. 277567 | 0. 84125 |
| aldh8a1 | 350. 9111127 | -0. 778669962 | 0. 118483 | -6. 571997 | 4. 96E-11 | 1. 23E-08 |

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| hbs11 | 958.1776344 | -0.015537506 | 0.0851906 | -0.182385 | 0.855281 | 0.985174 |
| si:dkey-170110.1 | 49.16169538 | 0.348720813 | 0.2958747 | 1.17861 | 0.238554 | 0.807659 |
| commd7 | 201.9305027 | 0.031219307 | 0.1539116 | 0.2028392 | 0.839261 | 0.984979 |
| si:ch211-226m16.2 | 420.4024412 | -0.119490774 | 0.1096444 | -1.089803 | 0.2758 | 0.839541 |
| tap2a | 1.338122747 | -0.741451151 | 1.6474665 | -0.450055 | 0.652671 | NA |
| dnmt3bb.1 | 559.5626352 | 0.014642337 | 0.1153349 | 0.1269549 | 0.898976 | 0.990121 |
| ttl15 | 22.34127966 | 0.410581378 | 0.4133544 | 0.9932913 | 0.320568 | 0.868418 |
| si:ch211-106j24.1 | 397.0408832 | 0.427989974 | 0.1174219 | 3.6448898 | 0.000268 | 0.010817 |
| ifrd2 | 1025.955517 | 0.039008332 | 0.0850818 | 0.4584805 | 0.646607 | 0.960362 |
| pou2f2a | 750.8696317 | -0.061457478 | 0.0934368 | -0.657743 | 0.510703 | 0.936253 |
| hyal3 | 11.63145114 | 0.413427179 | 0.6073194 | 0.6807409 | 0.496035 | 0.932377 |
| mgll | 950.5792815 | -0.001222372 | 0.0945623 | -0.012927 | 0.989686 | 0.997612 |
| ankrd52a | 22.3435766 | 0.651506254 | 0.4283401 | 1.5210024 | 0.128259 | 0.658954 |
| krt91 | 14164.52311 | 0.094215946 | 0.0868633 | 1.0846461 | 0.278078 | 0.841891 |
| rnf41 | 836.4450004 | 0.087558717 | 0.0905775 | 0.9666718 | 0.333708 | 0.874933 |
| cyt11 | 10174.75681 | -0.071781714 | 0.0982418 | -0.730663 | 0.464985 | 0.923671 |
| upp2 | 1.185891111 | -0.36621692 | 1.8036008 | -0.203048 | 0.839098 | NA |
| krt92 | 4455.225075 | -0.603390794 | 0.0911633 | -6.61879 | 3.62E-11 | 9.18E-09 |
| krt15 | 1600.872649 | 0.106604819 | 0.0978296 | 1.0896985 | 0.275846 | 0.839541 |
| tsen54 | 108.4012569 | -0.116502257 | 0.1892707 | -0.615532 | 0.538203 | 0.943336 |
| anks4b | 320.4089237 | -0.718915664 | 0.1244771 | -5.775486 | 7.67E-09 | 1.34E-06 |
| slc43a2a | 886.5902781 | -0.121013934 | 0.1038813 | -1.164925 | 0.244049 | 0.813415 |
| DX0 | 47.61192559 | -0.066334593 | 0.2996257 | -0.221392 | 0.824788 | 0.982196 |
| plagx | 879.4726811 | -0.09548818 | 0.0917383 | -1.040876 | 0.297933 | 0.85401 |
| myold | 422.4861358 | -0.119479583 | 0.11187 | -1.068021 | 0.285511 | 0.845164 |
| slc34a2b | 343.0268306 | -1.199766908 | 0.1395214 | -8.599158 | 8.03E-18 | 5.12E-15 |
| slc2a12 | 207.3135849 | 0.056620568 | 0.1507621 | 0.3755623 | 0.707242 | 0.968664 |
| tbpl1 | 140.333327 | 0.276632075 | 0.1823142 | 1.5173367 | 0.129182 | 0.660844 |
| tcf21 | 42.41056817 | -0.298013232 | 0.3226086 | -0.923761 | 0.355611 | 0.882511 |
| arihl1 | 322.5348289 | 0.088964131 | 0.1326193 | 0.6708232 | 0.502333 | 0.935304 |
| rps12 | 20921.91153 | -0.397054736 | 0.0743834 | -5.337945 | 9.40E-08 | 1.32E-05 |
| zgc:153284 | 202.2571103 | 0.237050594 | 0.1603155 | 1.4786509 | 0.139234 | 0.677963 |
| sh3bgr12 | 599.4988132 | 0.079583698 | 0.100325 | 0.7932588 | 0.427627 | 0.91075 |
| zgc:153935 | 64.63993599 | 0.01642324 | 0.2486173 | 0.0660583 | 0.947331 | 0.99381 |
| f13alb | 291.5663683 | -0.03949957 | 0.1452454 | -0.271951 | 0.78566 | 0.97627 |
| aimplb | 249.8684202 | -0.072099917 | 0.1419781 | -0.507824 | 0.611577 | 0.95688 |
| sgms2b | 38.68850504 | 0.25633079 | 0.3241623 | 0.7907483 | 0.429091 | 0.911406 |
| irak1bp1 | 48.11983867 | -0.113475553 | 0.2761475 | -0.410924 | 0.681129 | 0.965476 |
| scamp1 | 341.8694178 | 0.183338581 | 0.1298262 | 1.4121843 | 0.157896 | 0.709114 |
| edn1 | 36.17320493 | -0.088897086 | 0.3293462 | -0.26992 | 0.787222 | 0.976596 |
| st6galnac6 | 7.5261108 | -0.866445861 | 0.7293429 | -1.187981 | 0.234841 | NA |
| dolppl | 79.75004317 | 0.122375052 | 0.2210052 | 0.5537203 | 0.57977 | 0.951257 |
| tatdn1 | 57.3053916 | 0.137036577 | 0.2526483 | 0.5424006 | 0.587543 | 0.953319 |
| rnf139 | 279.4204442 | 0.046639048 | 0.1478338 | 0.3154829 | 0.752395 | 0.974684 |
| tbx18 | 71.34108328 | -0.18388263 | 0.2409113 | -0.763279 | 0.445297 | 0.917117 |
| ctssl | 13.53794159 | -0.178151224 | 0.5466146 | -0.325917 | 0.744487 | 0.974094 |
| gpd1c | 528.7645677 | -0.357728497 | 0.124304 | -2.877853 | 0.004004 | 0.087004 |
| golph31 | 410.9203475 | -0.159130799 | 0.1133171 | -1.404297 | 0.16023 | 0.7128 |
| ensaa | 121.6761608 | 0.176853442 | 0.1920193 | 0.9210189 | 0.357041 | 0.883467 |
| zgc:198371 | 56.24419443 | -0.001264663 | 0.2603373 | -0.004858 | 0.996124 | 0.998888 |
| asx11 | 1943.651949 | -0.032883939 | 0.0894491 | -0.367627 | 0.713151 | 0.96909 |
| rnf24 | 150.4983925 | -0.110632234 | 0.1942142 | -0.56964 | 0.568922 | 0.948983 |
| hsd3b7 | 373.9481461 | 0.041007 | 0.1172981 | 0.3495964 | 0.726642 | 0.970402 |
| smox | 2573.891437 | 0.021293317 | 0.0875452 | 0.2432265 | 0.80783 | 0.980642 |

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| si:ch1073-416d2.3 | 31.95383797 | 0.064553473 | 0.3498394 | 0.1845232 | 0.853603 | 0.985174 |
| rippy3 | 5.184685586 | 0.262485464 | 0.9347461 | 0.2808094 | 0.778857 | NA |
| plxnb2b | 62.09834054 | 0.465750877 | 0.2528618 | 1.8419184 | 0.065487 | 0.500378 |
| has2 | 84.56559987 | 0.045061627 | 0.2180838 | 0.2066253 | 0.836302 | 0.984231 |
| dctd | 113.0039253 | -0.094730537 | 0.1970624 | -0.480713 | 0.63072 | 0.957354 |
| erbb3b | 300.1968894 | -0.327610575 | 0.1348969 | -2.428601 | 0.015157 | 0.225353 |
| tbc1d16 | 200.4576486 | -0.204968076 | 0.1462405 | -1.401582 | 0.16104 | 0.714313 |
| lsm6 | 541.5833806 | -0.028303078 | 0.1379284 | -0.205201 | 0.837415 | 0.984665 |
| arf3b | 14.42499429 | 0.077620785 | 0.5064782 | 0.1532559 | 0.878196 | 0.987881 |
| DISP3 | 23.8416 | 0.229215199 | 0.4121935 | 0.5560864 | 0.578152 | 0.951024 |
| fkbp11 | 178.1182005 | -0.141941133 | 0.1565601 | -0.906624 | 0.364606 | 0.886586 |
| zgc:152968 | 4.082403184 | -0.097672661 | 0.9419125 | -0.103696 | 0.917411 | NA |
| bsc12 | 452.7979221 | 0.134996635 | 0.1072911 | 1.2582274 | 0.20831 | 0.775404 |
| banf1 | 1692.590365 | -0.104441805 | 0.0765737 | -1.363938 | 0.172587 | 0.731348 |
| slc3a2b | 4110.533671 | -0.054717172 | 0.0679666 | -0.80506 | 0.420785 | 0.90651 |
| ube4b | 1580.697424 | 0.003750056 | 0.0880678 | 0.0425814 | 0.966035 | 0.996315 |
| gab1 | 446.2771837 | -0.060317627 | 0.11009 | -0.547894 | 0.583765 | 0.952214 |
| kif1b | 3343.263185 | 0.049260303 | 0.0736071 | 0.6692333 | 0.503347 | 0.935304 |
| casz1 | 263.09008 | -0.017660959 | 0.1419019 | -0.124459 | 0.900952 | 0.990121 |
| ptger2b | 13.33230899 | 0.322566467 | 0.5708098 | 0.5651032 | 0.572004 | 0.949494 |
| psmc6 | 2300.839383 | -0.078651894 | 0.0866084 | -0.908133 | 0.363808 | 0.886174 |
| cgrrf1 | 58.94662156 | 0.106005428 | 0.2576432 | 0.4114427 | 0.680748 | 0.965476 |
| ddhd1b | 235.0610125 | 0.212797445 | 0.1397547 | 1.5226492 | 0.127846 | 0.658686 |
| rad51b | 51.94688841 | 0.051506955 | 0.2662349 | 0.1934643 | 0.846595 | 0.985174 |
| zte38 | 1.308375155 | 0.736523946 | 1.6727564 | 0.4403056 | 0.659716 | NA |
| gcdha | 1083.841369 | 0.366380852 | 0.092507 | 3.9605735 | 7.48E-05 | 0.00383 |
| slc44a2 | 1165.689533 | -0.020279425 | 0.0840597 | -0.24125 | 0.809361 | 0.980642 |
| kmt2d | 572.3274037 | -0.008055046 | 0.1031163 | -0.078116 | 0.937736 | 0.99279 |
| aldh9a1b | 304.0903965 | -0.23709169 | 0.1236643 | -1.91722 | 0.05521 | 0.460643 |
| dhh | 12.36756021 | 0.192910191 | 0.5443542 | 0.3543836 | 0.723051 | 0.970383 |
| galca | 379.2791099 | -0.007178893 | 0.1336645 | -0.053708 | 0.957168 | 0.994589 |
| lgals8a | 95.9707878 | 0.095756812 | 0.2054216 | 0.4661477 | 0.64111 | 0.959994 |
| dnajc22 | 30.54041982 | -0.322877964 | 0.3563663 | -0.906028 | 0.364921 | 0.886714 |
| ikzf4 | 85.81754952 | 0.428240699 | 0.2206921 | 1.9404442 | 0.052326 | 0.449084 |
| zdhhc14 | 27.02208851 | -0.087442963 | 0.3796661 | -0.230315 | 0.817847 | 0.981594 |
| tmem242 | 198.5638295 | 0.115950848 | 0.1557054 | 0.744681 | 0.456465 | 0.921215 |
| rps26 | 4006.332266 | -0.428556859 | 0.0772857 | -5.545096 | 2.94E-08 | 4.47E-06 |
| si:dkey-60a16.1 | 177.255314 | 0.228691033 | 0.1602967 | 1.4266736 | 0.153674 | 0.702578 |
| cfap36 | 450.4281289 | 0.019900647 | 0.1136452 | 0.175112 | 0.860992 | 0.985773 |
| asah1a | 237.4501339 | 0.1212984 | 0.1412496 | 0.8587521 | 0.390477 | 0.897304 |
| slc7a2 | 532.6489596 | 0.275183661 | 0.1074928 | 2.5600206 | 0.010467 | 0.176292 |
| irs2a | 668.5711058 | -0.131149183 | 0.107184 | -1.223589 | 0.221107 | 0.787641 |
| ankrd10a | 201.2969626 | 0.028269114 | 0.1514805 | 0.1866188 | 0.85196 | 0.985174 |
| mtmr7a | 337.5712563 | 0.128123668 | 0.1185209 | 1.0810217 | 0.279687 | 0.843169 |
| pfdn6 | 414.1565853 | -0.218400242 | 0.1231068 | -1.774071 | 0.076051 | 0.537342 |
| pwp2h | 536.9800883 | -0.053634012 | 0.1086859 | -0.493477 | 0.621675 | 0.957354 |
| cxcl12a | 1035.192362 | 0.089469035 | 0.101638 | 0.8802717 | 0.378712 | 0.895192 |
| mat2ab | 485.0001759 | 0.186812219 | 0.1142553 | 1.6350415 | 0.10204 | 0.607206 |
| TENM2 | 1211.889396 | 0.005768701 | 0.0832106 | 0.0693265 | 0.94473 | 0.993409 |
| pfkfb1 | 103.1172033 | -0.056383972 | 0.2026949 | -0.278172 | 0.780881 | 0.97627 |
| zgc:153146 | 29.41163762 | 0.105281622 | 0.3514356 | 0.2995758 | 0.764501 | 0.975374 |
| cpb2 | 81.77907821 | 0.541846707 | 0.2551425 | 2.1237019 | 0.033695 | 0.357045 |
| slc8a4b | 251.4675417 | 0.022533591 | 0.1362658 | 0.165365 | 0.868657 | 0.987245 |
| atp6ap1b | 743.9855608 | 0.004391491 | 0.0975781 | 0.0450049 | 0.964103 | 0.995927 |

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| hivep3b | 300.6958322 | -0.108891623 | 0.144715 | -0.752456 | 0.451777 | 0.918761 |
| si:dkey-78k11.9 | 5.303158258 | -1.289041984 | 0.9165824 | -1.406357 | 0.159618 | NA |
| rccl | 381.6700111 | -0.260362731 | 0.138931 | -1.874044 | 0.060924 | 0.482482 |
| oprdbl | 34.98046101 | -0.444563684 | 0.3323091 | -1.337802 | 0.180961 | 0.741776 |
| ddrgkl | 74.85792332 | -0.028446216 | 0.2305256 | -0.123397 | 0.901793 | 0.990121 |
| nek12 | 24.33159102 | 0.063534936 | 0.4030848 | 0.1576218 | 0.874755 | 0.987881 |
| ggh | 91.79157835 | 0.11247568 | 0.2133568 | 0.5271717 | 0.598074 | 0.955459 |
| zc3h13 | 1619.181103 | -0.105146703 | 0.0938366 | -1.12053 | 0.262488 | 0.830166 |
| zic2b | 179.4672299 | -0.151364261 | 0.1558264 | -0.971365 | 0.331367 | 0.874362 |
| tpbgb | 72.7593205 | 0.320133596 | 0.2361523 | 1.3556232 | 0.175219 | 0.735698 |
| rpa2 | 587.0234631 | -0.173323899 | 0.1028654 | -1.684959 | 0.091997 | 0.57849 |
| ttr | 128.2116998 | 0.46343652 | 0.1924552 | 2.4080228 | 0.016039 | 0.233377 |
| zgc:113364 | 32.81121314 | -0.358147049 | 0.3375428 | -1.061042 | 0.288671 | 0.845979 |
| tshr | 2.571911483 | -0.994166215 | 1.2942635 | -0.768133 | 0.442408 | NA |
| arid5b | 835.3006856 | 0.040232617 | 0.0961898 | 0.4182627 | 0.675755 | 0.965257 |
| zgc:101851 | 90.14192941 | -0.094782127 | 0.2043752 | -0.463765 | 0.642816 | 0.959994 |
| denr | 973.7033055 | -0.148743473 | 0.1173551 | -1.267465 | 0.204989 | 0.772822 |
| smad5 | 563.8529936 | -0.030655615 | 0.1002275 | -0.30586 | 0.759711 | 0.975374 |
| gpr137 | 102.8676678 | -0.028876703 | 0.1994207 | -0.144803 | 0.884866 | 0.988838 |
| trmo | 28.01480986 | -0.137871693 | 0.3659403 | -0.37676 | 0.706352 | 0.968459 |
| pimr212 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:ch211-145b13.5 | 47.27462142 | 0.361476023 | 0.281535 | 1.283947 | 0.19916 | 0.764592 |
| ndufb6 | 1190.90889 | -0.062333065 | 0.0910874 | -0.684322 | 0.493772 | 0.931926 |
| toporsa | 123.0807582 | -0.194629617 | 0.2007676 | -0.969427 | 0.332332 | 0.874653 |
| mtap | 299.2131223 | -0.247322982 | 0.130487 | -1.895384 | 0.058042 | 0.472311 |
| cdkn2a/b | 5.490155204 | 0.830785744 | 0.8173799 | 1.016401 | 0.309438 | NA |
| myoz2b | 190.5628661 | 0.291827823 | 0.1674979 | 1.7422779 | 0.08146 | 0.552315 |
| zgc:158263 | 174.0405867 | -0.364957843 | 0.1571066 | -2.322995 | 0.020179 | 0.266908 |
| map9 | 79.01954713 | -0.115989238 | 0.2251523 | -0.515159 | 0.606442 | 0.956718 |
| lrata | 34.11939304 | -0.093150744 | 0.3417152 | -0.272598 | 0.785163 | 0.97627 |
| fgg | 1672.885274 | 0.356122786 | 0.1013344 | 3.5143342 | 0.000441 | 0.016114 |
| plrgl | 726.4017151 | 0.109407324 | 0.0917082 | 1.1929933 | 0.232872 | 0.801255 |
| ptges3a | 1358.70121 | 0.090606487 | 0.0792851 | 1.1427929 | 0.253125 | 0.822746 |
| mipa | 2817.073674 | 0.104704333 | 0.0727298 | 1.439634 | 0.149971 | 0.697935 |
| si:dkey-30k22.7 | 2.182878176 | 0.28030228 | 1.3988912 | 0.2003746 | 0.841188 | NA |
| dpf2l | 1022.991201 | -0.145177449 | 0.091191 | -1.592015 | 0.111381 | 0.627123 |
| chrmla | 4.193767824 | -0.004935696 | 0.9627293 | -0.005127 | 0.995909 | NA |
| gnpdal | 308.5772118 | -0.693736198 | 0.1337083 | -5.188429 | 2.12E-07 | 2.67E-05 |
| gatb | 151.5772206 | -0.131547111 | 0.1777391 | -0.740114 | 0.459231 | 0.921978 |
| ddost | 3560.277482 | -0.015232336 | 0.0713456 | -0.213501 | 0.830936 | 0.982994 |
| fam131c | 36.40292238 | -0.074407912 | 0.3141607 | -0.236847 | 0.812776 | 0.981081 |
| klhl17 | 484.0842347 | 0.02475041 | 0.105323 | 0.2349954 | 0.814212 | 0.981081 |
| wdr92 | 194.0434237 | -0.224802248 | 0.1464649 | -1.534854 | 0.12482 | 0.654423 |
| cnriplb | 374.331837 | 0.050452574 | 0.1155703 | 0.4365532 | 0.662435 | 0.964665 |
| rp19 | 151.6358866 | -0.167443943 | 0.2104773 | -0.795544 | 0.426297 | 0.909969 |
| frs2b | 270.3963358 | -0.003123821 | 0.1350981 | -0.023123 | 0.981552 | 0.996944 |
| polr3e | 924.4891783 | -0.040516891 | 0.0893977 | -0.453221 | 0.65039 | 0.960708 |
| si:ch1073-272o11.3 | 10.28199829 | 0.750182978 | 0.625484 | 1.199364 | 0.230386 | NA |
| kdelr2b | 813.0174744 | 0.021356465 | 0.0966489 | 0.2209695 | 0.825116 | 0.982196 |
| scube2 | 276.5957389 | -0.002428051 | 0.1385847 | -0.01752 | 0.986022 | 0.996944 |
| st5 | 682.829482 | 0.138320413 | 0.0978422 | 1.4137095 | 0.157447 | 0.708089 |
| ephb2a | 68.14632115 | -0.196120575 | 0.2383404 | -0.822859 | 0.410588 | 0.903084 |
| qdprbl | 107.4411691 | -0.330913613 | 0.2136497 | -1.548861 | 0.121415 | 0.647929 |
| pax5 | 15.7108714 | -0.590622598 | 0.4783287 | -1.234763 | 0.216919 | 0.784302 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| gsgl1 | 111.561335 | 0.026421174 | 0.1947057 | 0.135698 | 0.89206 | 0.989291 |
| med19a | 413.1716641 | 0.062610679 | 0.1252956 | 0.4997039 | 0.617284 | 0.957346 |
| slc43a1a | 524.7164242 | -0.045860261 | 0.1000661 | -0.4583 | 0.646737 | 0.960362 |
| ssrpla | 1023.993777 | -0.018458229 | 0.09364 | -0.197119 | 0.843734 | 0.985174 |
| zgc:113229 | 17.53707234 | -0.406453277 | 0.4844409 | -0.839015 | 0.401461 | 0.90084 |
| lim2.3 | 686.6238934 | -0.052989829 | 0.0970053 | -0.546257 | 0.584889 | 0.952436 |
| si:dkey-4p15.3 | 104.3312343 | 0.338618754 | 0.1935951 | 1.7491077 | 0.080272 | 0.549641 |
| zgc:112083 | 144.3774309 | -0.109050235 | 0.1674176 | -0.651367 | 0.51481 | 0.937646 |
| wdr19 | 216.1882127 | 0.118547622 | 0.1544603 | 0.7674959 | 0.442787 | 0.916336 |
| tbc1d10c | 8.720810113 | 0.274862277 | 0.6490432 | 0.4234884 | 0.671939 | NA |
| tmem144a | 139.4314223 | 0.01564743 | 0.1752136 | 0.0893049 | 0.92884 | 0.992702 |
| med28 | 276.4269379 | 0.013204135 | 0.1269957 | 0.1039731 | 0.917191 | 0.991572 |
| npylr | 11.01718254 | -1.003933939 | 0.5934918 | -1.691572 | 0.090728 | NA |
| dlgap1b | 17.9688245 | 0.306714303 | 0.4821049 | 0.6361983 | 0.524647 | 0.939713 |
| egr1 | 943.69669 | 0.152726125 | 0.1231034 | 1.2406333 | 0.214741 | 0.782493 |
| smim19 | 354.8889903 | 0.066996866 | 0.1206111 | 0.5554783 | 0.578568 | 0.951052 |
| sl00a10a | 588.3388544 | -1.2978135 | 0.1122038 | -11.56657 | 6.09E-31 | 1.72E-27 |
| si:ch211-39a7.1 | 18.47946087 | -0.388529896 | 0.4484823 | -0.866322 | 0.386314 | 0.89551 |
| tll1 | 13.70237413 | 0.148979009 | 0.5099998 | 0.2921158 | 0.770198 | 0.975687 |
| haus7 | 137.4936256 | -0.243027027 | 0.173334 | -1.402074 | 0.160893 | 0.714142 |
| fmr1 | 883.0227957 | -0.099249292 | 0.0857308 | -1.157686 | 0.246992 | 0.816669 |
| ugt8 | 388.5366765 | 0.020789556 | 0.1133493 | 0.1834115 | 0.854475 | 0.985174 |
| cd79a | 1.172093801 | -1.384729205 | 1.9581194 | -0.707173 | 0.479459 | NA |
| foxb2 | 35.88553264 | 0.076715863 | 0.3268753 | 0.2346946 | 0.814446 | 0.981081 |
| sorbs3 | 357.8835814 | -0.094888096 | 0.121802 | -0.779036 | 0.435959 | 0.914408 |
| tmem192 | 242.0437006 | -0.078325157 | 0.1381951 | -0.566772 | 0.570869 | 0.949078 |
| 1-Mar | 30.59993876 | 0.159790356 | 0.3968473 | 0.4026495 | 0.687206 | 0.966376 |
| canx | 7325.960712 | 0.011212822 | 0.0738111 | 0.1519125 | 0.879256 | 0.987881 |
| bmp15 | 3.483668765 | -0.430260855 | 1.0336215 | -0.416265 | 0.677216 | NA |
| rtn4r12b | 39.72227109 | 0.231552054 | 0.3033508 | 0.7633146 | 0.445276 | 0.917117 |
| gria4a | 526.4427714 | 0.007131049 | 0.1032816 | 0.0690447 | 0.944954 | 0.993409 |
| gria3b | 733.209196 | 0.055417834 | 0.0948584 | 0.5842162 | 0.559075 | 0.948478 |
| aasdhppt | 43.53842391 | 0.085112369 | 0.3017379 | 0.2820739 | 0.777887 | 0.975942 |
| thoc2 | 1751.542432 | -0.089835282 | 0.0769226 | -1.167867 | 0.242861 | 0.811584 |
| prps1b | 425.2067843 | -0.070691073 | 0.121009 | -0.58418 | 0.559099 | 0.948478 |
| kctd12b | 40.96082156 | 0.382481317 | 0.3072668 | 1.2447856 | 0.213211 | 0.781631 |
| hdac3 | 766.6741278 | 0.089289372 | 0.0953172 | 0.9367606 | 0.348882 | 0.880195 |
| slc35c2 | 1255.405798 | 0.315295255 | 0.0842962 | 3.7403244 | 0.000184 | 0.007935 |
| CR749762.1 | 2.159892768 | -0.17488655 | 1.3304961 | -0.131445 | 0.895424 | NA |
| si:rp71-17i16.5 | 2.645869394 | 0.380416939 | 1.1724021 | 0.3244765 | 0.745577 | NA |
| si:ch211-191a24.4 | 142.5881215 | -0.304938321 | 0.1670086 | -1.825884 | 0.067868 | 0.509884 |
| mcm31 | 11.92036114 | -0.070804887 | 0.545576 | -0.12978 | 0.89674 | 0.989971 |
| mep1b | 0.347458735 | -1.908042286 | 3.4571486 | -0.551912 | 0.581009 | NA |
| ccnq | 197.4737576 | -0.058287837 | 0.1487142 | -0.391945 | 0.695099 | 0.96736 |
| tnnc1b | 1833.122803 | 0.061934887 | 0.1029657 | 0.60151 | 0.5475 | 0.945526 |
| mtnr1aa | 12.59765402 | 0.341961199 | 0.5661984 | 0.60396 | 0.54587 | 0.945526 |
| cyp21a2 | 43.7544475 | 0.290340273 | 0.2873351 | 1.0104588 | 0.312276 | 0.864401 |
| pm20d1.1 | 51.35066045 | -1.691804715 | 0.3027349 | -5.588404 | 2.29E-08 | 3.63E-06 |
| illrap12 | 91.36050141 | 0.135857994 | 0.2130533 | 0.6376713 | 0.523688 | 0.939336 |
| arhgef31 | 51.43247274 | -0.615722288 | 0.276834 | -2.224157 | 0.026138 | 0.311732 |
| atoh8 | 280.1120658 | 0.029957258 | 0.1345969 | 0.2225702 | 0.82387 | 0.982196 |
| st3gal5 | 492.7133729 | 0.061043921 | 0.1059592 | 0.5761076 | 0.564542 | 0.948739 |
| asb12b | 29.17958042 | 0.157460352 | 0.3651506 | 0.4312202 | 0.666308 | 0.964736 |
| ubal | 6502.496639 | -0.005512626 | 0.0735906 | -0.074909 | 0.940287 | 0.992857 |

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| mtml | 270.7164743 | -0.076470079 | 0.1386447 | -0.551554 | 0.581254 | 0.951731 |
| polrld | 120.0600098 | -0.086784132 | 0.1845067 | -0.470358 | 0.6381 | 0.959194 |
| rps6kal | 1422.111537 | 0.081037965 | 0.0895826 | 0.9046177 | 0.365668 | 0.887084 |
| BX530018.1 | 2.000307227 | 0.047416512 | 1.4426464 | 0.0328677 | 0.97378 | NA |
| SYNPR | 512.6310477 | -0.076859808 | 0.1116386 | -0.68847 | 0.491157 | 0.931926 |
| bhlhe23 | 463.5541229 | 0.156985384 | 0.125775 | 1.2481447 | 0.211978 | 0.77986 |
| gid8b | 595.2373775 | -0.02506883 | 0.0994448 | -0.252088 | 0.800973 | 0.979377 |
| prickle2b | 559.9190729 | 0.072478172 | 0.1106346 | 0.6551131 | 0.512395 | 0.936253 |
| prfl.5 | 59.15083395 | -0.041228149 | 0.2524611 | -0.163305 | 0.870278 | 0.987421 |
| zgc:162144 | 36.6085796 | 0.322822099 | 0.3146666 | 1.0259179 | 0.30493 | 0.859575 |
| no141b | 60.19912163 | -0.350234981 | 0.2529928 | -1.384367 | 0.166246 | 0.722887 |
| lgals8b | 78.47554668 | 0.062739687 | 0.2399912 | 0.2614249 | 0.793765 | 0.977937 |
| ddit4 | 1049.164954 | -0.08952256 | 0.2771342 | -0.32303 | 0.746673 | 0.97419 |
| BX569798.1 | 5.21314942 | 0.487430593 | 0.8251875 | 0.5906907 | 0.554728 | NA |
| trpt1 | 155.7137735 | -0.031331328 | 0.1647949 | -0.190123 | 0.849213 | 0.985174 |
| lengl | 186.9708746 | -0.176738581 | 0.148668 | -1.188814 | 0.234513 | 0.803509 |
| nkx3-2 | 114.1873562 | 0.003915102 | 0.187264 | 0.0209069 | 0.98332 | 0.996944 |
| aurkb | 534.2423975 | -0.31135474 | 0.1081389 | -2.879211 | 0.003987 | 0.08682 |
| zgc:173570 | 87.74435468 | -0.188989483 | 0.2132999 | -0.886027 | 0.375603 | 0.894316 |
| rgs11 | 260.4241903 | -0.006302156 | 0.1499176 | -0.042037 | 0.966469 | 0.996315 |
| rnf175 | 605.1525774 | -0.028800866 | 0.114434 | -0.251681 | 0.801288 | 0.979377 |
| zgc:56409 | 104.0491678 | 0.123378887 | 0.1916424 | 0.6437975 | 0.519707 | 0.938945 |
| pmm2 | 232.6579482 | 0.073269216 | 0.1352076 | 0.5419016 | 0.587886 | 0.953319 |
| pls3 | 1995.001374 | 0.213345179 | 0.0763554 | 2.7941058 | 0.005204 | 0.106533 |
| npmlb | 498.2873405 | -0.063033854 | 0.1175603 | -0.536183 | 0.591832 | 0.954434 |
| fgf24 | 109.899114 | 0.337595365 | 0.1953241 | 1.7283853 | 0.083919 | 0.557501 |
| zgc:103678 | 330.393226 | -0.088353578 | 0.1312443 | -0.6732 | 0.50082 | 0.93428 |
| pcdh2ab2 | 0.63357355 | 1.435201493 | 2.6108194 | 0.5497131 | 0.582516 | NA |
| pcdh2aa1 | 0.365141898 | 1.973577737 | 3.3927314 | 0.5817076 | 0.560764 | NA |
| gss | 96.34967753 | -0.202403682 | 0.2137555 | -0.946893 | 0.343693 | 0.878434 |
| exosc10 | 585.0850639 | -0.064814488 | 0.1031182 | -0.628546 | 0.529647 | 0.942209 |
| pcnp | 824.6865645 | -0.031252985 | 0.096379 | -0.324272 | 0.745732 | 0.97419 |
| fbx131 | 44.86286745 | -0.901862113 | 0.3000019 | -3.006188 | 0.002645 | 0.065718 |
| zgc:112980 | 241.4926328 | -0.045660727 | 0.1416067 | -0.322448 | 0.747114 | 0.97419 |
| actb1 | 60669.78951 | -0.011865034 | 0.0954311 | -0.124331 | 0.901053 | 0.990121 |
| fscn1b | 431.1208333 | -0.036758445 | 0.1362932 | -0.269701 | 0.78739 | 0.976596 |
| slc43a1b | 270.1877029 | 0.329649562 | 0.151998 | 2.1687754 | 0.0301 | 0.33532 |
| tlr2 | 0.967129164 | -0.023635743 | 1.9568585 | -0.012078 | 0.990363 | NA |
| uncx4.1 | 336.0884924 | -0.161730248 | 0.1274972 | -1.2685 | 0.204619 | 0.77258 |
| rybpa | 777.0411286 | 0.063675455 | 0.0962459 | 0.6615917 | 0.508233 | 0.935735 |
| stk16 | 241.2315029 | 0.078001727 | 0.135878 | 0.5740569 | 0.565929 | 0.948739 |
| acss2 | 1245.966517 | -0.111497922 | 0.0858486 | -1.298774 | 0.194021 | 0.75784 |
| sox8b | 13.12027219 | 0.723129645 | 0.5256171 | 1.3757726 | 0.168892 | 0.725919 |
| proza | 1904.970217 | -0.041464632 | 0.0822203 | -0.504311 | 0.614043 | 0.95688 |
| pvalb1 | 57152.72873 | 0.192679488 | 0.2302824 | 0.8367096 | 0.402756 | 0.90084 |
| pvalb8 | 925.6022322 | 0.137579603 | 0.1048688 | 1.3119213 | 0.189547 | 0.754269 |
| nptx2a | 29.97111046 | -0.189413785 | 0.3702066 | -0.511643 | 0.608901 | 0.956718 |
| phlda3 | 195.2144674 | 0.235666693 | 0.1651341 | 1.4271233 | 0.153544 | 0.702578 |
| lgals3bpa | 23.16866246 | -0.479879855 | 0.4056482 | -1.182995 | 0.236811 | 0.805854 |
| adtrpl | 141.9254769 | 0.195846676 | 0.1706106 | 1.1479163 | 0.251003 | 0.820469 |
| zgc:113278 | 10.44280438 | 0.531101631 | 0.6103516 | 0.8701568 | 0.384215 | NA |
| b4galt5 | 7.147545795 | 1.217365225 | 0.7426242 | 1.639275 | 0.101156 | NA |
| mitfb | 3.631200915 | 0.79205473 | 1.056526 | 0.7496784 | 0.453448 | NA |
| polr3k | 132.7328904 | 0.02409269 | 0.1797107 | 0.1340637 | 0.893352 | 0.989291 |

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|------------|-------------|--------------|-----------|-----------|----------|----------|
| igfals | 10.86040238 | 1.71788314 | 0.6804402 | 2.5246642 | 0.011581 | NA |
| ogfr | 570.0935491 | -0.083617738 | 0.1031071 | -0.81098 | 0.417377 | 0.906237 |
| unkl | 759.6975892 | -0.146356813 | 0.0941166 | -1.555059 | 0.119932 | 0.645215 |
| col9a3 | 14735.84866 | 0.084118615 | 0.0837017 | 1.0049807 | 0.314906 | 0.866054 |
| hml3 | 1372.53998 | 0.042747491 | 0.0844296 | 0.5063091 | 0.61264 | 0.95688 |
| zgc:101663 | 375.6352587 | -0.287815219 | 0.116521 | -2.470072 | 0.013509 | 0.208523 |
| taf11 | 550.9295229 | -0.043997674 | 0.1025624 | -0.428985 | 0.667934 | 0.964736 |
| il11a | 35.21711941 | 0.173646125 | 0.3740448 | 0.4642388 | 0.642477 | 0.959994 |
| cox6b2 | 5384.484382 | 0.056727911 | 0.0828215 | 0.6849421 | 0.49338 | 0.931926 |
| slc2a3b | 151.8191471 | -0.085642722 | 0.1793251 | -0.477584 | 0.632947 | 0.957356 |
| cln3 | 237.9988438 | -0.080441504 | 0.140778 | -0.571407 | 0.567724 | 0.948739 |
| atp5mf | 2775.176229 | -0.014568289 | 0.1002644 | -0.145299 | 0.884475 | 0.98879 |
| actb2 | 49018.02051 | -0.100674544 | 0.0900903 | -1.117485 | 0.263787 | 0.830245 |
| wipi2 | 1091.404553 | -0.034003612 | 0.0961903 | -0.353503 | 0.723711 | 0.970402 |
| foxk1 | 442.654741 | -0.22091631 | 0.109079 | -2.025286 | 0.042838 | 0.406662 |
| cyp3c3 | 43.22675154 | -0.648943782 | 0.3535783 | -1.835361 | 0.066452 | 0.504618 |
| cyp3c3 | 14.8410172 | -0.240675915 | 0.5552824 | -0.43343 | 0.664703 | 0.964736 |
| lfng | 972.0871182 | 0.115138467 | 0.0890974 | 1.2922765 | 0.196261 | 0.761702 |
| prcp | 70.94140793 | -0.147000733 | 0.2424016 | -0.606435 | 0.544226 | 0.945438 |
| rab30 | 101.1183286 | -0.06114073 | 0.2046945 | -0.298693 | 0.765175 | 0.975374 |
| wnt9b | 266.6717015 | 0.001329947 | 0.1547535 | 0.008594 | 0.993143 | 0.998554 |
| mlx | 259.494457 | -0.093668808 | 0.1357476 | -0.690022 | 0.49018 | 0.931926 |
| psmc3ip | 67.53621764 | 0.019861778 | 0.2404802 | 0.0825922 | 0.934176 | 0.992702 |
| ezh1 | 188.1288311 | -0.222596792 | 0.1617576 | -1.376113 | 0.168787 | 0.725919 |
| ramp2 | 225.9993495 | 0.10100107 | 0.1555733 | 0.6492185 | 0.516197 | 0.937997 |
| cacnalaa | 338.6639847 | 0.087353436 | 0.1201331 | 0.7271386 | 0.467141 | 0.924328 |
| alkbh7 | 136.8611411 | -0.105814022 | 0.1822823 | -0.580495 | 0.561581 | 0.948728 |
| tim29 | 224.8315086 | -0.00262695 | 0.1389585 | -0.018905 | 0.984917 | 0.996944 |
| nmrk1 | 24.58119703 | 0.003109741 | 0.3861481 | 0.0080532 | 0.993575 | 0.998672 |
| znfl1 | 1.314079744 | 0.007937271 | 1.657586 | 0.0047885 | 0.996179 | NA |
| cdk5r1a | 108.8352334 | 0.087167659 | 0.2340744 | 0.3723929 | 0.7096 | 0.968902 |
| itga3a | 153.3925097 | -0.056664934 | 0.172224 | -0.329019 | 0.742141 | 0.973154 |
| rbbp6 | 990.4227211 | -0.139199265 | 0.0963674 | -1.444465 | 0.148608 | 0.69636 |
| gngl3b | 1582.506305 | 0.119934968 | 0.0895027 | 1.340015 | 0.18024 | 0.74128 |
| gna13b | 276.9450345 | 0.012038871 | 0.1395158 | 0.0862904 | 0.931236 | 0.992702 |
| rgs9a | 256.4031539 | 0.242302707 | 0.1457269 | 1.6627176 | 0.096369 | 0.59086 |
| ddx42 | 1164.164164 | 0.036789597 | 0.081075 | 0.4537724 | 0.649993 | 0.960708 |
| strada | 394.0895524 | 0.1830131 | 0.1106622 | 1.653799 | 0.098168 | 0.59749 |
| rnfl13a | 229.8253162 | 0.012216975 | 0.1494377 | 0.0817529 | 0.934843 | 0.992702 |
| lin7b | 1244.534758 | 0.045166412 | 0.0836529 | 0.5399265 | 0.589248 | 0.953345 |
| aldh16a1 | 344.390992 | 0.014258881 | 0.1262571 | 0.1129352 | 0.910082 | 0.990702 |
| syta5a | 745.1166722 | 0.367353396 | 0.0985267 | 3.7284637 | 0.000193 | 0.008264 |
| cpt1cb | 54.94621219 | 0.18381164 | 0.2687443 | 0.6839648 | 0.493997 | 0.931926 |
| prl | 59.44823356 | 0.258306711 | 0.2589201 | 0.9976309 | 0.318458 | 0.867746 |
| tnnt1 | 194.0538364 | 0.01804351 | 0.1639817 | 0.1100337 | 0.912383 | 0.991119 |
| pih1d1 | 110.4672147 | 0.195666683 | 0.1962518 | 0.9970186 | 0.318755 | 0.867746 |
| nosip | 481.5277658 | -0.07368967 | 0.1156939 | -0.636937 | 0.524166 | 0.939336 |
| lrrc17 | 705.5813537 | 0.373839991 | 0.0975827 | 3.8310057 | 0.000128 | 0.005966 |
| rcn3 | 916.2153311 | 0.226827063 | 0.0863857 | 2.6257492 | 0.008646 | 0.152919 |
| psmb7 | 2344.233987 | -0.043457577 | 0.0893662 | -0.486286 | 0.626764 | 0.957354 |
| nek6 | 125.8638795 | -0.341457339 | 0.1820058 | -1.87608 | 0.060644 | 0.481212 |
| lhx2a | 6.967183645 | 0.70548449 | 0.7190412 | 0.9811461 | 0.326521 | NA |
| srrm2 | 1352.971808 | -0.103322645 | 0.0907697 | -1.138294 | 0.254998 | 0.82364 |
| thoc6 | 169.3897523 | -0.098255398 | 0.1596925 | -0.615279 | 0.538371 | 0.943336 |

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| si:dkey-1612.16 | 275.4115483 | 0.049251754 | 0.1318139 | 0.373646 | 0.708668 | 0.968664 |
| fus | 3873.1748 | -0.105235181 | 0.0715125 | -1.471564 | 0.141139 | 0.681968 |
| elob | 4776.961431 | -0.031501171 | 0.078833 | -0.399594 | 0.689456 | 0.966763 |
| gdf3 | 113.6879832 | -0.118774555 | 0.1920638 | -0.618412 | 0.536304 | 0.943336 |
| tubb5 | 8176.117827 | 0.100136742 | 0.0863691 | 1.1594042 | 0.246291 | 0.816376 |
| flot1b | 4345.22664 | -0.081596089 | 0.0691145 | -1.180593 | 0.237764 | 0.806474 |
| crls1 | 270.0010409 | 0.052596862 | 0.139197 | 0.3778591 | 0.705535 | 0.968412 |
| med25 | 512.8219881 | 0.018491727 | 0.1067005 | 0.173305 | 0.862412 | 0.985841 |
| osr2 | 90.56611174 | -0.51750114 | 0.2064999 | -2.50606 | 0.012209 | 0.195183 |
| CT573429.1 | 3.588601285 | -1.435280134 | 1.0697566 | -1.341689 | 0.179697 | NA |
| rac2 | 429.8850575 | 0.140317931 | 0.1086356 | 1.2916385 | 0.196482 | 0.761835 |
| cyth4a | 38.10263101 | 0.14097928 | 0.3176596 | 0.4438061 | 0.657183 | 0.962175 |
| fam83fa | 46.3863489 | -0.143569478 | 0.3095781 | -0.463759 | 0.642821 | 0.959994 |
| prph2a | 2873.440793 | 0.354945628 | 0.078821 | 4.5031838 | 6.69E-06 | 0.000513 |
| flr | 221.0001524 | 0.150992656 | 0.1400106 | 1.078437 | 0.280839 | 0.84357 |
| cbx7a | 398.8343601 | -0.129031464 | 0.1405877 | -0.9178 | 0.358723 | 0.884602 |
| nol12 | 290.828918 | 0.124249047 | 0.1311043 | 0.9477111 | 0.343277 | 0.878434 |
| ndufa6 | 1140.767436 | 0.005235978 | 0.104824 | 0.0499502 | 0.960162 | 0.995388 |
| rbx1 | 832.1569383 | -0.254162216 | 0.099421 | -2.556425 | 0.010575 | 0.17767 |
| tpk1 | 133.109915 | -0.125964161 | 0.1734883 | -0.726067 | 0.467798 | 0.924328 |
| si:ch211-149k23.9 | 6.674286691 | 0.005197358 | 0.8043335 | 0.0064617 | 0.994844 | NA |
| fgfbp2b | 1820.579171 | -0.004792086 | 0.109316 | -0.043837 | 0.965034 | 0.996154 |
| grb2b | 1329.722608 | 0.030098287 | 0.0859545 | 0.3501654 | 0.726215 | 0.970402 |
| chmp3 | 275.0023394 | 0.023650017 | 0.1278328 | 0.1850074 | 0.853223 | 0.985174 |
| kpna2 | 1537.246359 | -0.265076085 | 0.0790393 | -3.353725 | 0.000797 | 0.025763 |
| smurf2 | 552.3088188 | -0.067176671 | 0.1073032 | -0.626045 | 0.531285 | 0.942209 |
| ddx5 | 12482.75868 | 0.124170318 | 0.069429 | 1.7884494 | 0.073704 | 0.529749 |
| mgat3a | 9.145768386 | -0.436446394 | 0.6682754 | -0.653094 | 0.513696 | NA |
| ptx4 | 2.758622689 | -1.277645537 | 1.1971822 | -1.067211 | 0.285877 | NA |
| ergic3 | 391.0307876 | 0.070446305 | 0.1177383 | 0.5983293 | 0.54962 | 0.946312 |
| cycl | 4719.877047 | -0.062902209 | 0.0742484 | -0.847186 | 0.396891 | 0.899672 |
| romol | 1351.491661 | -0.112299889 | 0.0793705 | -1.414882 | 0.157103 | 0.707805 |
| TMEM114 | 17.58258528 | 0.057836565 | 0.4901546 | 0.1179966 | 0.90607 | 0.990702 |
| clec16a | 625.1923096 | -0.014466594 | 0.100771 | -0.143559 | 0.885849 | 0.988936 |
| socsla | 50.22372162 | -0.313124379 | 0.306996 | -1.019962 | 0.307746 | 0.861088 |
| pigq | 409.003276 | -0.038532391 | 0.1100401 | -0.350167 | 0.726213 | 0.970402 |
| gskip | 689.15626 | 0.068410981 | 0.0947427 | 0.7220715 | 0.470251 | 0.924787 |
| slc37a4a | 382.7690619 | -0.217846251 | 0.1260882 | -1.72773 | 0.084037 | 0.557646 |
| sgcg | 307.9703744 | 0.108053453 | 0.124679 | 0.8666535 | 0.386132 | 0.89551 |
| si:dkeyp-59c12.1 | 6.668544319 | 0.171714089 | 0.7338569 | 0.2339885 | 0.814994 | NA |
| rprdlb | 367.0789996 | -0.082387602 | 0.122028 | -0.675153 | 0.499578 | 0.934006 |
| xpa | 69.10634249 | -0.198875079 | 0.2491756 | -0.798132 | 0.424794 | 0.908585 |
| gnrhr4 | 1.678080482 | -0.611659387 | 1.5253744 | -0.40099 | 0.688428 | NA |
| si:ch211-13k12.2 | 21.1484171 | 0.040475152 | 0.4290541 | 0.0943358 | 0.924842 | 0.992676 |
| myl9a | 516.9077958 | -0.310457448 | 0.1106315 | -2.80623 | 0.005012 | 0.103462 |
| zgc:113411 | 71.61347264 | 0.119140251 | 0.2354283 | 0.5060575 | 0.612816 | 0.95688 |
| pdgfb | 118.8484284 | 0.130203137 | 0.1951795 | 0.6670943 | 0.504712 | 0.935617 |
| atf4b | 5918.43087 | 0.078899065 | 0.0642433 | 1.228129 | 0.219399 | 0.78594 |
| hbbe3 | 6.662672083 | -1.584440211 | 0.8533851 | -1.856653 | 0.063361 | NA |
| zgc:92360 | 486.1400459 | -0.076268744 | 0.1189585 | -0.641137 | 0.521434 | 0.939056 |
| lgals2b | 3125.298759 | -0.826568629 | 0.0713842 | -11.57915 | 5.26E-31 | 1.72E-27 |
| isca2 | 354.4618648 | 0.124816949 | 0.1215564 | 1.0268236 | 0.304504 | 0.858905 |
| duspl1 | 416.6115696 | 0.157097124 | 0.1192638 | 1.3172241 | 0.187764 | 0.752195 |
| tcf7l1a | 665.2873247 | -0.254400248 | 0.119771 | -2.124056 | 0.033665 | 0.357045 |

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| hyal6 | 62.76589237 | 0.06924579 | 0.2571856 | 0.2692444 | 0.787742 | 0.976596 |
| cyb561 | 28.69023328 | -0.069204004 | 0.3635403 | -0.190361 | 0.849026 | 0.985174 |
| gh1 | 181.1357752 | 0.43910655 | 0.1627577 | 2.6979158 | 0.006978 | 0.130041 |
| zgc:103564 | 35.73366935 | -0.298183699 | 0.326207 | -0.914094 | 0.360668 | 0.885686 |
| smt1a | 5.428185067 | -0.458439517 | 0.819975 | -0.55909 | 0.576101 | NA |
| cdab | 72.38185471 | 0.13406935 | 0.2314173 | 0.5793401 | 0.56236 | 0.948728 |
| her2 | 112.1762793 | -0.009769514 | 0.19363 | -0.050455 | 0.95976 | 0.995348 |
| aldh4a1 | 497.8036024 | 0.255696409 | 0.1097442 | 2.3299318 | 0.01981 | 0.265212 |
| slc35b1 | 672.8853687 | 0.057818184 | 0.0989514 | 0.5843087 | 0.559013 | 0.948478 |
| tyw3 | 50.63178664 | -0.50780888 | 0.2716147 | -1.869593 | 0.06154 | 0.483664 |
| nras | 558.2152313 | 0.023829976 | 0.1012449 | 0.2353697 | 0.813922 | 0.981081 |
| CABZ01074994.1 | 1.313718686 | 0.007433509 | 1.6576955 | 0.0044842 | 0.996422 | NA |
| selenow2a | 2377.465801 | 0.00166549 | 0.0853516 | 0.0195133 | 0.984432 | 0.996944 |
| pkdccb | 121.9024064 | -0.05649289 | 0.1823479 | -0.309808 | 0.756707 | 0.975374 |
| tnpo2 | 1729.785876 | -0.049613151 | 0.079833 | -0.621461 | 0.534296 | 0.943336 |
| zgc:113333 | 182.7748291 | 0.141561871 | 0.1538032 | 0.9204091 | 0.357359 | 0.883904 |
| e4f1 | 225.780805 | 0.014132892 | 0.1399048 | 0.1010179 | 0.919536 | 0.991651 |
| ggact.2 | 365.9252858 | 0.00692501 | 0.1231116 | 0.0562499 | 0.955143 | 0.994543 |
| proca | 80.16467282 | 0.059794769 | 0.2472306 | 0.2418583 | 0.80889 | 0.980642 |
| PIGG | 178.0487654 | 0.145548743 | 0.1837013 | 0.7923122 | 0.428179 | 0.911082 |
| zgc:113293 | 1.93598671 | 0.44942462 | 1.4946638 | 0.3006861 | 0.763654 | NA |
| ptgir | 17.13293338 | -0.012221413 | 0.4588805 | -0.026633 | 0.978752 | 0.996762 |
| natd1 | 978.93694 | -0.096639563 | 0.0933914 | -1.03478 | 0.300772 | 0.856365 |
| wnt6a | 21.75236971 | -0.504642072 | 0.4386564 | -1.150427 | 0.249968 | 0.819849 |
| cd151 | 147.6653717 | -0.007763347 | 0.1949 | -0.039832 | 0.968227 | 0.996315 |
| thoc5 | 598.6000719 | -0.225453519 | 0.1136077 | -1.984491 | 0.047201 | 0.426579 |
| zgc:103559 | 24.78738139 | 1.312803408 | 0.396963 | 3.3071179 | 0.000943 | 0.029586 |
| tmem86b | 357.0583007 | -0.033029453 | 0.1438841 | -0.229556 | 0.818437 | 0.981594 |
| aspdh | 50.50109365 | -0.189225467 | 0.2770409 | -0.683024 | 0.494592 | 0.931926 |
| rnf34a | 197.3419264 | 0.354536278 | 0.1474947 | 2.4037222 | 0.016229 | 0.235102 |
| ccar2 | 405.3297231 | 0.049985774 | 0.1164237 | 0.4293434 | 0.667673 | 0.964736 |
| vgll3 | 17.49011196 | -0.462021484 | 0.4624362 | -0.999103 | 0.317745 | 0.867607 |
| tsc22d1 | 3080.845264 | -0.016053607 | 0.0702091 | -0.228654 | 0.819138 | 0.981594 |
| ykt6 | 318.6831546 | 0.166629904 | 0.1297556 | 1.2841824 | 0.199078 | 0.764531 |
| dnajc15 | 358.6167823 | -0.090448888 | 0.1262972 | -0.716159 | 0.473893 | 0.924993 |
| rcl1 | 304.3392347 | -0.185329913 | 0.1314128 | -1.410288 | 0.158455 | 0.709224 |
| zgc:172053 | 3.405432823 | 0.678101267 | 1.0612736 | 0.6389505 | 0.522855 | NA |
| pigh | 225.4410798 | -0.008499285 | 0.1554124 | -0.054689 | 0.956387 | 0.994543 |
| slc27a1b | | 0 NA | NA | NA | NA | NA |
| enosf1 | 410.5790679 | 0.387374955 | 0.1182459 | 3.2760118 | 0.001053 | 0.032299 |
| thg11 | 91.62621031 | 0.096446726 | 0.2135104 | 0.4517192 | 0.651471 | 0.960708 |
| drd4a | 112.1603154 | 0.281682641 | 0.1914879 | 1.4710203 | 0.141286 | 0.681968 |
| sagb | 3195.989831 | 0.130034315 | 0.0891208 | 1.4590795 | 0.144543 | 0.688888 |
| th2 | 18.59416164 | 0.518218976 | 0.4468445 | 1.1597299 | 0.246159 | 0.816291 |
| asc11a | 487.8964712 | -0.236220636 | 0.1174075 | -2.011973 | 0.044223 | 0.413497 |
| si:dkeyp-52c3.7 | 0.356300316 | 0.005884122 | 3.214964 | 0.0018302 | 0.99854 | NA |
| rpap2 | 121.8460357 | 0.002153652 | 0.1897378 | 0.0113507 | 0.990944 | 0.997679 |
| pmml | 2.163469886 | 0.697330298 | 1.2645909 | 0.5514276 | 0.581341 | NA |
| zgc:153921 | 6.939014926 | 1.298379274 | 0.7797102 | 1.6652076 | 0.095871 | NA |
| b3galt6 | 314.4669435 | 0.066341053 | 0.1339913 | 0.4951145 | 0.620519 | 0.957354 |
| entpd4 | 391.9004239 | 0.179575947 | 0.1244286 | 1.4432043 | 0.148963 | 0.696454 |
| c4b | 285.8653442 | 0.086050641 | 0.1706438 | 0.5042707 | 0.614071 | 0.95688 |
| sulf1 | 1005.100736 | 0.132228437 | 0.0849649 | 1.5562712 | 0.119644 | 0.644641 |
| csrnplb | 472.6481796 | 0.053827594 | 0.107217 | 0.5020432 | 0.615637 | 0.95688 |

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| actr10 | 1541.049152 | 0.007783067 | 0.0849233 | 0.0916482 | 0.926978 | 0.992702 |
| fabp10a | 801.4921675 | 0.657831681 | 0.11284 | 5.8297721 | 5.55E-09 | 9.98E-07 |
| plcgl | 1805.823142 | -0.028059908 | 0.0905417 | -0.309911 | 0.756628 | 0.975374 |
| spire1b | 12.82598133 | -0.171098648 | 0.546764 | -0.31293 | 0.754334 | 0.975114 |
| nrp2b | 1769.822747 | -0.021686472 | 0.0756225 | -0.286773 | 0.774286 | 0.975687 |
| mrps35 | 481.5113931 | -0.093395852 | 0.1216571 | -0.767697 | 0.442667 | 0.916336 |
| stmn3 | 630.4166405 | 0.355675413 | 0.0979435 | 3.6314355 | 0.000282 | 0.011325 |
| igsf8 | 205.8772418 | 0.300338583 | 0.1559771 | 1.9255298 | 0.054163 | 0.455813 |
| ube2d3 | 1307.582824 | 0.107627166 | 0.0938903 | 1.1463078 | 0.251668 | 0.821198 |
| acyl | 557.5307774 | -0.236484182 | 0.1114387 | -2.122101 | 0.033829 | 0.357857 |
| si:dkeyp-68b7.7 | 112.4967856 | 0.101210145 | 0.1882177 | 0.5377291 | 0.590764 | 0.954193 |
| b3gnt7 | 239.3008419 | 0.041599834 | 0.1521176 | 0.2734715 | 0.784491 | 0.97627 |
| cep41 | 80.63251845 | 0.053020839 | 0.2246383 | 0.2360276 | 0.813411 | 0.981081 |
| polr2h | 229.0555972 | 0.109242443 | 0.1461689 | 0.7473715 | 0.454839 | 0.921022 |
| chrnb3b | 37.34651791 | 0.635141883 | 0.3211055 | 1.9779851 | 0.04793 | 0.43124 |
| snap29 | 596.8231383 | 0.038204103 | 0.1046153 | 0.3651865 | 0.714972 | 0.96909 |
| pik3r1 | 2488.640031 | 0.124181608 | 0.0727173 | 1.7077304 | 0.087686 | 0.566637 |
| ggal | 857.754267 | 0.125220859 | 0.0943573 | 1.3270931 | 0.184478 | 0.747376 |
| ccr12a | 7.688520048 | 0.939604773 | 0.717563 | 1.3094386 | 0.190386 | NA |
| wdr48b | 241.8271645 | 0.069763259 | 0.1376261 | 0.5069041 | 0.612222 | 0.95688 |
| BX890608.1 | 0.816385205 | 1.891093756 | 2.136903 | 0.8849694 | 0.376173 | NA |
| zgc:l12185 | 64.98503074 | 0.0972131 | 0.2440115 | 0.3983956 | 0.690339 | 0.966973 |
| anks3 | 135.3674743 | 0.029445945 | 0.2010313 | 0.1464744 | 0.883547 | 0.988706 |
| hlf0 | 21675.90848 | -0.264058476 | 0.0714997 | -3.69314 | 0.000222 | 0.009319 |
| klf6b | 6.958032334 | 0.134945368 | 0.7216237 | 0.1870024 | 0.851659 | NA |
| pitrm1 | 762.5304971 | 0.034467434 | 0.0976251 | 0.3530591 | 0.724044 | 0.970402 |
| gnptg | 203.4223768 | -0.130457217 | 0.1569773 | -0.831058 | 0.405941 | 0.901305 |
| tsr3 | 199.2191399 | -0.223944154 | 0.1488906 | -1.504085 | 0.132559 | 0.666979 |
| fzd8b | 51.64455991 | -0.331106338 | 0.2741626 | -1.207701 | 0.227162 | 0.794617 |
| BX548047.1 | | 0 NA | NA | NA | NA | NA |
| scg2b | 2530.118474 | 0.206334222 | 0.0733584 | 2.8126852 | 0.004913 | 0.102047 |
| ube2dlb | 1029.814702 | 0.187502307 | 0.0846152 | 2.2159422 | 0.026695 | 0.315011 |
| cox6c | 2856.35095 | -0.001037125 | 0.1162058 | -0.008925 | 0.992879 | 0.998437 |
| abraa | 199.3891278 | 0.338966736 | 0.1654258 | 2.0490558 | 0.040457 | 0.393309 |
| eif4e2 | 214.4407881 | 0.097575915 | 0.1475439 | 0.6613348 | 0.508398 | 0.93575 |
| CU929150.1 | 2.45544643 | -0.624210837 | 1.2425962 | -0.502344 | 0.615426 | NA |
| rspo4 | 5.495958816 | 1.906568984 | 0.8710639 | 2.188782 | 0.028613 | NA |
| sdhc | 1320.805389 | 0.037873451 | 0.1005716 | 0.3765821 | 0.706484 | 0.968459 |
| mpz | 168.1813251 | 0.263099067 | 0.1630467 | 1.6136422 | 0.106605 | 0.615567 |
| pihd3 | 20.37383823 | 0.163528149 | 0.4271192 | 0.382863 | 0.701821 | 0.968134 |
| pip4pla | 406.4267042 | -0.164050569 | 0.1203679 | -1.362909 | 0.172911 | 0.731956 |
| cpt2 | 585.8877767 | -0.035177437 | 0.1089593 | -0.322849 | 0.746809 | 0.97419 |
| magoh | 918.5663519 | -0.033070225 | 0.0921636 | -0.358821 | 0.719729 | 0.969318 |
| elov16l | 231.5314291 | -0.097350691 | 0.1784222 | -0.54562 | 0.585327 | 0.952585 |
| alas2 | 350.3572118 | 0.207521942 | 0.1513816 | 1.3708527 | 0.170421 | 0.728041 |
| ftr11 | 1.323817282 | -0.795924658 | 1.8294525 | -0.435062 | 0.663518 | NA |
| ajapl | 65.93006257 | 0.107479084 | 0.2530876 | 0.4246715 | 0.671076 | 0.965257 |
| cavin4a | 741.8192604 | 0.194976949 | 0.0940866 | 2.0723129 | 0.038236 | 0.383215 |
| igfbplb | 124.8423103 | -0.410543046 | 0.2052203 | -2.000499 | 0.045446 | 0.418148 |
| fggy | 112.630787 | -0.104595388 | 0.2038767 | -0.513032 | 0.607929 | 0.956718 |
| gbp1 | 41.6763806 | -0.137428669 | 0.3181349 | -0.431982 | 0.665754 | 0.964736 |
| gbp2 | 25.88640544 | -0.281614388 | 0.3865889 | -0.72846 | 0.466332 | 0.923908 |
| tcf7 | 62.39347756 | -0.019949157 | 0.2564267 | -0.077797 | 0.93799 | 0.99279 |
| MFAP4 (1 of many) | 1.144594032 | -2.465288488 | 1.9220008 | -1.282668 | 0.199608 | NA |

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| zgc:171687 | 2.768282155 | -0.177533434 | 1.1445404 | -0.155113 | 0.876732 | NA |
| si:zfos-2330d3.1 | 26.96658885 | 1.223043555 | 0.3963537 | 3.085738 | 0.00203 | 0.054039 |
| si:ch211-134m17.9 | 126.1238441 | -0.150253652 | 0.1997107 | -0.752357 | 0.451837 | 0.918761 |
| nfkb2 | 755.4617042 | -0.411667837 | 0.0996425 | -4.13145 | 3.60E-05 | 0.00206 |
| gng7 | 499.7835446 | 0.223988627 | 0.1148714 | 1.9499069 | 0.051187 | 0.443542 |
| zgc:101744 | 633.9910187 | -0.132844123 | 0.1106526 | -1.200551 | 0.229925 | 0.79764 |
| elav11a | 3909.429606 | 0.068315071 | 0.0689145 | 0.9913019 | 0.321538 | 0.869201 |
| gpr160 | 32.92091285 | -0.439975406 | 0.3380262 | -1.301601 | 0.193053 | 0.756795 |
| hkdc1 | 282.9116405 | -0.181913078 | 0.1315806 | -1.382522 | 0.166811 | 0.723339 |
| si:dkeyp-66d1.7 | 55.04278051 | -0.373935123 | 0.2608796 | -1.433363 | 0.151754 | 0.700137 |
| tepl | 70.99421344 | -0.517849529 | 0.2421774 | -2.138306 | 0.032492 | 0.35109 |
| casqla | 2578.595829 | 0.42485311 | 0.0932145 | 4.5578006 | 5.17E-06 | 0.000411 |
| zp3f.1 | 1.142078759 | 1.327282915 | 1.913709 | 0.6935657 | 0.487955 | NA |
| ch25h12 | 9.626468093 | 0.092499056 | 0.6085993 | 0.1519868 | 0.879197 | NA |
| s100z | 78.31942824 | -0.245846385 | 0.2303806 | -1.067131 | 0.285912 | 0.845942 |
| slc25a36a | 1204.930436 | -0.089299898 | 0.0924344 | -0.966089 | 0.333999 | 0.875256 |
| phf20b | 996.1345514 | 0.046729681 | 0.0910778 | 0.5130742 | 0.607899 | 0.956718 |
| rbpl.2 | 237.8567969 | -0.085772992 | 0.165876 | -0.517091 | 0.605093 | 0.95651 |
| copb2 | 3533.540085 | 0.019645897 | 0.0756018 | 0.2598602 | 0.794972 | 0.978328 |
| plk3 | 811.8719152 | 0.194136575 | 0.1176918 | 1.6495334 | 0.099038 | 0.598346 |
| mrpl12 | 970.9627321 | 0.030754665 | 0.0987048 | 0.3115823 | 0.755358 | 0.975318 |
| zgc:103625 | 101.7892208 | -0.02312074 | 0.1942358 | -0.119034 | 0.905248 | 0.990702 |
| ubtfl | 1237.173849 | 0.109628357 | 0.0833932 | 1.3145957 | 0.188646 | 0.753288 |
| faim2a | 95.59730832 | 0.372765327 | 0.2136917 | 1.744407 | 0.081088 | 0.551495 |
| abcf2a | 1343.023517 | 0.508327327 | 0.0803476 | 6.3265994 | 2.51E-10 | 5.63E-08 |
| smarcd3a | 618.087504 | 0.046794345 | 0.0987613 | 0.4738125 | 0.635634 | 0.958142 |
| tmubl | 510.0659491 | -0.045424916 | 0.1156429 | -0.392803 | 0.694465 | 0.96736 |
| dnail.2 | 45.50623537 | 0.054225737 | 0.2860712 | 0.1895533 | 0.849659 | 0.985174 |
| tmem53 | 177.7074723 | -0.124327227 | 0.1532882 | -0.811069 | 0.417326 | 0.906237 |
| klf17 | 67.94563889 | -0.181153813 | 0.2394892 | -0.756418 | 0.449399 | 0.918383 |
| ccdc24 | 17.83788934 | 0.103746938 | 0.4854238 | 0.2137244 | 0.830762 | 0.982994 |
| zgc:113531 | 166.6094518 | 0.129512433 | 0.1614355 | 0.8022551 | 0.422405 | 0.906561 |
| klh120 | 348.0355969 | 0.032006213 | 0.1201407 | 0.2664061 | 0.789926 | 0.977338 |
| cenpl | 86.46136079 | 0.05968183 | 0.2145629 | 0.2781554 | 0.780893 | 0.97627 |
| pigp | 171.5867862 | -0.307643908 | 0.2151052 | -1.430202 | 0.152659 | 0.701776 |
| e2f5 | 38.91722545 | -0.105014265 | 0.3046236 | -0.344735 | 0.730294 | 0.971335 |
| myrip | 707.5533976 | -0.044714972 | 0.0964936 | -0.463398 | 0.643079 | 0.959994 |
| mrclb | 91.98538657 | 0.298639714 | 0.2124217 | 1.4058814 | 0.159759 | 0.711986 |
| jph1b | 1258.568138 | 0.312755462 | 0.1098872 | 2.8461491 | 0.004425 | 0.094496 |
| etfdh | 1206.2447 | -0.101738052 | 0.0924886 | -1.100006 | 0.271329 | 0.836239 |
| ppid | 1102.617861 | -0.125336269 | 0.0888158 | -1.411193 | 0.158188 | 0.709224 |
| ldhd | 238.3538588 | -0.002837545 | 0.1422216 | -0.019952 | 0.984082 | 0.996944 |
| gins3 | 84.41708055 | -0.132647367 | 0.2148248 | -0.617468 | 0.536926 | 0.943336 |
| chmp5a | 149.1840866 | 0.049373004 | 0.1763705 | 0.2799391 | 0.779524 | 0.976146 |
| setd7 | 451.9121984 | -0.110511486 | 0.1072022 | -1.030869 | 0.302602 | 0.85729 |
| rgs20 | 542.215007 | 0.160269436 | 0.1188313 | 1.348714 | 0.177429 | 0.738316 |
| kcnb2 | 411.0670791 | 0.470878845 | 0.1185331 | 3.9725504 | 7.11E-05 | 0.003671 |
| babam2 | 457.3632228 | -0.096139448 | 0.110322 | -0.871444 | 0.383512 | 0.895192 |
| acox3 | 258.1169125 | -0.085035202 | 0.1321142 | -0.643649 | 0.519803 | 0.938945 |
| trappc8 | 688.9320616 | -0.036494024 | 0.1048186 | -0.348164 | 0.727717 | 0.970402 |
| shhb | 170.4901208 | 0.040572614 | 0.170527 | 0.2379249 | 0.811939 | 0.981081 |
| en2b | 123.1136009 | -0.084221428 | 0.1867588 | -0.450964 | 0.652016 | 0.960708 |
| htr5aa | 4.083257855 | -0.622733897 | 0.996426 | -0.624968 | 0.531992 | NA |
| slu7 | 907.965675 | -0.002431509 | 0.0888455 | -0.027368 | 0.978166 | 0.996762 |

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| zgc:101569 | 229.749414 | -0.051460249 | 0.1374783 | -0.374316 | 0.70817 | 0.968664 |
| il12a | 3.97817145 | 2.805255335 | 1.1908943 | 2.3555871 | 0.018493 | NA |
| ift80 | 354.7680336 | -0.00985225 | 0.1236362 | -0.079687 | 0.936486 | 0.992702 |
| acaa2 | 1406.144974 | -0.095811501 | 0.0811132 | -1.181207 | 0.23752 | 0.806474 |
| smc4 | 1043.023767 | -0.183025481 | 0.097274 | -1.881546 | 0.059898 | 0.478654 |
| AL954146.1 | 38.1315079 | 0.203818781 | 0.3171406 | 0.6426765 | 0.520434 | 0.939056 |
| tmx3a | 550.9427372 | 0.084163698 | 0.1251905 | 0.672285 | 0.501402 | 0.934613 |
| zgc:113691 | 4.17226768 | -0.095969777 | 0.9076483 | -0.105735 | 0.915793 | NA |
| acadm | 2829.951096 | 0.007927946 | 0.0841166 | 0.0942494 | 0.924911 | 0.992676 |
| tmem256 | 277.0942501 | -0.189483479 | 0.1335261 | -1.419074 | 0.155877 | 0.705963 |
| hectd3 | 959.3435746 | -0.073206466 | 0.086915 | -0.842277 | 0.399633 | 0.90084 |
| mssl2a | 444.6122786 | 0.049026085 | 0.1077132 | 0.455154 | 0.648998 | 0.960708 |
| pccb | 1318.018759 | 0.027163967 | 0.0885466 | 0.306776 | 0.759014 | 0.975374 |
| rad50 | 176.4713113 | -0.102055495 | 0.1553523 | -0.656929 | 0.511226 | 0.936253 |
| drdlb | 25.79525641 | 0.560870685 | 0.3887688 | 1.4426846 | 0.149109 | 0.696454 |
| itprid2 | 368.4725884 | -0.107382598 | 0.1288677 | -0.833278 | 0.404688 | 0.901305 |
| ppplr1c | 175.4266813 | -0.044806922 | 0.171924 | -0.26062 | 0.794385 | 0.977937 |
| ctnbip1 | 1611.245016 | -0.019195232 | 0.0798281 | -0.240457 | 0.809976 | 0.980764 |
| pimr68 | 3.992991858 | 0.219330585 | 0.9460919 | 0.231828 | 0.816672 | NA |
| fdx1b | 7.445147861 | 0.591907423 | 0.6929886 | 0.8541374 | 0.393029 | NA |
| flvcr2a | 26.81462618 | -0.092785725 | 0.381956 | -0.242923 | 0.808065 | 0.980642 |
| traf4b | 90.93204274 | -0.423134979 | 0.211497 | -2.000666 | 0.045428 | 0.418148 |
| cul3a | 1489.354853 | 0.070286836 | 0.0773013 | 0.9092584 | 0.363214 | 0.885944 |
| ccr6b | 3.521787566 | -0.449322884 | 1.0713528 | -0.419398 | 0.674926 | NA |
| zgc:113142 | 40.00623454 | -0.26880704 | 0.3623506 | -0.741842 | 0.458183 | 0.921978 |
| DPYSL2 (1 of many) | 124.2259581 | 0.293138459 | 0.2014223 | 1.4553426 | 0.145574 | 0.691067 |
| pdc7 | 299.0835589 | 0.01739536 | 0.1326149 | 0.131172 | 0.895639 | 0.989814 |
| slc25a24l | 5.639837318 | -0.484894395 | 0.8154215 | -0.594655 | 0.552074 | NA |
| dnajb4 | 330.2224357 | -0.060639558 | 0.1240036 | -0.489014 | 0.624831 | 0.957354 |
| si:dkey-24c2.9 | 6.531145168 | 1.038287266 | 0.7692416 | 1.3497544 | 0.177095 | NA |
| txndc12 | 1016.66055 | 0.050875484 | 0.0875848 | 0.5808711 | 0.561327 | 0.948728 |
| zgc:153615 | 670.5860886 | 0.067648808 | 0.0977581 | 0.6920024 | 0.488936 | 0.931926 |
| cdyl | 123.6891719 | -0.14288045 | 0.1953558 | -0.731386 | 0.464543 | 0.923483 |
| si:dkey-31m5.5 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| wnt3 | 88.90504761 | 0.164181753 | 0.2352449 | 0.6979184 | 0.485228 | 0.930188 |
| nsfb | 498.0972126 | -0.141909886 | 0.106598 | -1.331263 | 0.183103 | 0.746684 |
| egln1a | 57.09328391 | -0.21669187 | 0.2602457 | -0.832644 | 0.405046 | 0.901305 |
| trappc1 | 471.1243126 | 0.096856836 | 0.1171189 | 0.8269957 | 0.40824 | 0.90171 |
| eno3 | 7314.796874 | -0.323810617 | 0.1065957 | -3.037746 | 0.002384 | 0.06083 |
| zgc:85858 | 437.5384664 | 0.064338728 | 0.1326708 | 0.4849503 | 0.627712 | 0.957354 |
| fbxo5 | 132.1609055 | -0.147689572 | 0.1763119 | -0.837661 | 0.402221 | 0.90084 |
| stk25b | 1137.756967 | 0.044505455 | 0.0818257 | 0.5439055 | 0.586507 | 0.953319 |
| marcks11a | 4535.114224 | -0.00196965 | 0.0718884 | -0.027399 | 0.978142 | 0.996762 |
| sfrp5 | 244.3150973 | 0.032405106 | 0.1368021 | 0.2368757 | 0.812753 | 0.981081 |
| hhat1a | 3146.359218 | 0.358820589 | 0.0832889 | 4.3081455 | 1.65E-05 | 0.001071 |
| klhl40a | 76.88881877 | 0.670930835 | 0.2356809 | 2.8467761 | 0.004416 | 0.094496 |
| morn4 | 345.5354434 | 0.132635865 | 0.1183225 | 1.120969 | 0.262301 | 0.830166 |
| CR847936.1 | 68.25172752 | -0.193170923 | 0.248477 | -0.77742 | 0.436911 | 0.914408 |
| st3gal7 | 239.0391092 | -0.306665069 | 0.1617625 | -1.895773 | 0.05799 | 0.47228 |
| trpc2a | 0.682853041 | 2.891318346 | 2.3286279 | 1.2416403 | 0.214369 | NA |
| klhl131 | 1175.888211 | 0.173375757 | 0.1090836 | 1.5893846 | 0.111974 | 0.627242 |
| srd5a2b | 11.36106503 | 0.450931352 | 0.601529 | 0.749642 | 0.45347 | 0.920041 |
| slx4ip | 64.51772717 | -0.008696602 | 0.249568 | -0.034847 | 0.972202 | 0.996315 |
| im:7138239 | 8.413927182 | 1.108697015 | 0.6872028 | 1.6133477 | 0.106669 | NA |

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|-----------------|--------------|---------------|------------|------------|-----------|-----------|
| tyr | 151. 8371014 | 0. 138694827 | 0. 1863893 | 0. 7441137 | 0. 456808 | 0. 921215 |
| zgc:123010 | 412. 6234051 | 0. 067524583 | 0. 1268233 | 0. 5324304 | 0. 594428 | 0. 954434 |
| got1 | 5001. 711255 | 0. 253002516 | 0. 0690846 | 3. 6622129 | 0. 00025 | 0. 010194 |
| nkx2. 3 | 97. 43447949 | -0. 30487723 | 0. 2262222 | -1. 34769 | 0. 177758 | 0. 738343 |
| si:dkey-24p1. 1 | 0. 476626891 | 2. 395187592 | 2. 815932 | 0. 8505843 | 0. 395 | NA |
| ca8 | 291. 3465749 | -0. 137381385 | 0. 1356135 | -1. 013036 | 0. 311043 | 0. 863236 |
| aep1 | 2178. 926438 | 0. 102223231 | 0. 0823014 | 1. 2420598 | 0. 214214 | 0. 782493 |
| jac7 | 2. 188742165 | -2. 456045621 | 1. 6217617 | -1. 514431 | 0. 129917 | NA |
| trim35-9 | 12. 41354373 | -0. 148238815 | 0. 5669706 | -0. 261458 | 0. 79374 | 0. 977937 |
| nr5a5 | 17. 60883465 | 0. 053418286 | 0. 4573794 | 0. 1167921 | 0. 907025 | 0. 990702 |
| tefa | 3667. 277673 | 0. 173823934 | 0. 0705804 | 2. 4627776 | 0. 013787 | 0. 211002 |
| trim9 | 640. 619839 | -0. 028045962 | 0. 102807 | -0. 272802 | 0. 785005 | 0. 97627 |
| map4k5 | 660. 3451403 | 0. 079326772 | 0. 0946081 | 0. 8384773 | 0. 401763 | 0. 90084 |
| cdkn3 | 82. 56459442 | 0. 102581001 | 0. 2230946 | 0. 4598094 | 0. 645653 | 0. 96029 |
| atplala. 3 | 1159. 966641 | 0. 241685722 | 0. 1079776 | 2. 238295 | 0. 025202 | 0. 30686 |
| lamb4 | 542. 010756 | 0. 316013167 | 0. 1051858 | 3. 0043329 | 0. 002662 | 0. 066037 |
| cox16 | 134. 7757806 | -0. 044360102 | 0. 17537 | -0. 252952 | 0. 800306 | 0. 979377 |
| arpc5a | 1032. 075547 | 0. 004728905 | 0. 0840255 | 0. 0562794 | 0. 955119 | 0. 994543 |
| plaub | 44. 45475103 | 0. 227769718 | 0. 2946592 | 0. 7729936 | 0. 439526 | 0. 916082 |
| lgnn | 3133. 992901 | 0. 175346819 | 0. 0755374 | 2. 3213247 | 0. 020269 | 0. 267561 |
| fbxo36b | 3. 941248424 | 0. 19767726 | 1. 0260733 | 0. 1926541 | 0. 84723 | NA |
| rhebl1 | 918. 1836159 | -0. 092196236 | 0. 0854249 | -1. 079266 | 0. 280469 | 0. 843423 |
| mhcluma | | 0 NA | NA | NA | NA | NA |
| ctslb | 2. 263167942 | 0. 797165978 | 1. 5012195 | 0. 5310123 | 0. 59541 | NA |
| olfm3b | 21. 29374737 | 0. 588294256 | 0. 4482637 | 1. 3123843 | 0. 189391 | 0. 75413 |
| trpm3 | 64. 38216711 | -0. 164919317 | 0. 2569092 | -0. 641936 | 0. 520915 | 0. 939056 |
| nfyba | 1091. 363648 | -0. 088677156 | 0. 0880057 | -1. 00763 | 0. 313632 | 0. 865132 |
| grebl1 | 155. 7701883 | -0. 058527253 | 0. 1634981 | -0. 357969 | 0. 720366 | 0. 969318 |
| zgc:110130 | 417. 7840827 | 0. 103140993 | 0. 1182198 | 0. 8724507 | 0. 382963 | 0. 895192 |
| nasp | 1311. 335839 | -0. 062061879 | 0. 0901214 | -0. 688648 | 0. 491045 | 0. 931926 |
| zgc:77439 | 467. 126985 | 0. 136021054 | 0. 1142281 | 1. 1907843 | 0. 233738 | 0. 80256 |
| prpf38a | 259. 3761634 | -0. 159246765 | 0. 131236 | -1. 213438 | 0. 224962 | 0. 792185 |
| arrb2a | 510. 3562307 | -0. 061970988 | 0. 1073853 | -0. 57709 | 0. 563879 | 0. 948739 |
| orcl | 202. 9013081 | 0. 129066457 | 0. 1621522 | 0. 7959589 | 0. 426056 | 0. 909755 |
| gpr101 | 5. 513902177 | -0. 322885782 | 0. 8626367 | -0. 374301 | 0. 70818 | NA |
| st6galnac5a | 5. 790887504 | -0. 268900339 | 0. 8486815 | -0. 316845 | 0. 751361 | NA |
| mpl | 1. 331480916 | 1. 593955787 | 1. 7098336 | 0. 9322286 | 0. 351218 | NA |
| vps13a | 1374. 603519 | 0. 003327655 | 0. 0905012 | 0. 0367692 | 0. 970669 | 0. 996315 |
| cep78 | 129. 652536 | -0. 077876036 | 0. 1887667 | -0. 412552 | 0. 679935 | 0. 965311 |
| zgc:171579 | 2. 962721368 | -0. 003197833 | 1. 0730994 | -0. 00298 | 0. 997622 | NA |
| cacng5b | 6. 288348096 | 0. 172105691 | 0. 7522594 | 0. 228785 | 0. 819036 | NA |
| zgc:152791 | 2. 26281817 | -0. 399153687 | 1. 3056015 | -0. 305724 | 0. 759815 | NA |
| klh121 | 796. 8242721 | -0. 164448323 | 0. 096728 | -1. 700111 | 0. 08911 | 0. 571727 |
| spega | 215. 3352901 | 0. 18184211 | 0. 1475532 | 1. 2323833 | 0. 217806 | 0. 785256 |
| zbtb48 | 97. 82522089 | -0. 228612179 | 0. 2099821 | -1. 088722 | 0. 276276 | 0. 839541 |
| igfbp5a | 95. 80472208 | 0. 213980657 | 0. 2152961 | 0. 9938902 | 0. 320276 | 0. 868202 |
| arhgap4a | 32. 1015779 | -0. 114500662 | 0. 3420508 | -0. 334747 | 0. 737816 | 0. 972535 |
| rhm25a | 538. 6029875 | -0. 089718731 | 0. 1314577 | -0. 682491 | 0. 494928 | 0. 931926 |
| emc4 | 254. 490444 | 0. 182314068 | 0. 1640686 | 1. 1112063 | 0. 26648 | 0. 832634 |
| arg2 | 776. 0138165 | 0. 248629146 | 0. 1244004 | 1. 9986206 | 0. 045649 | 0. 41876 |
| vtilb | 159. 3420282 | -0. 148585612 | 0. 1631012 | -0. 911002 | 0. 362294 | 0. 885944 |
| pls1 | 291. 6485619 | -0. 834674021 | 0. 1518274 | -5. 497518 | 3. 85E-08 | 5. 77E-06 |
| fbln5 | 251. 5147589 | 0. 126173239 | 0. 1430748 | 0. 8818692 | 0. 377848 | 0. 895192 |
| golga5 | 813. 5614301 | -0. 078843932 | 0. 0905375 | -0. 870842 | 0. 38384 | 0. 895192 |

| | | | | | | |
|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| rdh14a | 204.0530804 | -0.046210547 | 0.1450433 | -0.318598 | 0.750031 | 0.97419 |
| terfa | 361.6064406 | -0.119251082 | 0.1345062 | -0.886584 | 0.375303 | 0.894316 |
| six1a | 150.4695031 | 0.197925257 | 0.1872315 | 1.0571154 | 0.290459 | 0.846262 |
| hook2 | 32.64334771 | -0.037264435 | 0.3310004 | -0.112581 | 0.910363 | 0.990702 |
| parla | 166.5113769 | 0.283154018 | 0.159986 | 1.7698676 | 0.076749 | 0.539626 |
| vps37b | 349.7814791 | -0.016229251 | 0.1174164 | -0.13822 | 0.890067 | 0.989291 |
| pmepal | 25.24776777 | -0.272155556 | 0.3836311 | -0.70942 | 0.478064 | 0.926857 |
| ccndbp1 | 332.7886997 | 0.104656266 | 0.1344854 | 0.7781982 | 0.436452 | 0.914408 |
| st6gal2a | 2009.296209 | -0.069678708 | 0.0777488 | -0.896204 | 0.370144 | 0.889876 |
| gadd45gip1 | 499.3718238 | -0.098990202 | 0.1098856 | -0.900848 | 0.367669 | 0.887476 |
| tmem209 | 491.5192044 | -0.03603602 | 0.103661 | -0.347633 | 0.728116 | 0.970402 |
| ahcy12 | 1601.217277 | -0.013987142 | 0.081075 | -0.172521 | 0.863028 | 0.985841 |
| drg1 | 704.0955066 | -0.051014124 | 0.1006379 | -0.506908 | 0.612219 | 0.95688 |
| ndufa5 | 780.5475217 | -0.085500845 | 0.1128556 | -0.757613 | 0.448683 | 0.917876 |
| rps24 | 9878.391516 | -0.228937968 | 0.0895721 | -2.555908 | 0.010591 | 0.177783 |
| qrfpra | 4.154436425 | -1.343937924 | 0.9602299 | -1.3996 | 0.161633 | NA |
| ssbp1 | 179.8358686 | -0.153015752 | 0.1575798 | -0.971037 | 0.33153 | 0.874556 |
| ccl19b | 43.8091922 | 1.128933917 | 0.314646 | 3.5879494 | 0.000333 | 0.012922 |
| pald1b | 212.3811784 | 0.211031287 | 0.1423749 | 1.4822226 | 0.138281 | 0.676087 |
| skal | 89.18035292 | -0.305789681 | 0.2133809 | -1.43307 | 0.151838 | 0.700196 |
| zgc:194209 | 256.224284 | -0.131056864 | 0.1375585 | -0.952735 | 0.340724 | 0.878134 |
| dnajb12a | 495.0192751 | 0.042820936 | 0.1180837 | 0.362632 | 0.71688 | 0.96909 |
| cuedc2 | 278.9445788 | -0.05150377 | 0.1354539 | -0.380231 | 0.703774 | 0.968134 |
| epha3 | 50.85794337 | 0.303897915 | 0.2705576 | 1.1232281 | 0.261341 | 0.829527 |
| apool | 397.9069112 | -0.048122364 | 0.1141321 | -0.421638 | 0.67329 | 0.965257 |
| rcn2 | 114.3632651 | 0.186355725 | 0.1864933 | 0.9992622 | 0.317668 | 0.867607 |
| ch25h11.1 | 198.5197532 | -0.198895984 | 0.155392 | -1.279963 | 0.200558 | 0.766801 |
| dlg4b | 400.1978886 | -0.027056389 | 0.1170628 | -0.231127 | 0.817216 | 0.981594 |
| sdhaf4 | 169.8811668 | -0.120754034 | 0.1960093 | -0.616063 | 0.537853 | 0.943336 |
| wnk1b | 1163.031278 | 0.031014297 | 0.0887649 | 0.3493983 | 0.72679 | 0.970402 |
| si:ch211-240119.5 | 69.0051001 | -0.585435455 | 0.2537228 | -2.307382 | 0.021034 | 0.273449 |
| nt5c2a | 1069.341677 | -0.038765746 | 0.0936992 | -0.413725 | 0.679075 | 0.965257 |
| polr1c | 174.3220033 | -0.120815054 | 0.157249 | -0.768304 | 0.442307 | 0.916336 |
| prom2 | 132.0410562 | 0.181794714 | 0.20184 | 0.9006872 | 0.367755 | 0.887476 |
| cep68 | 87.67612134 | 0.034339528 | 0.2129578 | 0.1612504 | 0.871896 | 0.987846 |
| dmrta2 | 111.8060095 | -0.359985065 | 0.1887908 | -1.906794 | 0.056547 | 0.46635 |
| fuom | 16.67580165 | -0.585969115 | 0.4747331 | -1.234313 | 0.217086 | 0.784302 |
| AL831745.1 | 104.0867984 | -1.171878673 | 0.2291767 | -5.113429 | 3.16E-07 | 3.75E-05 |
| snrpb2 | 463.8462719 | -0.024272078 | 0.1123166 | -0.216104 | 0.828907 | 0.982721 |
| adka | 1037.653206 | -0.042183513 | 0.0841922 | -0.501038 | 0.616344 | 0.95688 |
| msl2b | 688.3278866 | 0.003897875 | 0.0923663 | 0.0422002 | 0.966339 | 0.996315 |
| oprml | 7.139216251 | -1.322277762 | 0.7807892 | -1.693514 | 0.090358 | NA |
| rgs17 | 169.4262139 | -0.064824645 | 0.1563602 | -0.414585 | 0.678445 | 0.965257 |
| il13ra2 | 88.13169898 | 0.287854623 | 0.2395182 | 1.2018067 | 0.229438 | 0.797069 |
| il22ra2 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| zgc:110353 | 27.72255117 | -0.046427694 | 0.3564856 | -0.130237 | 0.896379 | 0.989971 |
| hkl | 3979.737158 | 0.014014345 | 0.0737502 | 0.1900245 | 0.84929 | 0.985174 |
| dhrrs7ca | 56.85529315 | 0.180406003 | 0.2754353 | 0.6549849 | 0.512477 | 0.936253 |
| tspan15 | 239.6033275 | -0.15141471 | 0.1383232 | -1.094644 | 0.273672 | 0.838381 |
| acbd6 | 566.2072639 | 0.060805096 | 0.1025373 | 0.5930048 | 0.553178 | 0.947265 |
| lhx4 | 458.4047187 | -0.041839321 | 0.1082313 | -0.386573 | 0.699072 | 0.967998 |
| qsox1 | 780.0423907 | 0.245765097 | 0.1071847 | 2.2929123 | 0.021853 | 0.280334 |
| hnrnph3 | 237.6987815 | 0.026664334 | 0.1353796 | 0.1969597 | 0.843859 | 0.985174 |
| terb2 | 5.595572136 | 1.023793726 | 0.8477353 | 1.2076809 | 0.22717 | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| calhm2.1 | 62.039972 | 0.477236027 | 0.2548461 | 1.8726444 | 0.061118 | 0.482482 |
| si:dkey-51a16.9 | 545.9690455 | -0.160327219 | 0.1044951 | -1.534304 | 0.124955 | 0.654531 |
| bag3 | 268.8117295 | 0.180931473 | 0.1437271 | 1.2588542 | 0.208083 | 0.775404 |
| git1 | 700.6994325 | -0.015070238 | 0.0914017 | -0.164879 | 0.869039 | 0.987245 |
| pitpnaa | 844.3607168 | -0.257871512 | 0.1015046 | -2.540491 | 0.011107 | 0.18241 |
| naa20 | 455.7250031 | 0.128790319 | 0.111457 | 1.1555162 | 0.247879 | 0.81711 |
| ccdc85a | 99.63930484 | 0.153227446 | 0.2082534 | 0.7357742 | 0.461868 | 0.922466 |
| soul2 | 427.5254217 | 0.280221445 | 0.1107264 | 2.5307561 | 0.011382 | 0.186155 |
| si:cabz01090165.1 | 134.2039583 | 0.218072823 | 0.1748058 | 1.2475148 | 0.212209 | 0.780111 |
| ugt2a6 | 79.59271727 | -0.372988239 | 0.2418728 | -1.542085 | 0.123053 | 0.65095 |
| eefl1a | 1273.145404 | 0.199795197 | 0.0809603 | 2.4678158 | 0.013594 | 0.209269 |
| aplm3 | 149.1543246 | 0.088830693 | 0.1848436 | 0.4805721 | 0.630821 | 0.957354 |
| zgc:153119 | 17.07870559 | 0.40521262 | 0.5267558 | 0.7692608 | 0.441739 | 0.916336 |
| c8a | 438.6327748 | 0.358140009 | 0.1224407 | 2.9250084 | 0.003444 | 0.078559 |
| c8b | 427.7633835 | 0.320877008 | 0.1354557 | 2.3688711 | 0.017842 | 0.247192 |
| ssx2ipa | 309.8024116 | -0.113127089 | 0.1238929 | -0.913104 | 0.361188 | 0.885686 |
| tubb2 | 1144.241099 | 0.177246923 | 0.0867038 | 2.0442814 | 0.040926 | 0.394957 |
| rrh | 72.10922489 | -0.302341631 | 0.2497166 | -1.210739 | 0.225995 | 0.793556 |
| dappl | 20.45138457 | -0.393881813 | 0.4604312 | -0.855463 | 0.392295 | 0.897688 |
| mrps6 | 299.0868906 | -0.11915129 | 0.1424612 | -0.836377 | 0.402943 | 0.90084 |
| lox13b | 1058.152525 | 0.113999411 | 0.0858293 | 1.3282116 | 0.184108 | 0.747376 |
| emx1 | 44.25687749 | -0.046161548 | 0.3024204 | -0.15264 | 0.878682 | 0.987881 |
| fst11b | 5613.48127 | 0.189285954 | 0.0631735 | 2.9962887 | 0.002733 | 0.067381 |
| ptk2bb | 439.3301769 | 0.005767177 | 0.1088269 | 0.0529941 | 0.957737 | 0.99467 |
| pa2g4a | 3084.995669 | -0.071482618 | 0.0695367 | -1.027984 | 0.303957 | 0.858391 |
| cfid | 2397.151838 | 0.51702901 | 0.0912626 | 5.6652907 | 1.47E-08 | 2.46E-06 |
| ier3ipl | 226.477409 | -0.07211235 | 0.1489752 | -0.484056 | 0.628346 | 0.957354 |
| atohlc | 10.17697371 | -0.537365672 | 0.6079394 | -0.883913 | 0.376743 | NA |
| mat1a | 2474.639913 | 0.414173405 | 0.071811 | 5.7675466 | 8.04E-09 | 1.38E-06 |
| poll | 163.2485656 | -0.176835873 | 0.1597867 | -1.106699 | 0.268424 | 0.833634 |
| fgf8b | 42.01999925 | 0.439880029 | 0.3030456 | 1.4515309 | 0.146632 | 0.692998 |
| cenpk | 91.00660762 | 0.027879201 | 0.2112063 | 0.1319999 | 0.894984 | 0.989814 |
| nrgna | 740.3353466 | -0.148769142 | 0.1000237 | -1.487339 | 0.136925 | 0.673303 |
| slc6a1b | 4418.106918 | 0.151937763 | 0.0703984 | 2.1582567 | 0.030908 | 0.340296 |
| mtif3 | 163.3982668 | -0.101994194 | 0.159096 | -0.641086 | 0.521467 | 0.939056 |
| itm2cb | 694.4181226 | 0.17697435 | 0.1003553 | 1.7634771 | 0.07782 | 0.543558 |
| si:dkey-235d18.5 | 268.9034851 | -0.416999855 | 0.135035 | -3.088088 | 0.002014 | 0.05383 |
| fank1 | 10.06611409 | 0.05661832 | 0.6028124 | 0.0939236 | 0.92517 | NA |
| slc36a4 | 460.0406358 | 0.028742846 | 0.1116236 | 0.2574979 | 0.796794 | 0.978569 |
| tsta3 | 191.1141193 | 0.176501276 | 0.1550468 | 1.1383744 | 0.254964 | 0.82364 |
| mrpl38 | 612.930002 | -0.106874967 | 0.1112603 | -0.960585 | 0.336761 | 0.876088 |
| TSTA3 (1 of many) | 1414.745277 | -0.401049507 | 0.0815879 | -4.915549 | 8.85E-07 | 9.07E-05 |
| dsc21 | 573.5878515 | -0.060059733 | 0.10955 | -0.54824 | 0.583527 | 0.952214 |
| samm501 | 713.7822171 | 0.156265961 | 0.0921781 | 1.6952618 | 0.090026 | 0.574248 |
| si:ch211-121a2.2 | 3.78754581 | 0.628178154 | 0.9752731 | 0.6441048 | 0.519507 | NA |
| sirt5 | 274.4524884 | -0.012124929 | 0.1273697 | -0.095195 | 0.92416 | 0.992676 |
| zgc:194221 | 71.00207054 | 0.388344547 | 0.2639965 | 1.4710214 | 0.141285 | 0.681968 |
| shtn1 | 78.27667587 | 0.000921614 | 0.2263311 | 0.004072 | 0.996751 | 0.998936 |
| fam204a | 297.8154039 | 0.079850904 | 0.1239774 | 0.6440764 | 0.519526 | 0.938945 |
| emx2 | 621.7394843 | -0.055582816 | 0.1058523 | -0.525098 | 0.599515 | 0.956045 |
| mrps26 | 534.3715053 | -0.09372087 | 0.1141155 | -0.821281 | 0.411486 | 0.903483 |
| OSBPL8 | 15.39218813 | 0.01409696 | 0.5096971 | 0.0276575 | 0.977935 | 0.996762 |
| zgc:123321 | 64.40568623 | 0.331560481 | 0.2452456 | 1.3519531 | 0.17639 | 0.73663 |
| asapl1b | 1064.483827 | 0.047797003 | 0.091143 | 0.5244177 | 0.599988 | 0.956045 |

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|------------------|-------------|--------------|-----------|-----------|----------|----------|
| zgc:112160 | 436.7737797 | -0.585578 | 0.1507288 | -3.884978 | 0.000102 | 0.004972 |
| BX914200.1 | 3.709035756 | -0.215227669 | 1.0854222 | -0.198289 | 0.842819 | NA |
| ldlrap1b | 59.19572964 | -0.015791834 | 0.27251 | -0.05795 | 0.953789 | 0.994213 |
| si:ch73-308m11.1 | 151.5143546 | -1.100958949 | 0.3755967 | -2.931227 | 0.003376 | 0.077672 |
| xpc | 545.1197117 | -0.114059987 | 0.1114861 | -1.023087 | 0.306267 | 0.860027 |
| prop1 | 4.711259298 | 0.027028854 | 0.86858 | 0.0311184 | 0.975175 | NA |
| mcf2 | 536.9011073 | -0.093642132 | 0.1055054 | -0.887558 | 0.374779 | 0.894316 |
| dync2li1 | 36.4830353 | -0.187321071 | 0.323842 | -0.578434 | 0.562971 | 0.948728 |
| tbxtb | 9.85639073 | 0.159320349 | 0.601898 | 0.2646966 | 0.791243 | NA |
| meal | 910.805137 | 0.061285088 | 0.0972272 | 0.6303286 | 0.52848 | 0.941896 |
| zgc:172182 | 3.375294021 | 0.326934744 | 1.0341058 | 0.3161521 | 0.751887 | NA |
| bbs5 | 157.2357518 | 0.247830221 | 0.163182 | 1.5187352 | 0.128829 | 0.659982 |
| zp3b | 30.13493436 | -0.18359867 | 0.344571 | -0.532833 | 0.594149 | 0.954434 |
| gng5 | 734.3042816 | -0.136492774 | 0.1039545 | -1.313005 | 0.189181 | 0.753954 |
| gsta.2 | 136.9167103 | -0.838180778 | 0.197858 | -4.236275 | 2.27E-05 | 0.001407 |
| znf800b | 121.3971073 | -0.058425914 | 0.2003342 | -0.291642 | 0.77056 | 0.975687 |
| dusp22b | 86.81591337 | -0.186946771 | 0.2159459 | -0.865711 | 0.386649 | 0.89551 |
| dhdds | 339.3585021 | -0.083987143 | 0.1272765 | -0.65988 | 0.509331 | 0.936123 |
| ftr93 | 23.74960362 | 0.312478108 | 0.3959551 | 0.7891757 | 0.430009 | 0.911615 |
| lifrb | 135.2233291 | -0.048263964 | 0.1791071 | -0.26947 | 0.787568 | 0.976596 |
| rpz4 | 92.93597289 | -0.195691572 | 0.205468 | -0.952419 | 0.340885 | 0.878134 |
| lamtor2 | 346.0660933 | -0.10779699 | 0.1212365 | -0.889146 | 0.373924 | 0.893677 |
| ambra1b | 680.9756501 | -0.102458264 | 0.0978786 | -1.046789 | 0.295197 | 0.851652 |
| arpp19b | 708.1149501 | -0.090258409 | 0.1020209 | -0.884705 | 0.376316 | 0.894814 |
| cemip | 545.7491702 | 0.209688541 | 0.1025714 | 2.0443183 | 0.040922 | 0.394957 |
| ap3s2 | 667.1531173 | -0.146268477 | 0.1010269 | -1.447817 | 0.147668 | 0.694905 |
| clqbp | 1266.415725 | -0.129428029 | 0.1079889 | -1.19853 | 0.230711 | 0.798822 |
| CR855393.1 | | 0 NA | NA | NA | NA | NA |
| BX323555.2 | | 0 NA | NA | NA | NA | NA |
| gnpna1 | 160.808247 | 0.097577178 | 0.1657851 | 0.5885763 | 0.556146 | 0.947902 |
| zbtb7a | 5.38134588 | 0.012665187 | 0.830315 | 0.0152535 | 0.98783 | NA |
| si:ch73-168d20.1 | 0.831706979 | -0.653219184 | 2.2172216 | -0.294612 | 0.768291 | NA |
| sh3gl2b | 16.88525527 | 0.075215825 | 0.4759353 | 0.1580379 | 0.874427 | 0.987881 |
| rbm42 | 384.5809359 | 0.035835493 | 0.1203689 | 0.2977138 | 0.765922 | 0.975374 |
| tmem147 | 1052.271494 | -0.103397078 | 0.0959995 | -1.077058 | 0.281454 | 0.84357 |
| gapdhs | 25549.01398 | 0.021203188 | 0.0589388 | 0.3597493 | 0.719035 | 0.969183 |
| bolal | 240.1848563 | -0.067229357 | 0.1371225 | -0.490287 | 0.623931 | 0.957354 |
| ckmt2b | 2696.049843 | 0.375683769 | 0.0935557 | 4.0156172 | 5.93E-05 | 0.003192 |
| slc25a33 | 746.0197278 | 0.3486924 | 0.0991979 | 3.515119 | 0.00044 | 0.016096 |
| hles | 91.84570991 | 0.145711224 | 0.2133631 | 0.6829262 | 0.494653 | 0.931926 |
| CABZ01064671.1 | 14.01734076 | 0.023189006 | 0.5209118 | 0.0445162 | 0.964493 | 0.995927 |
| ccdc172 | 3.468470599 | 1.322507468 | 1.1253223 | 1.1752255 | 0.239904 | NA |
| tent5ba | 681.6883797 | 0.059684881 | 0.0949838 | 0.6283689 | 0.529762 | 0.942209 |
| fibina | 314.7912137 | -0.133379858 | 0.1293899 | -1.030837 | 0.302617 | 0.85729 |
| si:ch211-87j1.4 | 16.00797814 | 0.250727671 | 0.5139337 | 0.48786 | 0.625649 | 0.957354 |
| utpl1 | 124.929255 | 0.026888398 | 0.1780691 | 0.1509998 | 0.879976 | 0.987881 |
| gdnfa | 36.48000055 | 0.656944141 | 0.3390947 | 1.9373471 | 0.052703 | 0.450561 |
| st7 | 72.84696444 | -0.215729837 | 0.2488048 | -0.867065 | 0.385907 | 0.89551 |
| fgfbp1b | 22.41102415 | -0.327109739 | 0.4531606 | -0.721841 | 0.470393 | 0.924838 |
| fgfbp2a | 51.27227626 | 0.109593613 | 0.2857225 | 0.3835666 | 0.7013 | 0.968134 |
| prom1a | 777.718268 | 0.086439915 | 0.0916763 | 0.9428822 | 0.345741 | 0.87848 |
| akirin1 | 926.2654376 | 0.113503745 | 0.1017172 | 1.1158753 | 0.264476 | 0.830245 |
| cnr2 | 7.90778906 | 0.721894595 | 0.6878325 | 1.0495209 | 0.293938 | NA |
| rail4 | 348.2608244 | -0.104630357 | 0.1179778 | -0.886865 | 0.375152 | 0.894316 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| tecr12b | 38.18701365 | 0.393846942 | 0.3246001 | 1.2133296 | 0.225004 | 0.792185 |
| ppt1 | 865.308647 | -0.058796853 | 0.1019884 | -0.576505 | 0.564274 | 0.948739 |
| hivep2a | 598.2000815 | 0.171006937 | 0.1001982 | 1.7066874 | 0.08788 | 0.567519 |
| snrnp48 | 134.2756503 | -0.148650611 | 0.1898375 | -0.783041 | 0.433603 | 0.913667 |
| xkr8.3 | 66.38445347 | 0.099268236 | 0.2413833 | 0.4112474 | 0.680891 | 0.965476 |
| ptp4a3a | 1104.271028 | 0.174463529 | 0.0834831 | 2.0898057 | 0.036635 | 0.374263 |
| slc13a5b | 32.26465987 | 0.398458138 | 0.3368283 | 1.182971 | 0.236821 | 0.805854 |
| fryl | 1478.245364 | -0.013778082 | 0.0869799 | -0.158405 | 0.874137 | 0.987881 |
| pnpla7b | 581.4430551 | 0.016787658 | 0.1049927 | 0.1598936 | 0.872965 | 0.987846 |
| si:ch211-244a23.1 | 39.466882 | -0.132474355 | 0.3569456 | -0.371133 | 0.710538 | 0.968985 |
| scfd2 | 173.0552491 | -0.226866189 | 0.1727201 | -1.313491 | 0.189018 | 0.753954 |
| neurod6a | 343.773089 | -0.101060611 | 0.1399015 | -0.72237 | 0.470067 | 0.924787 |
| palld | 1458.90361 | 0.055961414 | 0.093224 | 0.6002895 | 0.548313 | 0.945871 |
| ebag9 | 656.5934265 | -0.181712842 | 0.1040067 | -1.747127 | 0.080615 | 0.550664 |
| gpd11 | 424.7545897 | 0.139633881 | 0.1162931 | 1.2007064 | 0.229865 | 0.79764 |
| osbpl10b | 397.2767993 | -0.008708477 | 0.1163106 | -0.074873 | 0.940316 | 0.992857 |
| tardbp | 4793.297571 | -0.069485192 | 0.0717085 | -0.968995 | 0.332548 | 0.874653 |
| trmt11 | 113.180112 | 0.042537271 | 0.1866558 | 0.2278915 | 0.819731 | 0.981594 |
| tcf19l | 37.39098639 | -0.078591903 | 0.3134968 | -0.250694 | 0.80205 | 0.979492 |
| pttglipb | 281.231755 | -0.325169829 | 0.1630596 | -1.994178 | 0.046133 | 0.421936 |
| mcm4 | 1629.512041 | 0.034672848 | 0.0844318 | 0.4106611 | 0.681321 | 0.965476 |
| cldn1 | 299.3461776 | -0.008073267 | 0.1369022 | -0.058971 | 0.952975 | 0.994151 |
| snai2 | 1183.457431 | -0.186749003 | 0.0836452 | -2.232632 | 0.025573 | 0.309666 |
| GALNTL6 | 650.8560921 | -0.104545578 | 0.1000727 | -1.044696 | 0.296163 | 0.853273 |
| gbp | 549.9575823 | -0.166531933 | 0.1032808 | -1.612419 | 0.106871 | 0.616112 |
| acp6 | 175.7783676 | 0.374649736 | 0.1796036 | 2.085981 | 0.03698 | 0.376157 |
| gja5a | 21.71152185 | 0.28937891 | 0.4076755 | 0.7098267 | 0.477812 | 0.926857 |
| coil | 146.4686796 | 0.024067844 | 0.1800423 | 0.1336788 | 0.893657 | 0.989291 |
| scpep1 | 421.4693294 | -0.180881115 | 0.1157668 | -1.562462 | 0.118179 | 0.641526 |
| pycard | 333.1057409 | 0.017143178 | 0.1392605 | 0.1231015 | 0.902027 | 0.990121 |
| flilb | 58.9812827 | -0.005380466 | 0.264646 | -0.020331 | 0.983779 | 0.996944 |
| zp3d.1 | 6.499959062 | 0.122487162 | 0.7923073 | 0.1545955 | 0.87714 | NA |
| ccsapb | 536.7833136 | -0.084995798 | 0.1033592 | -0.822334 | 0.410887 | 0.903176 |
| epb4114a | 369.0631659 | -0.052119224 | 0.1150925 | -0.452846 | 0.650659 | 0.960708 |
| si:dkey-95h12.1 | 274.2279031 | 0.487168652 | 0.1277275 | 3.8141264 | 0.000137 | 0.006329 |
| kif20bb | 152.2396799 | -0.190285966 | 0.1704055 | -1.116666 | 0.264137 | 0.830245 |
| pi4kb | 1069.928061 | 0.077375615 | 0.092797 | 0.833816 | 0.404385 | 0.901305 |
| znf366 | 9.457027917 | 0.667737315 | 0.6477067 | 1.0309255 | 0.302576 | NA |
| zgc:113232 | 1626.979049 | 0.108838681 | 0.3984242 | 0.2731728 | 0.78472 | 0.97627 |
| psma2 | 970.1784466 | -0.166838309 | 0.0964662 | -1.729499 | 0.08372 | 0.557399 |
| zfpm2a | 703.6108454 | -0.050776963 | 0.0976961 | -0.519744 | 0.603242 | 0.956045 |
| si:ch211-215k15.4 | 1.841160817 | -2.158421599 | 1.5579239 | -1.385447 | 0.165916 | NA |
| zfyve26 | 323.9594989 | 0.15550542 | 0.1234795 | 1.2593623 | 0.2079 | 0.775404 |
| ackr4b | 70.43999051 | -0.207501263 | 0.2374882 | -0.873733 | 0.382264 | 0.895192 |
| fosaa | 52.14793814 | 0.670356727 | 0.3107174 | 2.157448 | 0.030971 | 0.34077 |
| jdp2a | 71.38413058 | 0.151471515 | 0.2285288 | 0.6628114 | 0.507451 | 0.935734 |
| si:ch73-138e16.5 | 25.38929209 | 0.285061053 | 0.4156199 | 0.6858696 | 0.492795 | 0.931926 |
| nek4 | 202.1910269 | -0.118442384 | 0.1462129 | -0.810068 | 0.417901 | 0.906293 |
| grm4 | 579.062094 | 0.015668883 | 0.106259 | 0.1474594 | 0.882769 | 0.988508 |
| glt8dl | 261.6821475 | 0.186723718 | 0.1307384 | 1.4282241 | 0.153227 | 0.702508 |
| cdc42l | 2129.874691 | -0.111536488 | 0.0780486 | -1.429064 | 0.152986 | 0.702214 |
| wnt4b | 376.2004817 | 0.101408023 | 0.1182083 | 0.8578754 | 0.390961 | 0.897643 |
| zgc:92287 | 494.029835 | 0.241807736 | 0.1117635 | 2.1635659 | 0.030498 | 0.337781 |
| zgc:165461 | 1476.19776 | 0.173588823 | 0.0805686 | 2.1545478 | 0.031197 | 0.341959 |

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| priml | 269.6847482 | -0.143811556 | 0.1291613 | -1.113426 | 0.265526 | 0.831302 |
| rgsl6 | 272.0398178 | 0.065419177 | 0.1351639 | 0.4839989 | 0.628387 | 0.957354 |
| havcr1 | 36.24462076 | 0.91034366 | 0.3221865 | 2.8255177 | 0.00472 | 0.098984 |
| zgc:101562 | 65.85944133 | 0.075897107 | 0.2392719 | 0.3172002 | 0.751092 | 0.97419 |
| slc35a1 | 380.5559558 | -0.080235713 | 0.1187465 | -0.675689 | 0.499238 | 0.934006 |
| syncrip | 5318.303433 | -0.023209489 | 0.0768301 | -0.302088 | 0.762585 | 0.975374 |
| fam210ab | 205.0776386 | -0.113389798 | 0.1484767 | -0.763687 | 0.445054 | 0.916958 |
| qdpra | 405.5433753 | 0.136241995 | 0.1336228 | 1.0196014 | 0.307918 | 0.861088 |
| nenf | 279.0775258 | -0.097892018 | 0.1464028 | -0.668648 | 0.50372 | 0.935314 |
| fstl5 | 3107.944952 | 0.074727183 | 0.0749368 | 0.9972021 | 0.318666 | 0.867746 |
| BX465228.1 | 24.64652824 | 0.166183985 | 0.3863029 | 0.4301909 | 0.667057 | 0.964736 |
| scrt1b | 207.0006218 | 0.155189844 | 0.1459096 | 1.0636026 | 0.287509 | 0.845979 |
| krcp | 478.7109242 | -0.071817196 | 0.111931 | -0.64162 | 0.52112 | 0.939056 |
| si:dkey-37m8.11 | 4.604889587 | -0.850997253 | 0.8792092 | -0.967912 | 0.333088 | NA |
| mef2d | 1813.671017 | -0.065654089 | 0.0765627 | -0.857521 | 0.391157 | 0.897688 |
| kpnb3 | 3535.208763 | -0.03601801 | 0.0769617 | -0.467999 | 0.639785 | 0.959994 |
| rap2ab | 7.142916875 | -0.320655302 | 0.7814927 | -0.410311 | 0.681578 | NA |
| oxgr1a.3 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| crata | 753.7398512 | -0.087531461 | 0.104249 | -0.839638 | 0.401111 | 0.90084 |
| tlr18 | 34.87955918 | 0.396437772 | 0.3243421 | 1.2222828 | 0.221601 | 0.78829 |
| si:ch211-132g1.1 | 0.365141898 | 1.973577737 | 3.3927314 | 0.5817076 | 0.560764 | NA |
| ctsk | 574.9112848 | 0.112894943 | 0.1133321 | 0.996143 | 0.319181 | 0.867746 |
| atplala.5 | 129.4826068 | 0.211282792 | 0.1959912 | 1.0780219 | 0.281024 | 0.84357 |
| onecut1 | 390.0772726 | 0.145516056 | 0.1154595 | 1.2603213 | 0.207553 | 0.775175 |
| hormad1 | 4.671020809 | 0.006990199 | 0.8696997 | 0.0080375 | 0.993587 | NA |
| ephx2 | 389.0835397 | -0.466391032 | 0.124363 | -3.750239 | 0.000177 | 0.007729 |
| slc38a11 | 22.76206072 | -1.375256278 | 0.4171397 | -3.296872 | 0.000978 | 0.030397 |
| si:ch73-340m8.2 | 24.62501821 | 0.285262929 | 0.3887666 | 0.733764 | 0.463093 | 0.922698 |
| runx2a | 2.149092142 | -3.475601723 | 1.6113237 | -2.156985 | 0.031007 | NA |
| mpdulb | 690.8004989 | 0.020971589 | 0.095381 | 0.2198718 | 0.825971 | 0.982196 |
| sox19b | 402.4060501 | -0.066995814 | 0.1255779 | -0.5335 | 0.593687 | 0.954434 |
| scamp5b | 1230.578859 | 0.243999272 | 0.0894724 | 2.7270902 | 0.00639 | 0.122178 |
| fbxo32 | 83.26503506 | -0.264512537 | 0.2314689 | -1.142756 | 0.25314 | 0.822746 |
| klhl138b | 43.00869348 | -0.040431921 | 0.330672 | -0.122272 | 0.902684 | 0.990121 |
| zgc:110182 | 135.3962905 | -0.091290639 | 0.1774044 | -0.514591 | 0.606839 | 0.956718 |
| zgc:92590 | 2.913453164 | -1.356989124 | 1.1796197 | -1.150362 | 0.249995 | NA |
| si:dkey-79d12.5 | 382.6288442 | 0.285638803 | 0.1480996 | 1.9286937 | 0.053769 | 0.454191 |
| ubl7b | 456.5182569 | -0.136937191 | 0.1108695 | -1.235121 | 0.216786 | 0.784252 |
| ywhab1 | 12836.51532 | -0.031461513 | 0.0663994 | -0.473822 | 0.635627 | 0.958142 |
| pon3.2 | 224.8577869 | -0.046865282 | 0.152603 | -0.307106 | 0.758763 | 0.975374 |
| cadm4 | 1785.061142 | 0.102615894 | 0.0774939 | 1.3241806 | 0.185443 | 0.74928 |
| apoeb | 10150.08991 | 0.339682849 | 0.0767443 | 4.4261619 | 9.59E-06 | 0.000697 |
| apoa4b.1 | 7769.358496 | 0.369221206 | 0.0857854 | 4.3040091 | 1.68E-05 | 0.001087 |
| gtpbp10 | 258.4465651 | -0.018935792 | 0.1424921 | -0.13289 | 0.89428 | 0.989689 |
| osgin2 | 7.138672972 | 0.591938345 | 0.7365673 | 0.8036446 | 0.421602 | NA |
| nbn | 186.7437787 | -0.078495294 | 0.1707748 | -0.459642 | 0.645773 | 0.96029 |
| otomp | 744.6232737 | 0.244562609 | 0.0982282 | 2.4897402 | 0.012784 | 0.200782 |
| pxdclb | 142.7450451 | -0.172048449 | 0.1745662 | -0.985577 | 0.324341 | 0.870928 |
| prpf4bb | 738.7460715 | -0.105713557 | 0.0982248 | -1.076241 | 0.281819 | 0.843666 |
| psph | 950.7927311 | -0.033142503 | 0.105211 | -0.31501 | 0.752754 | 0.97481 |
| CABZ01041494.1 | 0.31598276 | 0.005883445 | 3.3523626 | 0.001755 | 0.9986 | NA |
| rx2 | 142.9571285 | 0.093204912 | 0.1757937 | 0.5301947 | 0.595977 | 0.954434 |
| dhx29 | 350.2564719 | -0.024705015 | 0.1282992 | -0.192558 | 0.847305 | 0.985174 |
| crfb2 | 61.53147455 | -0.019037113 | 0.2536581 | -0.07505 | 0.940175 | 0.992857 |

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| mat2aa | 2906.287405 | 0.242098719 | 0.089702 | 2.6989234 | 0.006956 | 0.12977 |
| hvcn1 | 282.7659151 | -0.073437928 | 0.1274234 | -0.57633 | 0.564392 | 0.948739 |
| rpp38 | 121.7596072 | -0.295893995 | 0.182422 | -1.62203 | 0.104797 | 0.612652 |
| crot | 670.0243882 | -0.162646721 | 0.1132511 | -1.436161 | 0.150957 | 0.698912 |
| spred3 | 591.4101115 | 0.131994304 | 0.1004751 | 1.3137016 | 0.188947 | 0.753954 |
| ehd2b | 555.1689631 | 0.093804334 | 0.1067846 | 0.878444 | 0.379703 | 0.895192 |
| tmem182a | 603.2387123 | 0.349948325 | 0.1044379 | 3.3507779 | 0.000806 | 0.025953 |
| arhgef1a | 316.1519415 | -0.066531661 | 0.1344383 | -0.494886 | 0.62068 | 0.957354 |
| mmd | 204.5937628 | 0.148411952 | 0.1468787 | 1.010439 | 0.312285 | 0.864401 |
| bcl7bb | 182.2931424 | 0.068431289 | 0.1860514 | 0.3678085 | 0.713016 | 0.96909 |
| slc25a20 | 743.1984872 | -0.122699722 | 0.1089382 | -1.126324 | 0.260028 | 0.828288 |
| usp22 | 604.7127707 | -0.016227523 | 0.1142637 | -0.142018 | 0.887066 | 0.989231 |
| acot19 | 11.32637891 | -2.221993094 | 0.648217 | -3.427854 | 0.000608 | 0.020564 |
| nptxra | 230.5205417 | 0.203331722 | 0.1576783 | 1.2895355 | 0.197212 | 0.762204 |
| klf2b | 697.8465589 | -0.106570693 | 0.0948301 | -1.123807 | 0.261095 | 0.829247 |
| cyp2k22 | | 0 NA | NA | NA | NA | NA |
| rsl24d1 | 3193.4939 | -0.262106824 | 0.0850972 | -3.080089 | 0.002069 | 0.054779 |
| snrpd2 | 1117.967879 | -0.109123692 | 0.1032311 | -1.057082 | 0.290474 | 0.846262 |
| prtgb | 3.942894484 | -0.509877687 | 0.9551967 | -0.533793 | 0.593484 | NA |
| polr2i | 253.227599 | -0.083538328 | 0.1369772 | -0.60987 | 0.541948 | 0.944974 |
| si:ch211-219a4.3 | 45.08690056 | -0.146199711 | 0.2854301 | -0.512208 | 0.608505 | 0.956718 |
| fam214a | 805.2678198 | -0.052764216 | 0.107408 | -0.491251 | 0.623249 | 0.957354 |
| wdfy2 | 611.9502608 | -0.042701689 | 0.1036647 | -0.411921 | 0.680397 | 0.965431 |
| unc50 | 297.9688498 | 0.059334311 | 0.1424122 | 0.4166377 | 0.676943 | 0.965257 |
| slc25a51b | 303.7348779 | -0.230138223 | 0.1464772 | -1.571154 | 0.116147 | 0.63841 |
| irf2 | 146.1122649 | -0.343745877 | 0.168149 | -2.044294 | 0.040925 | 0.394957 |
| vill | 2200.501873 | -0.752315887 | 0.0769409 | -9.77784 | 1.40E-22 | 1.75E-19 |
| enpp6 | 173.6159168 | 0.107158921 | 0.1582619 | 0.6770987 | 0.498343 | 0.933963 |
| snx10b | 6.681189336 | 0.481663238 | 0.7989515 | 0.6028692 | 0.546596 | NA |
| lrp2bp | 8.59619519 | -0.037383103 | 0.6725287 | -0.055586 | 0.955672 | NA |
| cga | 63.36302388 | 0.488153526 | 0.2590165 | 1.8846428 | 0.059478 | 0.476934 |
| osbp13b | 187.604262 | 0.071699375 | 0.1565217 | 0.4580794 | 0.646895 | 0.960362 |
| gsdmeb | 82.45943204 | -0.285371179 | 0.2197412 | -1.29867 | 0.194057 | 0.75784 |
| zgc:113176 | 101.8295198 | -0.330019322 | 0.1975653 | -1.670431 | 0.094834 | 0.585466 |
| dusp19a | 7.885724441 | -0.357933085 | 0.6823692 | -0.524545 | 0.5999 | NA |
| mthfd1b | 1026.309654 | -0.27742988 | 0.0933619 | -2.971553 | 0.002963 | 0.071451 |
| BX004816.1 | | 0 NA | NA | NA | NA | NA |
| sb:cb81 | 591.1013524 | -0.105132841 | 0.1120125 | -0.938581 | 0.347946 | 0.880195 |
| yif1b | 305.3178584 | 0.053627271 | 0.1299494 | 0.4126782 | 0.679842 | 0.965311 |
| cal5b | 3.023708727 | 0.386810357 | 1.1341993 | 0.3410427 | 0.733071 | NA |
| zgc:92313 | 383.3405662 | -0.051704641 | 0.1310074 | -0.394669 | 0.693087 | 0.96736 |
| smpd2a | 106.163724 | 0.47280812 | 0.2122303 | 2.227807 | 0.025893 | 0.310878 |
| slpr5a | 160.3376708 | -0.022006417 | 0.1624585 | -0.135459 | 0.892249 | 0.989291 |
| siae | 159.5388854 | 0.215041562 | 0.1782671 | 1.2062886 | 0.227706 | 0.794934 |
| lgals3bpb | 79.23032867 | 0.871829838 | 0.2521079 | 3.458162 | 0.000544 | 0.019035 |
| epcam | 6966.429534 | 0.039719949 | 0.0920348 | 0.4315754 | 0.66605 | 0.964736 |
| csgalnact1a | 260.2781407 | 0.256169286 | 0.1406654 | 1.821125 | 0.068588 | 0.513124 |
| ftr90 | 0.999705014 | 0.975110312 | 1.9871203 | 0.4907153 | 0.623628 | NA |
| spsb4b | 188.9986057 | -0.476689574 | 0.1555503 | -3.064537 | 0.00218 | 0.057157 |
| b3gat1a | 78.14420295 | 0.378577594 | 0.2243346 | 1.6875575 | 0.091496 | 0.57849 |
| tmem97 | 167.461055 | -0.074072679 | 0.1741583 | -0.425318 | 0.670605 | 0.965257 |
| bckdha | 1176.796073 | 0.088547618 | 0.0799733 | 1.1072154 | 0.268201 | 0.833475 |
| ift20 | 198.3116101 | 0.08655472 | 0.1482533 | 0.5838299 | 0.559335 | 0.948478 |
| exosc5 | 209.4387512 | -0.235843954 | 0.1489043 | -1.583862 | 0.113225 | 0.631061 |

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| rad1 | 111.4614685 | -0.123827945 | 0.1981103 | -0.625045 | 0.531941 | 0.942359 |
| hnrnpull | 2001.715558 | -0.1530226 | 0.0721787 | -2.120051 | 0.034002 | 0.359162 |
| ckmb | 48874.75142 | 0.209636205 | 0.1066419 | 1.9657951 | 0.049322 | 0.435504 |
| phykpl | 92.56659149 | -0.073102623 | 0.2202728 | -0.331873 | 0.739985 | 0.972943 |
| pdzd3a | 51.91923269 | -0.470134357 | 0.2780831 | -1.690626 | 0.090908 | 0.577827 |
| ube4a | 445.0908709 | 0.103724128 | 0.1126468 | 0.9207907 | 0.35716 | 0.883583 |
| c18h3orf33 | 32.19906941 | -0.014765823 | 0.3381156 | -0.043671 | 0.965167 | 0.996154 |
| eeflakmt1 | 170.8167376 | 0.136180276 | 0.157028 | 0.8672357 | 0.385813 | 0.89551 |
| v2rh32 | 2.980751047 | 0.298946829 | 1.1109496 | 0.2690913 | 0.787859 | NA |
| CU570684.1 | | 0 NA | NA | NA | NA | NA |
| tfap2c | 958.0358273 | -0.026389772 | 0.0910767 | -0.289753 | 0.772005 | 0.975687 |
| rtf2 | 747.3631258 | -0.063613572 | 0.0907749 | -0.700784 | 0.483438 | 0.929461 |
| gcnt7 | 125.2378476 | -0.094781295 | 0.1901237 | -0.498524 | 0.618114 | 0.957354 |
| si:ch73-352p4.8 | 208.7226034 | 0.127606415 | 0.1465068 | 0.8709933 | 0.383758 | 0.895192 |
| sestd1 | 1129.307327 | -0.050514829 | 0.0836813 | -0.603658 | 0.546071 | 0.945526 |
| ilkap | 137.0915984 | 0.157019354 | 0.1784048 | 0.8801295 | 0.378789 | 0.895192 |
| psmg1 | 362.9283533 | -0.114785154 | 0.1178188 | -0.974252 | 0.329932 | 0.874009 |
| lrrc32 | 32.59023459 | -0.042140388 | 0.3448165 | -0.122211 | 0.902732 | 0.990121 |
| fosl2 | 556.9992562 | 0.161141528 | 0.1022163 | 1.5764751 | 0.114916 | 0.635519 |
| grik1b | 191.6694124 | 0.169674114 | 0.1499446 | 1.1315787 | 0.257812 | 0.825314 |
| zgc:110333 | 363.434473 | -0.141257356 | 0.1199018 | -1.178109 | 0.238753 | 0.807768 |
| v2rx1 | 3.662393904 | -0.578186097 | 1.0920696 | -0.529441 | 0.5965 | NA |
| PRMT8 | 9.05958791 | -0.366392585 | 0.6352599 | -0.57676 | 0.564101 | NA |
| rnfl1b | 174.2772974 | 0.136420659 | 0.1623493 | 0.8402908 | 0.400745 | 0.90084 |
| si:ch73-44m9.3 | 0.339758314 | 0.005883863 | 3.2682461 | 0.0018003 | 0.998564 | NA |
| ccr10 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| pxylp1 | 345.0090606 | 0.154045903 | 0.1221638 | 1.2609785 | 0.207317 | 0.775175 |
| prickle1a | 290.5744149 | -0.038393862 | 0.1257633 | -0.305287 | 0.760148 | 0.975374 |
| gps1 | 862.4538192 | 0.045532064 | 0.0885055 | 0.5144549 | 0.606934 | 0.956718 |
| wipil | 485.6225404 | -0.134771561 | 0.1090854 | -1.235468 | 0.216656 | 0.78407 |
| nifk | 397.9673637 | 0.059722666 | 0.1340331 | 0.4455816 | 0.6559 | 0.961833 |
| lrrc51 | 4.528134411 | -0.800971598 | 0.9491602 | -0.843874 | 0.39874 | NA |
| ctdsp1 | 734.5196111 | -0.077264554 | 0.0961192 | -0.803841 | 0.421489 | 0.90651 |
| ccdc93 | 277.2728485 | -0.167281463 | 0.1313938 | -1.273131 | 0.202972 | 0.769914 |
| MEP1B | 20.12876503 | -1.034087526 | 0.4340806 | -2.382248 | 0.017207 | 0.242176 |
| plcd4b | 68.99671931 | -0.054547839 | 0.2488949 | -0.21916 | 0.826525 | 0.982253 |
| fkbp14 | 195.0418667 | 0.190928659 | 0.1626145 | 1.174118 | 0.240348 | 0.808437 |
| plekha8 | 271.1356691 | 0.144964329 | 0.1414219 | 1.0250485 | 0.30534 | 0.85982 |
| nabl1b | 13.41437195 | -0.309180978 | 0.5322916 | -0.580849 | 0.561342 | 0.948728 |
| si:ch211-113j13.2 | 1.528634823 | -1.028202071 | 1.6599902 | -0.619402 | 0.535651 | NA |
| BX936415.1 | 11.7883464 | 0.597436271 | 0.5824876 | 1.0256635 | 0.30505 | 0.859636 |
| glsb | 506.1982576 | 0.16784627 | 0.10838 | 1.5486828 | 0.121458 | 0.647929 |
| chchd4b | 117.3853322 | -0.233678399 | 0.201616 | -1.159027 | 0.246445 | 0.816419 |
| adprh | 123.5685869 | -0.088743475 | 0.1790322 | -0.495684 | 0.620117 | 0.957354 |
| rbbp9 | 281.007172 | -0.279174983 | 0.133944 | -2.084266 | 0.037136 | 0.377158 |
| macc1 | 242.4732966 | 0.077620869 | 0.1347213 | 0.5761589 | 0.564508 | 0.948739 |
| zgc:114130 | 228.8485589 | -0.157336398 | 0.1391778 | -1.13047 | 0.258278 | 0.826273 |
| tfblm | 66.0821544 | -0.050142106 | 0.237766 | -0.210889 | 0.832974 | 0.983557 |
| wdr75 | 626.5193519 | -0.084996948 | 0.1036083 | -0.820369 | 0.412006 | 0.904218 |
| elav12 | 5.091563745 | -0.114664671 | 0.8490789 | -0.135046 | 0.892576 | NA |
| crygm6 | | 0 NA | NA | NA | NA | NA |
| crygm7 | 2.238892264 | -1.864255946 | 1.5779697 | -1.181427 | 0.237433 | NA |
| zgc:153846 | 0.982760668 | 0.918233209 | 2.0855726 | 0.4402787 | 0.659735 | NA |
| kcnabl1b | 230.2656091 | 0.240943962 | 0.1431271 | 1.683426 | 0.092293 | 0.57849 |

| | | | | | | |
|------------------|-------------|--------------|-----------|-----------|----------|----------|
| tm4sf4 | 659.4679375 | -0.652393577 | 0.108169 | -6.031243 | 1.63E-09 | 3.19E-07 |
| idl | 362.4292529 | -0.410377569 | 0.1264051 | -3.246527 | 0.001168 | 0.034842 |
| drd6b | 4.767032681 | -0.909906495 | 0.8890603 | -1.023447 | 0.306096 | NA |
| inhbb | 269.5750616 | -0.010300131 | 0.1287915 | -0.079975 | 0.936257 | 0.992702 |
| ralba | 182.3931182 | 0.143068206 | 0.1691427 | 0.8458432 | 0.39764 | 0.899672 |
| med16 | 314.9372284 | 0.03549129 | 0.128955 | 0.2752224 | 0.783145 | 0.97627 |
| sult3st4 | 57.08994082 | -0.852949505 | 0.3310426 | -2.576555 | 0.009979 | 0.170402 |
| sst1.1 | 398.7720153 | 0.031796897 | 0.1195348 | 0.2660054 | 0.790235 | 0.977338 |
| lactb | 234.1380919 | -0.101373877 | 0.1381362 | -0.733869 | 0.463029 | 0.922698 |
| ncf4 | 26.7703315 | -0.04506753 | 0.3699338 | -0.121826 | 0.903037 | 0.990121 |
| tsku | 299.7730154 | -0.102864904 | 0.1311068 | -0.784588 | 0.432695 | 0.91326 |
| si:dkey-27n14.1 | 21.52544847 | 0.509642686 | 0.4182781 | 1.2184302 | 0.223061 | 0.789115 |
| fundc1 | 967.0029532 | 0.041894554 | 0.0960531 | 0.4361603 | 0.66272 | 0.964665 |
| dcun1d2a | 717.4251087 | 0.246252038 | 0.0918614 | 2.6806924 | 0.007347 | 0.13527 |
| adra2a | 57.79083828 | -0.048457723 | 0.2552768 | -0.189824 | 0.849447 | 0.985174 |
| plekhh2 | 72.15860604 | -0.03130234 | 0.2267471 | -0.13805 | 0.890201 | 0.989291 |
| shoc2 | 420.2686886 | 0.120460503 | 0.1136515 | 1.0599113 | 0.289185 | 0.845979 |
| tsg101a | 846.5565614 | 0.142854256 | 0.1110864 | 1.2859743 | 0.198452 | 0.763597 |
| tcf25 | 377.3984378 | -0.032805768 | 0.1146421 | -0.286158 | 0.774757 | 0.975687 |
| si:dkey-286j15.1 | 966.5752336 | -0.227855541 | 0.0951857 | -2.393799 | 0.016675 | 0.2379 |
| uppl | 7.597698275 | -0.011071086 | 0.6939936 | -0.015953 | 0.987272 | NA |
| add3a | 1152.880238 | -0.006384417 | 0.0850334 | -0.075081 | 0.94015 | 0.992857 |
| hnrnph1 | 324.1781701 | 0.073024682 | 0.1328991 | 0.5494744 | 0.58268 | 0.952214 |
| mxil | 2042.363852 | -0.0678701 | 0.0780788 | -0.869251 | 0.38471 | 0.89551 |
| fdps | 746.6131943 | -0.032379021 | 0.0974262 | -0.332344 | 0.739629 | 0.972943 |
| gpa33b | 28.67319868 | -0.945176073 | 0.39463 | -2.395094 | 0.016616 | 0.237747 |
| si:dkey-11d18.4 | 0.515216064 | 0.926382026 | 2.6525479 | 0.3492423 | 0.726907 | NA |
| si:ch73-113g13.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| gcgb | 180.9175222 | 0.492063809 | 0.1678791 | 2.931061 | 0.003378 | 0.077672 |
| ildr1b | 208.0533993 | -0.39738132 | 0.1548887 | -2.565592 | 0.0103 | 0.174078 |
| meox2a | 17.91527377 | 0.271849063 | 0.4494236 | 0.6048838 | 0.545256 | 0.945526 |
| kdelr3 | 270.0077629 | -0.049743277 | 0.1308702 | -0.380096 | 0.703874 | 0.968134 |
| cbfb | 934.1631652 | -0.14906006 | 0.1065329 | -1.399193 | 0.161755 | 0.716022 |
| si:dkey-49n23.1 | 580.8287907 | 0.147743502 | 0.1115713 | 1.3242072 | 0.185434 | 0.74928 |
| zmp:0000000606 | 1.642507947 | 1.187327128 | 1.5663803 | 0.7580069 | 0.448447 | NA |
| wnt10b | 34.40468365 | -0.333671554 | 0.3329056 | -1.002301 | 0.316198 | 0.866931 |
| nr2f2 | 3055.120537 | 0.08840521 | 0.0770346 | 1.147604 | 0.251132 | 0.820469 |
| depor | 359.6419118 | -0.046681235 | 0.1250842 | -0.373199 | 0.709001 | 0.968664 |
| ssuh2.1 | 4.457643678 | -0.094544898 | 0.8778982 | -0.107695 | 0.914238 | NA |
| pnp6 | 285.2633007 | 0.217992521 | 0.1478732 | 1.4741856 | 0.140432 | 0.680611 |
| ntd5 | 544.8268121 | 0.006614221 | 0.10738 | 0.0615964 | 0.950884 | 0.99381 |
| olig2 | 261.4422516 | 0.005409466 | 0.1427901 | 0.037884 | 0.96978 | 0.996315 |
| olig1 | 76.82562879 | 0.214865718 | 0.2349237 | 0.9146192 | 0.360392 | 0.885686 |
| dharma | 0.476747244 | 2.393381959 | 3.0525537 | 0.7840589 | 0.433006 | NA |
| rab13 | 96.30756793 | 0.149521813 | 0.2059154 | 0.7261322 | 0.467758 | 0.924328 |
| zgc:101731 | 53.2063026 | 0.042633152 | 0.2664921 | 0.159979 | 0.872898 | 0.987846 |
| zgc:113149 | 378.8255138 | 0.074722126 | 0.1154999 | 0.6469453 | 0.517667 | 0.938592 |
| zgc:92606 | 1522.918092 | -0.361815913 | 0.0921368 | -3.926943 | 8.60E-05 | 0.004322 |
| fgf14 | 150.4477176 | 0.093755723 | 0.1640534 | 0.5714951 | 0.567664 | 0.948739 |
| hspal3 | 163.3975762 | 0.257600038 | 0.166758 | 1.5447542 | 0.122406 | 0.650311 |
| itgbl1 | 388.6626875 | 0.275974253 | 0.1155946 | 2.3874317 | 0.016967 | 0.240499 |
| tpilb | 7595.493201 | -0.084152288 | 0.070413 | -1.195124 | 0.232039 | 0.800126 |
| usp37 | 478.5453629 | 0.160199542 | 0.1071254 | 1.4954395 | 0.1348 | 0.670689 |
| cttnbp2 | 1216.775276 | 0.118806822 | 0.0858254 | 1.3842853 | 0.166271 | 0.722887 |

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| or102-4 | 0.514116189 | -2.475533565 | 2.7461255 | -0.901464 | 0.367342 | NA |
| or102-1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| st3gal4 | 173.3988072 | 0.235327147 | 0.1621067 | 1.4516801 | 0.146591 | 0.692967 |
| AL845428.1 | 0.792850356 | 1.849779641 | 2.4264239 | 0.7623481 | 0.445852 | NA |
| gemin7 | 135.7279901 | -0.208753441 | 0.1832606 | -1.139107 | 0.254658 | 0.823484 |
| or111-11 | 10.8414807 | -0.009929081 | 0.5769028 | -0.017211 | 0.986268 | NA |
| pdcd4b | 1008.704197 | -0.089911371 | 0.0922077 | -0.975096 | 0.329513 | 0.873467 |
| or111-6 | 3.383973964 | 0.608146579 | 1.0352029 | 0.5874661 | 0.556891 | NA |
| or111-1 | 6.216622346 | 0.765143446 | 0.7970714 | 0.9599434 | 0.337084 | NA |
| or107-1 | 5.392844037 | 1.370583886 | 0.8564365 | 1.6003334 | 0.109525 | NA |
| or119-2 | 18.53612172 | 0.613988385 | 0.4531916 | 1.3548096 | 0.175478 | 0.736242 |
| zgc:152857 | 5.798168009 | 0.469225196 | 0.861735 | 0.5445122 | 0.586089 | NA |
| piga | 124.9971723 | 0.199448791 | 0.1958592 | 1.0183276 | 0.308522 | 0.861088 |
| cxcr3.2 | 28.7237848 | 1.125470237 | 0.3822028 | 2.9446942 | 0.003233 | 0.07565 |
| midlip1a | 955.5778374 | 0.060966362 | 0.0900663 | 0.6769054 | 0.498466 | 0.934006 |
| lgals913 | 216.9402976 | -0.288234765 | 0.1404844 | -2.051721 | 0.040197 | 0.392132 |
| calb2a | 3500.471698 | -0.034337879 | 0.0728346 | -0.47145 | 0.637319 | 0.958872 |
| hspb1 | 331.2810145 | -0.05275264 | 0.1461815 | -0.360871 | 0.718196 | 0.96909 |
| got2a | 1291.368562 | 0.253486302 | 0.0857252 | 2.9569638 | 0.003107 | 0.073687 |
| jagn1a | 248.2017283 | -0.054250657 | 0.1371526 | -0.39555 | 0.692437 | 0.96736 |
| mier1a | 339.3132963 | -0.029808999 | 0.1203411 | -0.247704 | 0.804363 | 0.979643 |
| si:dkey-12e7.4 | 25.92280921 | 0.020398515 | 0.3762047 | 0.0542219 | 0.956758 | 0.994543 |
| chka | 809.5295328 | -0.026828456 | 0.0970832 | -0.276345 | 0.782283 | 0.97627 |
| thap3 | 43.35362915 | -0.160913359 | 0.3137587 | -0.512857 | 0.608051 | 0.956718 |
| kmt5b | 1196.939827 | 0.103348237 | 0.0971494 | 1.063807 | 0.287416 | 0.845979 |
| anpepa | 91.32373791 | -1.051588283 | 0.2125791 | -4.946808 | 7.54E-07 | 7.89E-05 |
| arpin | 129.2765139 | -0.315990895 | 0.1904582 | -1.659109 | 0.097094 | 0.593855 |
| L0018380.1 | 11.18543119 | -0.036288092 | 0.5697619 | -0.06369 | 0.949217 | 0.99381 |
| pgpep11 | 10.52685606 | 0.706790513 | 0.5883733 | 1.2012621 | 0.22965 | NA |
| barx2 | 85.9749261 | 0.054118203 | 0.2313481 | 0.2339254 | 0.815043 | 0.981081 |
| cftr | 96.1128936 | -0.083001443 | 0.2131189 | -0.389461 | 0.696935 | 0.96736 |
| ctsh | 236.1396542 | 0.030012185 | 0.1457406 | 0.2059288 | 0.836847 | 0.984636 |
| dnajc3a | 414.0351849 | -0.024424187 | 0.1129522 | -0.216235 | 0.828805 | 0.982721 |
| wdr18 | 327.1463103 | -0.08082518 | 0.1186649 | -0.681121 | 0.495795 | 0.932377 |
| cnfn | 171.5058641 | 0.123453428 | 0.1706411 | 0.7234682 | 0.469392 | 0.924505 |
| wnt2 | 47.41501638 | -0.227623728 | 0.2799237 | -0.813164 | 0.416124 | 0.906237 |
| ceacam1 | 1516.308445 | 0.17364832 | 0.0857806 | 2.0243309 | 0.042936 | 0.407008 |
| rapsn | 239.2728677 | 0.216528714 | 0.1453466 | 1.4897405 | 0.136292 | 0.673089 |
| dhrrs13a.3 | 345.5871768 | 0.19642337 | 0.1188188 | 1.6531332 | 0.098304 | 0.597502 |
| ddb2 | 600.532925 | 0.012473961 | 0.109379 | 0.1140434 | 0.909203 | 0.990702 |
| crybala | 97.64339286 | 0.158950775 | 0.2023144 | 0.785662 | 0.432066 | 0.912882 |
| paqr5a | 75.40081048 | -0.162779938 | 0.2333172 | -0.697677 | 0.485379 | 0.930209 |
| slc17a6b | 1801.425853 | 0.2310114 | 0.0868904 | 2.6586527 | 0.007845 | 0.142065 |
| morf411 | 956.3766641 | -0.075672701 | 0.0891218 | -0.849093 | 0.39583 | 0.899464 |
| si:ch211-63p21.4 | 2.851356728 | -0.140069982 | 1.1048656 | -0.126776 | 0.899118 | NA |
| rab32b | 5.148286498 | -1.266885892 | 0.8578842 | -1.476756 | 0.139741 | NA |
| aagab | 321.5819203 | 0.079589116 | 0.1233794 | 0.6450762 | 0.518878 | 0.938919 |
| crygs2 | 0.804086858 | -1.860428069 | 2.2645275 | -0.821552 | 0.411332 | NA |
| adralbb | 12.8009953 | 0.915852817 | 0.5665037 | 1.6166757 | 0.105948 | 0.615567 |
| crygm5 | 495.4747322 | 0.035417563 | 0.1050449 | 0.337166 | 0.735992 | 0.972535 |
| rpl4 | 27581.11548 | -0.247866871 | 0.0729997 | -3.395449 | 0.000685 | 0.02277 |
| alg12 | 168.283354 | -0.060562781 | 0.1639359 | -0.36943 | 0.711807 | 0.969006 |
| drapl | 1558.578937 | -0.081169175 | 0.0954061 | -0.850775 | 0.394894 | 0.899087 |
| slc6a11 | 133.2640838 | -0.117954499 | 0.1734435 | -0.680075 | 0.496457 | 0.932461 |

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| cetn4 | 186.6366618 | -0.098934006 | 0.1527392 | -0.647732 | 0.517158 | 0.938592 |
| xpo6 | 851.3691299 | -0.022884875 | 0.1161995 | -0.196945 | 0.843871 | 0.985174 |
| ftr53 | 10.73237355 | 0.860974012 | 0.5826149 | 1.4777756 | 0.139468 | NA |
| zmp:0000000608 | 0.814536469 | 0.637862482 | 2.230678 | 0.28595 | 0.774916 | NA |
| fam173a | 152.6916144 | -0.051601751 | 0.1692688 | -0.304851 | 0.76048 | 0.975374 |
| cdc40 | 773.8290355 | -0.365652123 | 0.1027935 | -3.557151 | 0.000375 | 0.014067 |
| rps29 | 6730.201574 | -0.309091221 | 0.1804707 | -1.712695 | 0.086769 | 0.564768 |
| med18 | 65.93971116 | 0.234648593 | 0.2475364 | 0.9479357 | 0.343162 | 0.878434 |
| wdr20b | 122.0782021 | -0.131396244 | 0.2007527 | -0.654518 | 0.512778 | 0.936253 |
| setdb1a | 590.4257254 | -0.107140908 | 0.1005504 | -1.065545 | 0.28663 | 0.845942 |
| si:dkey-24117.6 | 0.840359184 | -3.190376554 | 2.3269423 | -1.37106 | 0.170356 | NA |
| gemin4 | 6.674862874 | -0.289532775 | 0.7248148 | -0.399458 | 0.689556 | NA |
| smtn11 | 72.52738764 | 0.304344246 | 0.2434116 | 1.2503276 | 0.21118 | 0.77879 |
| si:ch211-231m23.4 | 1.197759375 | -0.38361194 | 1.8179428 | -0.211014 | 0.832876 | NA |
| noxola | 421.8016773 | -0.862426262 | 0.1500582 | -5.74728 | 9.07E-09 | 1.55E-06 |
| lim2.5 | 491.530909 | 0.044677466 | 0.110759 | 0.4033755 | 0.686672 | 0.966376 |
| zgc:110796 | 68.28013773 | -0.036338038 | 0.2412171 | -0.150645 | 0.880256 | 0.987881 |
| drc3 | 66.76165782 | 0.106124869 | 0.2519549 | 0.4212058 | 0.673605 | 0.965257 |
| crybb3 | 4.106728178 | -0.314439161 | 0.9580361 | -0.328212 | 0.742751 | NA |
| trakla | 448.6774456 | -0.013935856 | 0.1271887 | -0.109568 | 0.912752 | 0.991119 |
| mrps25 | 841.1417233 | -0.056985195 | 0.0955134 | -0.59662 | 0.550761 | 0.946549 |
| ndufb9 | 2091.311358 | -0.024234127 | 0.0811082 | -0.298788 | 0.765102 | 0.975374 |
| rangapla | 847.8873376 | -0.206893222 | 0.1002149 | -2.064496 | 0.038971 | 0.387434 |
| csdc2a | 864.7166134 | -0.027796272 | 0.0910713 | -0.305214 | 0.760203 | 0.975374 |
| tmem33 | 915.7351375 | -0.013060156 | 0.1022367 | -0.127744 | 0.898351 | 0.990121 |
| si:dkey-125e8.4 | 6.507432229 | 0.140654576 | 0.7632028 | 0.1842951 | 0.853782 | NA |
| zgc:92380 | 1062.671474 | 0.112156482 | 0.0861097 | 1.3024835 | 0.192751 | 0.756795 |
| mrpl51 | 678.5334483 | 0.03030715 | 0.1004121 | 0.3018277 | 0.762783 | 0.975374 |
| cyp19a1a | 1.504272046 | -0.28893243 | 1.4975093 | -0.192942 | 0.847004 | NA |
| ankrd39 | 56.35459437 | -0.090852489 | 0.2729182 | -0.332893 | 0.739215 | 0.972732 |
| lgi3 | 61.78701651 | 0.252205809 | 0.2479951 | 1.016979 | 0.309163 | 0.861381 |
| zgc:161969 | 477.434875 | -0.003122619 | 0.1033825 | -0.030205 | 0.975904 | 0.996762 |
| ttk | 377.7211697 | -0.03859304 | 0.121377 | -0.31796 | 0.750515 | 0.97419 |
| chmp7 | 449.1436598 | 0.016567517 | 0.1090237 | 0.1519625 | 0.879217 | 0.987881 |
| dctn3 | 988.8015041 | -0.021958648 | 0.0890731 | -0.246524 | 0.805277 | 0.979883 |
| zgc:136564 | 190.2135825 | -0.579290986 | 0.1804328 | -3.210564 | 0.001325 | 0.038636 |
| si:ch211-57i17.5 | 3.351088384 | -0.556567768 | 1.1081597 | -0.502245 | 0.615495 | NA |
| rmil | 85.15189643 | -0.039576188 | 0.2238056 | -0.176833 | 0.85964 | 0.985773 |
| sh2d4a | 71.60692567 | -0.538044829 | 0.2368593 | -2.27158 | 0.023112 | 0.291648 |
| si:ch211-245j22.3 | 14.11102531 | 0.447889203 | 0.5052068 | 0.8865463 | 0.375323 | 0.894316 |
| arnt12 | 173.4811457 | -0.192972266 | 0.1612076 | -1.197042 | 0.23129 | 0.799569 |
| si:dkey-283b15.2 | 203.671369 | -0.042007864 | 0.1459302 | -0.287863 | 0.773452 | 0.975687 |
| si:dkey-81n2.1 | 0.815164977 | -0.617697568 | 2.1259573 | -0.29055 | 0.771395 | NA |
| tmed10 | 2910.445926 | -0.081886445 | 0.0734797 | -1.11441 | 0.265103 | 0.831033 |
| dnajblb | 296.8533627 | -0.09333498 | 0.1283996 | -0.72691 | 0.467281 | 0.924328 |
| EIF2B2 | 456.6366186 | 0.256487223 | 0.1171522 | 2.18935 | 0.028571 | 0.328246 |
| adgre7 | | 0 NA | NA | NA | NA | NA |
| ndufa3 | 970.6639793 | 0.009802477 | 0.1230956 | 0.079633 | 0.936529 | 0.992702 |
| zc3h14 | 618.0410763 | -0.27510988 | 0.1049947 | -2.620226 | 0.008787 | 0.155004 |
| rmdn3 | 331.9269746 | -0.004091926 | 0.1286242 | -0.031813 | 0.974621 | 0.996579 |
| rad51 | 397.8158496 | -0.505818234 | 0.1235206 | -4.095012 | 4.22E-05 | 0.002358 |
| adgrg11 | 5.290010159 | 0.904667154 | 0.8594737 | 1.0525827 | 0.292532 | NA |
| bmf2 | 168.8276241 | -0.022037627 | 0.1587769 | -0.138796 | 0.889611 | 0.989291 |
| atp6apla | 3291.262052 | 0.052225985 | 0.0770437 | 0.677875 | 0.497851 | 0.933482 |

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|------------------|-------------|--------------|-----------|-----------|----------|----------|
| taz | 308.6021936 | -0.057741863 | 0.1347538 | -0.428499 | 0.668288 | 0.964736 |
| yrdc | 204.9508422 | 0.322682351 | 0.1459855 | 2.210372 | 0.027079 | 0.317032 |
| ints14 | 446.8701194 | -0.07585216 | 0.1119116 | -0.677786 | 0.497907 | 0.933499 |
| bmp2b | 213.6781436 | 0.067394333 | 0.1483894 | 0.4541721 | 0.649705 | 0.960708 |
| slc24a1 | 88.20656621 | 0.286749479 | 0.2333966 | 1.2285934 | 0.219224 | 0.785734 |
| si:dkey-7c18.24 | 198.5728601 | -0.418394929 | 0.1958097 | -2.136742 | 0.032619 | 0.352078 |
| uba52 | 9959.880505 | -0.237445608 | 0.102704 | -2.311942 | 0.020781 | 0.272632 |
| spred1 | 773.6233072 | 0.107064579 | 0.0914855 | 1.1702898 | 0.241884 | 0.810713 |
| rab11a | 4482.396939 | 0.024722035 | 0.0711567 | 0.347431 | 0.728268 | 0.970402 |
| taar12b | 0.656489935 | -1.4754824 | 2.3018704 | -0.640993 | 0.521527 | NA |
| pimr183 | 0.48983248 | -0.887840757 | 2.6934859 | -0.329625 | 0.741683 | NA |
| smg5 | 1242.743615 | 0.012499992 | 0.0840629 | 0.1486981 | 0.881792 | 0.988344 |
| paqr6 | 205.0944052 | 0.459954046 | 0.1561751 | 2.9451186 | 0.003228 | 0.07565 |
| afp4 | 216.6667932 | -0.471282164 | 0.5641705 | -0.835354 | 0.403518 | 0.900979 |
| si:ch211-196f5.2 | 71.33159104 | -0.070596191 | 0.2495811 | -0.282859 | 0.777285 | 0.975826 |
| ipo4 | 554.5583943 | 0.060841182 | 0.1049082 | 0.5799471 | 0.56195 | 0.948728 |
| tgfb1a | 578.7097088 | 0.17350206 | 0.1047452 | 1.6564197 | 0.097637 | 0.596644 |
| med4 | 219.4081284 | -0.125892776 | 0.1557875 | -0.808106 | 0.41903 | 0.906406 |
| itm2bb | 1839.910689 | 0.037792795 | 0.1068283 | 0.3537715 | 0.72351 | 0.970402 |
| pex10 | 57.34277409 | 0.039716497 | 0.255624 | 0.1553708 | 0.876529 | 0.987881 |
| rasal1b | 7.700903255 | -0.112788871 | 0.6879283 | -0.163954 | 0.869767 | NA |
| ppih | 306.1863265 | -0.25362322 | 0.1313526 | -1.930858 | 0.053501 | 0.453265 |
| ccdc130 | 128.0735059 | -0.281126343 | 0.1864923 | -1.507442 | 0.131697 | 0.665187 |
| mrps28 | 215.3496227 | -0.00941193 | 0.149391 | -0.063002 | 0.949765 | 0.99381 |
| sult1st2 | 15.79534637 | 0.141144021 | 0.4901397 | 0.2879669 | 0.773372 | 0.975687 |
| gypc | 123.0827119 | 0.221414438 | 0.1929021 | 1.1478076 | 0.251048 | 0.820469 |
| pimr138 | 4.978701137 | 0.964804048 | 0.9076507 | 1.0629684 | 0.287796 | NA |
| unc93a | 7.698531823 | -0.245720592 | 0.7036695 | -0.349199 | 0.72694 | NA |
| si:dkey-102f14.5 | 103.1929575 | -0.027475168 | 0.1934401 | -0.142035 | 0.887053 | 0.989231 |
| tnfaip1 | 194.8756979 | 0.317774352 | 0.1517312 | 2.0943241 | 0.036231 | 0.37198 |
| ces2 | 4278.817847 | 0.036322816 | 0.2143195 | 0.1694798 | 0.865419 | 0.986385 |
| mrpl39 | 454.4844839 | -0.112165863 | 0.1062611 | -1.055568 | 0.291166 | 0.846582 |
| zfpml | 241.2958295 | -0.448767766 | 0.1526436 | -2.939971 | 0.003282 | 0.076541 |
| trmt10c | 119.6784221 | -0.081241449 | 0.1861205 | -0.436499 | 0.662475 | 0.964665 |
| nudt18 | 100.3666823 | -0.194110609 | 0.2100698 | -0.924029 | 0.355471 | 0.882386 |
| znf143b | 427.4811738 | 0.196204731 | 0.1107016 | 1.772375 | 0.076332 | 0.538373 |
| dhx40 | 134.2254437 | -0.073159051 | 0.176757 | -0.413896 | 0.67895 | 0.965257 |
| adprh11 | 38.54405737 | -0.124034579 | 0.3242705 | -0.382503 | 0.702088 | 0.968134 |
| dcun1d2b | 771.0918705 | -0.145254277 | 0.109328 | -1.32861 | 0.183977 | 0.747376 |
| ces3 | 1957.294547 | -0.204369533 | 0.2893122 | -0.706398 | 0.479941 | 0.927154 |
| zgc:91860 | 1472.144785 | 0.008763193 | 0.0816271 | 0.1073564 | 0.914506 | 0.991119 |
| wdr83 | 112.1093858 | -0.017457992 | 0.189031 | -0.092355 | 0.926416 | 0.992702 |
| zgc:92335 | 304.3669323 | -0.117790355 | 0.1263082 | -0.932563 | 0.351046 | 0.880473 |
| eif4ebp31 | 1055.089363 | -0.303620767 | 0.1177297 | -2.578966 | 0.00991 | 0.169473 |
| adarb1a | 616.1369962 | 0.080133948 | 0.1051758 | 0.761905 | 0.446117 | 0.917154 |
| b3gnt9 | 32.10438204 | 0.725225528 | 0.3545431 | 2.0455216 | 0.040803 | 0.394957 |
| nme5 | 40.35101122 | -0.207493419 | 0.3109127 | -0.667369 | 0.504537 | 0.935617 |
| rack1 | 31085.24002 | -0.279433479 | 0.0824026 | -3.391076 | 0.000696 | 0.023059 |
| bbs2 | 663.6627794 | 0.179613107 | 0.0999856 | 1.7963904 | 0.072432 | 0.526156 |
| mt2 | 892.1054631 | 0.010379975 | 0.1135453 | 0.091417 | 0.927161 | 0.992702 |
| fam192a | 506.8190437 | -0.126095658 | 0.1025337 | -1.229798 | 0.218773 | 0.785734 |
| si:dkey-194e6.1 | 89.07259207 | 0.616772146 | 0.2228601 | 2.7675304 | 0.005648 | 0.112817 |
| sb:cb37 | 420.0405269 | -0.018832265 | 0.1566614 | -0.12021 | 0.904317 | 0.990306 |
| opr1a | 8.121643199 | -0.236601982 | 0.7103749 | -0.333066 | 0.739084 | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| mkrnl | 788.751785 | 0.007401541 | 0.0922241 | 0.080256 | 0.936034 | 0.992702 |
| si:dkey-105h12.2 | 89.63157254 | 0.469908628 | 0.234389 | 2.0048241 | 0.044982 | 0.417005 |
| usfl | 630.9204691 | -0.052162682 | 0.0948017 | -0.55023 | 0.582162 | 0.952028 |
| bhlhe41 | 630.0615452 | 0.033052185 | 0.095348 | 0.3466481 | 0.728856 | 0.970662 |
| piwill | 29.41727656 | -0.398997024 | 0.3523367 | -1.132431 | 0.257453 | 0.825314 |
| rfx6 | 1.7000073 | -1.196582402 | 1.5272193 | -0.783504 | 0.433331 | NA |
| rrbplb | 1039.055196 | 0.115591855 | 0.0904007 | 1.2786607 | 0.201017 | 0.766855 |
| si:busml-228j01.6 | 0.341486697 | 1.892317624 | 3.2124068 | 0.5890654 | 0.555817 | NA |
| vgl12a | 14.16945041 | -1.447907103 | 0.5272709 | -2.74604 | 0.006032 | 0.117745 |
| kat14 | 698.1050051 | 0.031075867 | 0.0984106 | 0.3157776 | 0.752171 | 0.974577 |
| bco2b | 7.372171731 | 0.396049169 | 0.7148633 | 0.5540209 | 0.579565 | NA |
| arpc51a | 545.730935 | 0.085050953 | 0.1003072 | 0.8479044 | 0.396491 | 0.899672 |
| TUBB4B | 681.2301082 | 0.251891031 | 0.0965164 | 2.6098275 | 0.009059 | 0.159222 |
| glipr2 | 37.268426 | 0.394447461 | 0.3474296 | 1.1353305 | 0.256237 | 0.824633 |
| man1a2 | 1225.669867 | 0.061134181 | 0.08821 | 0.6930531 | 0.488276 | 0.93189 |
| sntbl | 290.0649874 | -0.177563483 | 0.138985 | -1.277573 | 0.2014 | 0.767338 |
| tbc1d32 | 131.5794866 | -0.401068827 | 0.1827465 | -2.194673 | 0.028187 | 0.325187 |
| tmem237a | 490.7744026 | 0.193600398 | 0.1049216 | 1.8451906 | 0.06501 | 0.497901 |
| hsdl1 | 102.3251471 | -0.042259912 | 0.2001232 | -0.211169 | 0.832755 | 0.983557 |
| sspn | 138.3163811 | -0.077099898 | 0.1814618 | -0.424882 | 0.670923 | 0.965257 |
| ccdc92 | 464.9727712 | -0.107201587 | 0.1138922 | -0.941255 | 0.346574 | 0.8794 |
| ndst3 | 564.9027115 | 0.05634892 | 0.0988001 | 0.5703329 | 0.568452 | 0.948983 |
| trdn | 237.4745449 | 0.04025787 | 0.1411909 | 0.2851308 | 0.775544 | 0.975687 |
| cx32.3 | 185.3782518 | -0.162693984 | 0.1533016 | -1.061268 | 0.288568 | 0.845979 |
| mgat4c | 13.62587549 | 1.12610265 | 0.5742209 | 1.9610967 | 0.049868 | 0.437835 |
| cx28.1 | 2.072144456 | -0.224981179 | 1.4581081 | -0.154297 | 0.877376 | NA |
| cx28.9 | 148.8350393 | -0.231744536 | 0.1954386 | -1.185766 | 0.235715 | 0.804824 |
| cx43 | 3239.540419 | 0.055523635 | 0.0709657 | 0.782401 | 0.433979 | 0.914001 |
| rnf141 | 226.9205146 | 0.023659954 | 0.1473915 | 0.1605245 | 0.872468 | 0.987846 |
| rps25 | 9894.080863 | -0.427459306 | 0.1106427 | -3.863419 | 0.000112 | 0.005406 |
| si:dkeyp-28d2.4 | 1.133855642 | 2.462671251 | 1.9506495 | 1.2624878 | 0.206773 | NA |
| tsn | 407.6253813 | 0.060204945 | 0.1277903 | 0.4711229 | 0.637553 | 0.958872 |
| ccl38a.5 | 3.106153703 | 0.767946707 | 1.0707303 | 0.7172177 | 0.47324 | NA |
| tsc22d2 | 667.1788111 | 0.035061731 | 0.0949278 | 0.3693518 | 0.711866 | 0.969006 |
| rh50 | 7.996757599 | 0.997870109 | 0.702841 | 1.4197665 | 0.155676 | NA |
| rbm39b | 1667.91056 | -0.117998306 | 0.0773541 | -1.525432 | 0.127152 | 0.656588 |
| ren | 24.3119866 | -0.063706531 | 0.4431003 | -0.143775 | 0.885679 | 0.988936 |
| capn3a | 5632.082869 | -0.018700118 | 0.0646925 | -0.289062 | 0.772534 | 0.975687 |
| tnfrsf19 | 452.1568471 | 0.138011532 | 0.112034 | 1.2318714 | 0.217997 | 0.785379 |
| ift172 | 394.8595396 | -0.109172779 | 0.1211632 | -0.901039 | 0.367568 | 0.887458 |
| si:dkey-221h15.4 | 5.100487897 | 0.114664748 | 0.8967764 | 0.1278632 | 0.898257 | NA |
| ube2v1 | 1695.629585 | -0.055477572 | 0.0974485 | -0.569302 | 0.569152 | 0.948983 |
| rab11ba | 1351.229466 | 0.098450504 | 0.0815278 | 1.2075704 | 0.227213 | 0.794617 |
| sf3a1 | 2190.560987 | -0.063319994 | 0.0949173 | -0.667107 | 0.504704 | 0.935617 |
| cad | 1637.986629 | -0.250134039 | 0.0839251 | -2.980444 | 0.002878 | 0.069835 |
| dnajc5ga | 835.6421733 | -0.007700704 | 0.0979795 | -0.078595 | 0.937355 | 0.99279 |
| ankzf1 | 134.1924894 | -0.02877085 | 0.1757027 | -0.163747 | 0.86993 | 0.987395 |
| usp39 | 585.188752 | 0.040524167 | 0.0981326 | 0.412953 | 0.679641 | 0.965311 |
| znf512 | 35.71345248 | 0.333563875 | 0.3580563 | 0.9315961 | 0.351545 | 0.880769 |
| si:ch211-245h14.1 | 12.92946071 | -0.829078142 | 0.5498494 | -1.507828 | 0.131599 | 0.665022 |
| stum | 39.06489654 | -0.140175076 | 0.3141507 | -0.446203 | 0.65545 | 0.961632 |
| ccl38a.4 | 1.609902098 | -1.227764369 | 1.6314598 | -0.752556 | 0.451717 | NA |
| ccl38.1 | 3.990407809 | -0.442504236 | 1.0041402 | -0.44068 | 0.659445 | NA |
| hsbplb | 954.5022718 | -0.065551838 | 0.0904561 | -0.724681 | 0.468648 | 0.924328 |

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| ccl38.6 | 8.72585095 | -1.457173164 | 0.6787396 | -2.146881 | 0.031803 | NA |
| cryba2b | 15422.38286 | 0.024918282 | 0.0737109 | 0.3380543 | 0.735322 | 0.972528 |
| dlg4a | 30.92532827 | 0.16899022 | 0.3508639 | 0.4816404 | 0.630061 | 0.957354 |
| adat2 | 72.45007714 | -0.2675202 | 0.2315157 | -1.155517 | 0.247879 | 0.81711 |
| styk1b | 267.6804861 | -0.022899039 | 0.1316981 | -0.173875 | 0.861964 | 0.985841 |
| selenool | 362.8145739 | 0.028107988 | 0.1278239 | 0.2198962 | 0.825952 | 0.982196 |
| prox2 | 110.723228 | 0.18525195 | 0.2020241 | 0.9169795 | 0.359153 | 0.884751 |
| cxcr4b | 112.4714743 | -0.113713237 | 0.1971114 | -0.576898 | 0.564008 | 0.948739 |
| si:ch211-173a9.6 | 59.5841638 | -1.564148833 | 0.2726642 | -5.73654 | 9.66E-09 | 1.63E-06 |
| brkl | 2720.390761 | -0.020590904 | 0.0880083 | -0.233966 | 0.815012 | 0.981081 |
| il17a/f3 | 2.652710646 | -0.759080918 | 1.159807 | -0.654489 | 0.512797 | NA |
| calhm6 | 5.277394124 | 1.131486415 | 0.9102389 | 1.2430653 | 0.213844 | NA |
| adamts6 | 25.0231691 | -0.428452623 | 0.4004601 | -1.069901 | 0.284664 | 0.844955 |
| rrp9 | 282.8360553 | -0.223218733 | 0.135955 | -1.641857 | 0.10062 | 0.603272 |
| zgc:113337 | 84.93538682 | 0.145724548 | 0.2255295 | 0.6461442 | 0.518186 | 0.938592 |
| si:ch211-63o20.7 | 75.12842248 | -0.26514796 | 0.2433356 | -1.089639 | 0.275872 | 0.839541 |
| nfya | 1317.352373 | -0.043755816 | 0.087087 | -0.502438 | 0.615359 | 0.95688 |
| elp3 | 287.2052153 | -0.317988622 | 0.1333674 | -2.384306 | 0.017111 | 0.241859 |
| pklr | 1106.930156 | 0.077670395 | 0.1128809 | 0.6880741 | 0.491406 | 0.931926 |
| cyp11c1 | 106.8771472 | -0.102137832 | 0.1931382 | -0.528833 | 0.596921 | 0.954913 |
| fh12a | 789.7639272 | 0.22202768 | 0.0957546 | 2.3187167 | 0.02041 | 0.268884 |
| mapk12a | 546.5846529 | 0.002747436 | 0.1073096 | 0.0256029 | 0.979574 | 0.996866 |
| si:dkeyp-118h3.6 | 188.6499613 | -0.060048432 | 0.1523035 | -0.394268 | 0.693383 | 0.96736 |
| prrx1b | 384.3778994 | -0.094582809 | 0.1205781 | -0.784411 | 0.432799 | 0.91326 |
| kpna5 | 1391.022629 | 0.002152775 | 0.0806334 | 0.0266983 | 0.9787 | 0.996762 |
| gorab | 99.90923848 | 0.019556864 | 0.2199567 | 0.0889123 | 0.929152 | 0.992702 |
| pou3f3a | 609.1396541 | -0.093850117 | 0.097646 | -0.961126 | 0.336489 | 0.876088 |
| mett11b | 32.21688505 | 1.336160702 | 0.3520937 | 3.7949008 | 0.000148 | 0.006714 |
| tal2 | 408.7168102 | -0.110116492 | 0.1163217 | -0.946655 | 0.343815 | 0.878434 |
| hmg20b | 621.0868133 | -0.10091584 | 0.1088722 | -0.92692 | 0.353968 | 0.881976 |
| zgc:171971 | 122.989126 | 0.091635582 | 0.1824057 | 0.5023722 | 0.615406 | 0.95688 |
| fam129aa | 60.98636358 | 0.165611522 | 0.2635744 | 0.6283294 | 0.529788 | 0.942209 |
| mau2 | 718.8405732 | -0.03069847 | 0.0957956 | -0.320458 | 0.748621 | 0.97419 |
| trmt11 | 230.0565041 | -0.189746979 | 0.1595099 | -1.189562 | 0.234219 | 0.802815 |
| si:ch211-145c1.1 | 1.939172771 | -0.030264765 | 1.5009051 | -0.020164 | 0.983912 | NA |
| eef2a.2 | 15.00672274 | 0.791314263 | 0.5050683 | 1.5667472 | 0.117174 | 0.640585 |
| pebpl | 583.9576237 | 0.021802512 | 0.1096809 | 0.1987814 | 0.842434 | 0.985174 |
| fbx117 | 29.89398294 | -0.596658748 | 0.3611632 | -1.652047 | 0.098525 | 0.597984 |
| dmap1 | 654.2712294 | 0.041190474 | 0.1045959 | 0.3938059 | 0.693724 | 0.96736 |
| si:ch73-55i23.1 | 15.64796612 | -0.961088158 | 0.508338 | -1.890648 | 0.058671 | 0.474103 |
| btbd2a | 937.7545758 | -0.007175699 | 0.0869204 | -0.082555 | 0.934205 | 0.992702 |
| eef2a.1 | 476.314322 | -0.157520278 | 0.1104848 | -1.42572 | 0.153949 | 0.702738 |
| mnx2a | 26.88728062 | -0.198464746 | 0.3704146 | -0.535791 | 0.592103 | 0.954434 |
| si:dkey-44k1.5 | 210.0649619 | 0.116109215 | 0.144496 | 0.8035465 | 0.421659 | 0.90651 |
| diol | 74.94991247 | -0.027015601 | 0.2244687 | -0.120354 | 0.904203 | 0.990291 |
| binla | 27.00194764 | 0.327828831 | 0.3698902 | 0.8862868 | 0.375463 | 0.894316 |
| tmem198a | 90.03040532 | -0.268979749 | 0.2189509 | -1.228494 | 0.219262 | 0.785734 |
| trim35-40 | 118.1807352 | 0.100646752 | 0.1920685 | 0.5240148 | 0.600268 | 0.956045 |
| si:dkey-97o5.1 | 167.9163218 | -0.106115969 | 0.1599169 | -0.663569 | 0.506966 | 0.935734 |
| acot11b | 91.45665666 | 0.277782761 | 0.2289786 | 1.2131387 | 0.225077 | 0.792185 |
| nudt3b | 18.84385957 | -0.049787531 | 0.4322468 | -0.115183 | 0.9083 | 0.990702 |
| si:dkey-4e7.3 | 150.5065367 | 0.034472225 | 0.1885657 | 0.1828128 | 0.854945 | 0.985174 |
| elmo3 | 44.39919819 | 0.458214487 | 0.29224 | 1.5679391 | 0.116895 | 0.639958 |
| pacsin1b | 668.16215 | 0.000282788 | 0.1005104 | 0.0028135 | 0.997755 | 0.999174 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| zp3a.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| zp3a.2 | 3.286247409 | 0.919792463 | 1.0722727 | 0.8577971 | 0.391004 | NA |
| si:dkey-51e6.1 | 60.13081291 | 0.319045933 | 0.2566546 | 1.2430943 | 0.213833 | 0.782251 |
| selp | 3.410047828 | -2.583702156 | 1.2306593 | -2.099446 | 0.035778 | NA |
| fpgt | 49.88426882 | -0.2735948 | 0.2843289 | -0.962247 | 0.335925 | 0.876088 |
| myo6b | 172.5431237 | -0.136500191 | 0.1542711 | -0.884808 | 0.37626 | 0.894789 |
| lhx8b | 7.562731881 | -0.585371665 | 0.7048506 | -0.83049 | 0.406262 | NA |
| rbbp5 | 516.2162653 | -0.05164121 | 0.1093083 | -0.472436 | 0.636615 | 0.958607 |
| skia | 1292.883033 | -0.017297003 | 0.0850682 | -0.203331 | 0.838876 | 0.984979 |
| ppil6 | 10.71092272 | 0.205255168 | 0.6006714 | 0.3417096 | 0.732569 | NA |
| RFESD (1 of many) | 36.30202602 | -0.099516823 | 0.3336906 | -0.298231 | 0.765527 | 0.975374 |
| c7a | 191.3923303 | 0.420701443 | 0.1763145 | 2.3860856 | 0.017029 | 0.241051 |
| foxl2a | 46.77732732 | -0.16000976 | 0.3297606 | -0.48523 | 0.627513 | 0.957354 |
| drcl | 24.62131842 | 0.162359049 | 0.3890472 | 0.4173248 | 0.676441 | 0.965257 |
| paplnb | 17.92226122 | 0.696685277 | 0.5006868 | 1.3914593 | 0.164086 | 0.71945 |
| smekl | 2191.474541 | -0.01710094 | 0.0775715 | -0.220454 | 0.825518 | 0.982196 |
| ttc38 | 69.7399271 | -0.273860551 | 0.2387632 | -1.146997 | 0.251383 | 0.820814 |
| tspan33b | 34.4996656 | 0.029728171 | 0.3692454 | 0.0805106 | 0.935831 | 0.992702 |
| sema3ab | 40.40917116 | -0.163588028 | 0.298779 | -0.547522 | 0.58402 | 0.952214 |
| si:ch211-233h19.2 | 57.02453224 | 0.348173705 | 0.2779401 | 1.2526931 | 0.210317 | 0.778043 |
| tmem243a | 28.41585107 | -0.185791722 | 0.3698077 | -0.502401 | 0.615386 | 0.95688 |
| pias4b | 8.709460295 | -0.59326102 | 0.6516516 | -0.910396 | 0.362614 | NA |
| mthfd11 | 930.0199711 | -0.753703924 | 0.2523548 | -2.986683 | 0.00282 | 0.068933 |
| stx11b.2 | 33.89478214 | -1.167566048 | 0.3657172 | -3.192538 | 0.00141 | 0.040686 |
| specc11b | 66.33894723 | -0.071583277 | 0.2504673 | -0.285799 | 0.775032 | 0.975687 |
| fgf16 | 35.89095161 | 0.033472548 | 0.3341272 | 0.1001791 | 0.920202 | 0.992044 |
| atrx | 4238.69063 | 0.028188556 | 0.0659924 | 0.4271487 | 0.669271 | 0.965082 |
| myl13 | 2455.744353 | 0.219926884 | 0.0855332 | 2.5712445 | 0.010133 | 0.171998 |
| FRMD4A | 69.31555878 | -0.100631382 | 0.2501497 | -0.402285 | 0.687475 | 0.966376 |
| eif4h | 2154.112795 | -0.033113168 | 0.080161 | -0.413083 | 0.679546 | 0.965257 |
| tgfbr1b | 49.12622019 | -0.087340598 | 0.2781846 | -0.313966 | 0.753547 | 0.974981 |
| cdan1 | 138.6043587 | 0.108314511 | 0.1826203 | 0.5931131 | 0.553105 | 0.947265 |
| arsa | 131.6913352 | -0.058338734 | 0.1935512 | -0.301412 | 0.7631 | 0.975374 |
| tmem231 | 119.8056078 | 0.208180492 | 0.2087965 | 0.9970498 | 0.31874 | 0.867746 |
| efnb3b | 166.8143457 | 0.011724823 | 0.1568826 | 0.0747363 | 0.940425 | 0.992857 |
| itga6a | 363.6770508 | 0.087795125 | 0.1189032 | 0.738375 | 0.460287 | 0.921978 |
| atp8b3 | 535.8466728 | 0.114027604 | 0.0999449 | 1.1409045 | 0.25391 | 0.823394 |
| dlx6a | 135.3203708 | -0.367574697 | 0.1871223 | -1.964356 | 0.049489 | 0.436093 |
| ca4b | 99.25138044 | -0.990793187 | 0.2295878 | -4.315531 | 1.59E-05 | 0.001043 |
| dlx5a | 369.3717396 | -0.094508474 | 0.1208743 | -0.781874 | 0.434289 | 0.914161 |
| arhgef18b | 72.36880449 | -0.008648466 | 0.2378943 | -0.036354 | 0.971 | 0.996315 |
| cdca4 | 1166.072679 | 0.055801662 | 0.0830818 | 0.6716476 | 0.501808 | 0.934874 |
| si:dkey-177p2.6 | 710.9411901 | 0.353564676 | 0.0988519 | 3.5767111 | 0.000348 | 0.013334 |
| si:dkey-91ml1.5 | 302.5662595 | -0.082169673 | 0.1421461 | -0.578065 | 0.56322 | 0.948728 |
| plin2 | 176.4428952 | -0.164448459 | 0.1821432 | -0.902853 | 0.366604 | 0.88734 |
| impdh1a | 475.6700646 | 0.136194941 | 0.1056171 | 1.2895164 | 0.197219 | 0.762204 |
| chracl | 224.8963071 | -0.02796227 | 0.1506544 | -0.185605 | 0.852754 | 0.985174 |
| lpar2a | 84.09857601 | -0.321278089 | 0.2187573 | -1.468651 | 0.141928 | 0.683173 |
| tmem251 | 327.98462 | -0.01288668 | 0.1198922 | -0.107486 | 0.914404 | 0.991119 |
| trmt6 | 156.2664528 | 0.100795196 | 0.165393 | 0.6094284 | 0.542241 | 0.944974 |
| si:dkeyp-55f12.3 | 92.59866665 | -0.207330298 | 0.2277604 | -0.9103 | 0.362664 | 0.885944 |
| sytlb | 15.93141451 | 0.710186109 | 0.5035018 | 1.4104937 | 0.158394 | 0.709224 |
| cldnk | 220.1199847 | 0.281162993 | 0.1534753 | 1.831975 | 0.066955 | 0.506105 |
| kif26aa | 255.917481 | 0.085913674 | 0.1515418 | 0.5669305 | 0.570761 | 0.949061 |

| | | | | | | |
|------------------|-------------|--------------|-----------|-----------|----------|----------|
| ptafr | 9.642815051 | -0.658116845 | 0.6551517 | -1.004526 | 0.315125 | NA |
| zgc:103681 | 56.87956347 | -0.334001165 | 0.2669686 | -1.251088 | 0.210902 | 0.778412 |
| zbtb25 | 60.96278449 | -0.041552296 | 0.2538049 | -0.163717 | 0.869954 | 0.987395 |
| zgc:77752 | 77.61105626 | 0.127940534 | 0.2356772 | 0.5428635 | 0.587224 | 0.953319 |
| syndig11 | 46.53624779 | -0.125134582 | 0.2885843 | -0.433615 | 0.664568 | 0.964736 |
| trim35-30 | 34.68691986 | 0.04350216 | 0.3238492 | 0.1343284 | 0.893143 | 0.989291 |
| der12 | 303.4283416 | 0.067356401 | 0.1278831 | 0.5267029 | 0.5984 | 0.955488 |
| RALGDS | 65.05274773 | 0.033342561 | 0.2462765 | 0.1353867 | 0.892306 | 0.989291 |
| rab40b | 313.929656 | -0.127988905 | 0.1267617 | -1.009681 | 0.312648 | 0.864656 |
| galnt17 | 228.317309 | -0.018717659 | 0.138266 | -0.135374 | 0.892316 | 0.989291 |
| gstt1a | 851.9663178 | -0.31110109 | 0.1010323 | -3.079223 | 0.002075 | 0.054865 |
| p2rx7 | 60.16029056 | -0.268003631 | 0.2569054 | -1.0432 | 0.296856 | 0.853798 |
| p2rx4b | 4.588660569 | 0.635759845 | 0.9109362 | 0.6979192 | 0.485228 | NA |
| mad212 | 169.5598357 | -0.115235637 | 0.1624787 | -0.709235 | 0.478178 | 0.926857 |
| rfc4 | 339.183708 | -0.17810306 | 0.1233158 | -1.444284 | 0.148659 | 0.69636 |
| tlkla | 774.0558904 | 0.047100611 | 0.0977491 | 0.4818519 | 0.629911 | 0.957354 |
| ndufa12 | 1677.780042 | -0.080613404 | 0.1209247 | -0.666641 | 0.505001 | 0.935724 |
| slpr3a | 45.66598809 | -0.108576421 | 0.2863103 | -0.379226 | 0.70452 | 0.968134 |
| nr2c2 | 610.4545028 | 0.001549918 | 0.0986826 | 0.0157061 | 0.987469 | 0.997189 |
| t1e2a | 1205.460833 | 0.004130238 | 0.0807478 | 0.0511498 | 0.959206 | 0.995097 |
| foxd5 | 9.551722696 | -0.508145158 | 0.6237886 | -0.814611 | 0.415295 | NA |
| thap12a | 333.6059347 | -0.177420276 | 0.1224938 | -1.448402 | 0.147505 | 0.694631 |
| si:dkey-250d21.1 | 7.03717977 | 0.004865287 | 0.7191793 | 0.0067651 | 0.994602 | NA |
| parp12a | 38.86465507 | -0.057553797 | 0.3508394 | -0.164046 | 0.869695 | 0.987304 |
| ubr3 | 754.7108244 | -0.04709929 | 0.1080574 | -0.435873 | 0.662929 | 0.964736 |
| glod4 | 147.7518099 | -0.195152464 | 0.1723772 | -1.132124 | 0.257582 | 0.825314 |
| acot20 | 102.4509302 | 0.323251604 | 0.2014479 | 1.6046411 | 0.108573 | 0.620676 |
| acot21 | 2.725876 | 0.779510417 | 1.1753579 | 0.6632111 | 0.507195 | NA |
| gpr176 | 108.1889504 | 0.252128421 | 0.1909628 | 1.320301 | 0.186735 | 0.750951 |
| hipk2 | 38.04047429 | 0.384772805 | 0.3424136 | 1.1237077 | 0.261137 | 0.829247 |
| UTP14C | 386.8298969 | -0.07630184 | 0.1123081 | -0.679397 | 0.496886 | 0.932829 |
| si:dkey-251i10.1 | 57.33152404 | 0.13619407 | 0.2527149 | 0.5389237 | 0.58994 | 0.953762 |
| katnbl1 | 234.9393739 | -0.109524609 | 0.1364436 | -0.802709 | 0.422143 | 0.90651 |
| ebf2 | 288.5038434 | 0.105567124 | 0.14041 | 0.7518489 | 0.452142 | 0.918781 |
| sebox | 74.98094789 | -0.087892761 | 0.2298163 | -0.382448 | 0.702129 | 0.968134 |
| unga | 125.2858041 | -0.04701314 | 0.1901414 | -0.247254 | 0.804712 | 0.979705 |
| gnat2 | 11658.35824 | 0.375790951 | 0.0819176 | 4.5874276 | 4.49E-06 | 0.000369 |
| nup205 | 1228.858552 | -0.147609278 | 0.0953233 | -1.548513 | 0.121499 | 0.647929 |
| gstm.1 | 696.0980906 | -0.056473894 | 0.106373 | -0.530904 | 0.595485 | 0.954434 |
| rsrc2 | 1135.012464 | -0.051819137 | 0.0845169 | -0.613121 | 0.539796 | 0.944178 |
| actc1a | 2089.277405 | 0.27355934 | 0.0979287 | 2.7934545 | 0.005215 | 0.106637 |
| si:dkey-48j7.3 | 0.333314908 | -1.858695402 | 3.5126701 | -0.52914 | 0.596708 | NA |
| ywhaqa | 4031.230722 | 0.140225465 | 0.075702 | 1.8523356 | 0.063978 | 0.49437 |
| degs2 | 3.466110453 | 0.165937656 | 1.0111213 | 0.1641125 | 0.869643 | NA |
| sema3ga | 82.32143772 | -0.08782831 | 0.2268577 | -0.387152 | 0.698644 | 0.967998 |
| tpd5211 | 353.0490414 | -0.009999258 | 0.1247447 | -0.080158 | 0.936112 | 0.992702 |
| mboat2b | 517.257621 | -0.049079067 | 0.1163057 | -0.421983 | 0.673037 | 0.965257 |
| cacnalsb | 853.6974829 | 0.361003908 | 0.0934876 | 3.8615144 | 0.000113 | 0.005422 |
| pex7 | 95.87092917 | 0.102684451 | 0.2132258 | 0.4815762 | 0.630107 | 0.957354 |
| dym | 204.467713 | 0.008729222 | 0.1436061 | 0.0607859 | 0.95153 | 0.99381 |
| rnf144ab | 390.9996628 | -0.224393282 | 0.1118371 | -2.00643 | 0.04481 | 0.416612 |
| tnnilc | 236.2662577 | 0.150090903 | 0.1413607 | 1.0617581 | 0.288346 | 0.845979 |
| lpar2b | 185.5188229 | -0.064298141 | 0.1555522 | -0.413354 | 0.679347 | 0.965257 |
| allc | 44.90138098 | 0.08688512 | 0.310484 | 0.2798377 | 0.779602 | 0.976146 |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| mis18bp1 | 80.15519107 | -0.226433194 | 0.2275805 | -0.994959 | 0.319756 | 0.86809 |
| rps7 | 18748.08436 | -0.293314336 | 0.0772007 | -3.799372 | 0.000145 | 0.006625 |
| rnasehl | 250.7518493 | 0.222707829 | 0.1439825 | 1.5467699 | 0.121919 | 0.649101 |
| batf3 | 5.550107214 | 0.451791535 | 0.8613234 | 0.5245318 | 0.599909 | NA |
| rbml9 | 329.7477552 | 0.029659502 | 0.1208005 | 0.2455246 | 0.80605 | 0.980105 |
| ical | 131.4088307 | -0.136558221 | 0.1754248 | -0.778443 | 0.436308 | 0.914408 |
| crp3 | 122.9770529 | 0.34190788 | 0.2291252 | 1.4922318 | 0.135638 | 0.671761 |
| sema3h | 76.01591248 | 0.232065936 | 0.2224354 | 1.0432958 | 0.296811 | 0.853798 |
| gstr | 1082.937257 | -0.316481972 | 0.0853703 | -3.707166 | 0.00021 | 0.008913 |
| cryaba | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| acbd3 | 696.0296428 | -0.079396657 | 0.0999748 | -0.794167 | 0.427098 | 0.910658 |
| nhs11b | 611.5980715 | -0.118946691 | 0.1112474 | -1.069209 | 0.284976 | 0.845094 |
| hebp2 | 746.4021564 | 0.30093729 | 0.107462 | 2.8004069 | 0.005104 | 0.104597 |
| tert | 148.1102911 | -0.372297625 | 0.1993243 | -1.867798 | 0.06179 | 0.485049 |
| cyp5l | 491.4717884 | -0.429068272 | 0.1347982 | -3.183042 | 0.001457 | 0.041826 |
| wtap | 1255.379334 | 0.071078874 | 0.0878407 | 0.8091792 | 0.418412 | 0.906406 |
| si:ch1073-440p11.2 | 0.547712847 | 2.559541715 | 2.9076406 | 0.8802813 | 0.378707 | NA |
| sod2 | 736.3717221 | -0.116633512 | 0.1044201 | -1.116965 | 0.26401 | 0.830245 |
| zgc:77784 | 665.0832932 | -0.065191442 | 0.113351 | -0.575129 | 0.565204 | 0.948739 |
| rreblb | 493.3165133 | -0.220351511 | 0.1049102 | -2.100382 | 0.035695 | 0.368007 |
| nrnlb | 36.28557163 | 0.459427342 | 0.3314592 | 1.3860752 | 0.165724 | 0.721576 |
| acad8 | 489.0916916 | 0.096573056 | 0.1152848 | 0.8376908 | 0.402204 | 0.90084 |
| thyn1 | 108.9528959 | -0.265446491 | 0.1938767 | -1.369151 | 0.170952 | 0.728693 |
| fam32a | 906.4552168 | 0.011574889 | 0.1123852 | 0.102993 | 0.917969 | 0.991623 |
| tsta312 | 0.340386822 | -1.882368278 | 3.2159502 | -0.585323 | 0.558331 | NA |
| si:dkeyp-70f9.7 | 0.508023798 | 0.926122713 | 2.6636728 | 0.3476864 | 0.728076 | NA |
| klf2a | 390.999517 | -0.102739017 | 0.1344226 | -0.764299 | 0.444689 | 0.916777 |
| eps1511a | 708.3264031 | 0.023171795 | 0.1053839 | 0.2198799 | 0.825965 | 0.982196 |
| odr4 | 126.0357674 | 0.30823952 | 0.1828877 | 1.685403 | 0.091911 | 0.57849 |
| cadmlb | 12.11149168 | 0.047980522 | 0.5477556 | 0.0875948 | 0.930199 | 0.992702 |
| si:dkey-15j16.3 | 5.639631857 | 2.546785026 | 0.9569556 | 2.6613408 | 0.007783 | NA |
| serpincl | 1032.706202 | 0.222750446 | 0.1018771 | 2.1864615 | 0.028782 | 0.328978 |
| bora | 85.24009196 | 0.096983988 | 0.2177486 | 0.4453943 | 0.656035 | 0.961833 |
| zbtb37 | 30.23128089 | -0.039824032 | 0.3528724 | -0.112857 | 0.910144 | 0.990702 |
| slpr1 | 1615.15792 | 0.07742767 | 0.0819583 | 0.94472 | 0.344802 | 0.878434 |
| si:dkey-15j16.6 | 9.379760131 | 1.756168322 | 0.7596786 | 2.3117254 | 0.020793 | NA |
| parp6a | 339.0106795 | 0.117801433 | 0.1351776 | 0.8714567 | 0.383505 | 0.895192 |
| cx30.3 | 267.5547124 | -0.003938027 | 0.1452913 | -0.027104 | 0.978376 | 0.996762 |
| tuba8l | 7186.913546 | -0.053781132 | 0.0807005 | -0.666429 | 0.505137 | 0.935724 |
| adipor1b | 449.7591291 | 0.00796179 | 0.1142331 | 0.0696977 | 0.944434 | 0.993364 |
| blnk | 25.93375236 | 0.125265671 | 0.38538 | 0.3250445 | 0.745147 | 0.974094 |
| gfra2a | 31.59991778 | 0.021006294 | 0.3495427 | 0.0600965 | 0.952079 | 0.993904 |
| supt5h | 2612.282036 | -0.123197354 | 0.0733822 | -1.678845 | 0.093182 | 0.580702 |
| cebpb | 1972.945549 | 0.018071414 | 0.1116972 | 0.1617893 | 0.871472 | 0.987754 |
| grb7 | 48.66643885 | -0.221770276 | 0.2851824 | -0.777644 | 0.436779 | 0.914408 |
| exo5 | 79.86261142 | -0.386605046 | 0.2173681 | -1.778573 | 0.07531 | 0.534207 |
| plaa | 528.18057 | 0.048079878 | 0.1145612 | 0.4196873 | 0.674714 | 0.965257 |
| tmem189 | 831.5452388 | -0.005956872 | 0.098745 | -0.060326 | 0.951896 | 0.993864 |
| slc52a3 | 61.28907051 | -0.347954018 | 0.2580352 | -1.348475 | 0.177506 | 0.738343 |
| stx6 | 902.6935761 | -0.073307275 | 0.0871239 | -0.841414 | 0.400116 | 0.90084 |
| coasy | 312.4313925 | -0.036384066 | 0.1267425 | -0.287071 | 0.774058 | 0.975687 |
| riok3 | 1321.574335 | 0.039926858 | 0.0796276 | 0.5014201 | 0.616076 | 0.95688 |
| si:ch211-282j17.11 | | 0 NA | NA | NA | NA | NA |
| cts12 | 125.76109 | 0.124383859 | 0.1784362 | 0.6970776 | 0.485754 | 0.930598 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| cnstb | 45.87246326 | 0.013123166 | 0.2981032 | 0.0440222 | 0.964887 | 0.996119 |
| ndufal1 | 711.5266624 | -0.128803356 | 0.1320282 | -0.975574 | 0.329275 | 0.873436 |
| apoba | 4651.342289 | 0.291200275 | 0.0998154 | 2.9173884 | 0.00353 | 0.07986 |
| gdf7 | 20.80817834 | 0.758824762 | 0.4435083 | 1.7109595 | 0.087089 | 0.565361 |
| git2b | 243.7957308 | 0.141944851 | 0.1344486 | 1.0557553 | 0.29108 | 0.846568 |
| tppl | 377.6620129 | -0.032413756 | 0.1162882 | -0.278736 | 0.780447 | 0.97627 |
| yyla | 1500.19982 | -0.111817444 | 0.0851714 | -1.312852 | 0.189233 | 0.753954 |
| atpaf1 | 530.8862261 | -0.021099103 | 0.1004402 | -0.210066 | 0.833616 | 0.983583 |
| slc16a4 | 414.6758069 | 0.266838776 | 0.1101724 | 2.4220118 | 0.015435 | 0.22845 |
| or128-10 | 2.997695393 | 0.316882015 | 1.0955809 | 0.2892365 | 0.7724 | NA |
| fgflb | 36.42528378 | 0.092004396 | 0.3204876 | 0.2870763 | 0.774054 | 0.975687 |
| alkal2b | 21.8918963 | 0.306784244 | 0.4116541 | 0.7452476 | 0.456122 | 0.921215 |
| mmp9 | 1149.050459 | -0.558679783 | 0.2516935 | -2.219683 | 0.02644 | 0.313072 |
| agps | 142.7918022 | -0.113875682 | 0.1708673 | -0.666457 | 0.505119 | 0.935724 |
| spsc2 | 994.3571698 | -0.131318027 | 0.1029069 | -1.276086 | 0.201925 | 0.76786 |
| nfe2l2a | 1703.386238 | -0.086729246 | 0.0791291 | -1.096047 | 0.273058 | 0.838141 |
| rnf169 | 267.0922442 | 0.220701561 | 0.1280759 | 1.7232086 | 0.084851 | 0.560519 |
| egr2b | 72.21357561 | -0.637060185 | 0.2336283 | -2.726811 | 0.006395 | 0.122178 |
| adoa | 275.5699255 | -0.233560094 | 0.1286279 | -1.815781 | 0.069404 | 0.514708 |
| si:dkey-30j22.1 | 34.19931267 | -0.300755103 | 0.3862441 | -0.778666 | 0.436177 | 0.914408 |
| rffl | 172.1077334 | -0.054863796 | 0.1572777 | -0.348834 | 0.727214 | 0.970402 |
| tfdp2 | 675.5465896 | -0.055228352 | 0.0954585 | -0.578559 | 0.562887 | 0.948728 |
| atplb3b | 4655.184998 | 0.115467543 | 0.0709889 | 1.6265567 | 0.103831 | 0.610348 |
| dph6 | 105.977665 | -0.270558191 | 0.1987157 | -1.361534 | 0.173345 | 0.732435 |
| eml1 | 1223.235896 | -0.018576175 | 0.0846534 | -0.219438 | 0.826309 | 0.982196 |
| oxt | 79.64734354 | 0.437197051 | 0.2361625 | 1.8512552 | 0.064133 | 0.495295 |
| disp2 | 383.9700342 | 0.062912888 | 0.1137732 | 0.5529677 | 0.580286 | 0.951457 |
| pcmt1 | 220.9354174 | -0.13466438 | 0.1603078 | -0.840036 | 0.400888 | 0.90084 |
| nphs2 | 38.13745698 | -0.191462973 | 0.3203078 | -0.597747 | 0.550009 | 0.94648 |
| srp9 | 285.2268202 | -0.407517628 | 0.1407772 | -2.89477 | 0.003794 | 0.08411 |
| ivd | 1314.720183 | 0.046873457 | 0.0781325 | 0.5999226 | 0.548558 | 0.946195 |
| ephx1 | 362.7516183 | -0.603676201 | 0.1259706 | -4.792197 | 1.65E-06 | 0.000152 |
| itpka | 181.8307433 | -0.065136634 | 0.1518758 | -0.428881 | 0.66801 | 0.964736 |
| si:ch211-246m6.4 | 62.60168149 | 0.380646557 | 0.2570467 | 1.480846 | 0.138648 | 0.676943 |
| slc5a6a | 12.46304923 | -0.183316817 | 0.528169 | -0.34708 | 0.728531 | 0.970604 |
| ltk | 73.34444519 | -0.165113905 | 0.2409322 | -0.685313 | 0.493147 | 0.931926 |
| rpl17l1 | 753.6056451 | -0.078487529 | 0.1172644 | -0.669321 | 0.503291 | 0.935304 |
| cx35.4 | 285.3438938 | 0.170078538 | 0.1348666 | 1.2610868 | 0.207278 | 0.775175 |
| zdhhc8a | 92.56677213 | -0.028203387 | 0.2306533 | -0.122276 | 0.90268 | 0.990121 |
| slc25a27 | 38.08034997 | -0.145638393 | 0.3344615 | -0.435441 | 0.663242 | 0.964736 |
| phlda2 | 375.2961673 | 0.088775613 | 0.1441073 | 0.6160385 | 0.537869 | 0.943336 |
| abracl | 885.841536 | 0.148869621 | 0.0966778 | 1.5398529 | 0.123596 | 0.651905 |
| heca | 191.8515671 | -0.045387121 | 0.1509715 | -0.300634 | 0.763694 | 0.975374 |
| si:ch211-222f23.6 | 12.04956038 | 0.359678576 | 0.6011775 | 0.5982902 | 0.549646 | 0.946312 |
| nthl1 | 119.1006387 | -0.217812849 | 0.1901356 | -1.145566 | 0.251975 | 0.821478 |
| TNPO2 | 846.0851825 | 0.07350873 | 0.0942984 | 0.7795334 | 0.435666 | 0.914408 |
| paip1 | 822.7792812 | -0.096652222 | 0.0949145 | -1.018308 | 0.308531 | 0.861088 |
| tyms | 414.1542999 | 0.006802407 | 0.1116993 | 0.0608993 | 0.951439 | 0.99381 |
| si:ch211-163121.8 | 136.8665634 | 0.026663205 | 0.1794293 | 0.1486 | 0.881869 | 0.988344 |
| gtpbp1l | 184.408263 | 0.234152641 | 0.1658269 | 1.4120302 | 0.157941 | 0.709157 |
| afg11b | 77.15648821 | -0.370289548 | 0.2306411 | -1.605479 | 0.108388 | 0.620165 |
| foxo3b | 1451.307646 | 0.112178549 | 0.076708 | 1.4624099 | 0.143629 | 0.686804 |
| rpl10a | 22013.80005 | -0.287890917 | 0.0988063 | -2.91369 | 0.003572 | 0.080595 |
| hsh2d | 31.39007013 | -0.170193362 | 0.370024 | -0.459952 | 0.64555 | 0.96029 |

| | | | | | | |
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| sult3st3 | 113. 8816406 | -0. 700586056 | 0. 1953994 | -3. 585405 | 0. 000337 | 0. 012973 |
| gprl73 | 51. 00063953 | 0. 010544791 | 0. 2745427 | 0. 0384086 | 0. 969362 | 0. 996315 |
| mfng | 57. 66653745 | 0. 492713604 | 0. 2643834 | 1. 8636327 | 0. 062373 | 0. 487498 |
| maprela | 148. 7528485 | 0. 172632411 | 0. 166204 | 1. 0386778 | 0. 298955 | 0. 855008 |
| tmem120b | 56. 42128478 | 0. 323968593 | 0. 2822369 | 1. 1478604 | 0. 251026 | 0. 820469 |
| bloc1s6 | 594. 5872155 | 0. 015503163 | 0. 1120812 | 0. 1383209 | 0. 889987 | 0. 989291 |
| ccn2a | 3400. 720863 | -0. 190634859 | 0. 07793 | -2. 446231 | 0. 014436 | 0. 218572 |
| fam228a | 24. 1401468 | 0. 638293359 | 0. 3905103 | 1. 634511 | 0. 102152 | 0. 607531 |
| si:dkey-256e7. 5 | 19. 95316065 | -0. 036033223 | 0. 4211162 | -0. 085566 | 0. 931811 | 0. 992702 |
| nabla | 202. 4613104 | 0. 31259077 | 0. 1599843 | 1. 9538841 | 0. 050715 | 0. 44139 |
| hook1 | 532. 6189489 | -0. 369106643 | 0. 1022956 | -3. 608237 | 0. 000308 | 0. 012095 |
| mstna | 0. 158795395 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| dnajc5aa | 216. 7513451 | -0. 004789806 | 0. 1477996 | -0. 032407 | 0. 974147 | 0. 99644 |
| cyp2n13 | 86. 36875076 | -0. 980217502 | 0. 2441655 | -4. 014561 | 5. 96E-05 | 0. 003192 |
| slc17a9a | 32. 14673482 | 0. 142216402 | 0. 349308 | 0. 4071375 | 0. 683907 | 0. 965679 |
| cyp2ad6 | 122. 2746553 | 0. 714346866 | 0. 1999766 | 3. 5721516 | 0. 000354 | 0. 013516 |
| zgc:100920 | 193. 7779154 | -0. 610042323 | 0. 1799758 | -3. 38958 | 0. 0007 | 0. 023147 |
| dgcr2 | 377. 2830449 | 0. 073861868 | 0. 1251198 | 0. 5903289 | 0. 55497 | 0. 947449 |
| znf1035 | 921. 4588544 | -0. 072168979 | 0. 095683 | -0. 754251 | 0. 450699 | 0. 918761 |
| gng8 | 88. 48497023 | -0. 101995651 | 0. 2091887 | -0. 487577 | 0. 625849 | 0. 957354 |
| zgc:136605 | 1. 167462343 | 2. 488720452 | 2. 0131823 | 1. 2362121 | 0. 21638 | NA |
| auh | 661. 1544352 | -0. 070507764 | 0. 1023449 | -0. 688923 | 0. 490872 | 0. 931926 |
| nfil3 | 782. 1985373 | -0. 193926873 | 0. 126176 | -1. 536955 | 0. 124304 | 0. 653027 |
| cyp2p6 | 176. 3626312 | 0. 234134321 | 0. 1579151 | 1. 4826598 | 0. 138165 | 0. 675945 |
| cyp2p7 | 104. 5876589 | -0. 141006041 | 0. 1958941 | -0. 719808 | 0. 471644 | 0. 924838 |
| cyp2p8 | 175. 6598213 | -0. 245306136 | 0. 156324 | -1. 569216 | 0. 116598 | 0. 639148 |
| has1 | 3. 257128324 | 1. 236982754 | 1. 1095362 | 1. 1148647 | 0. 264908 | NA |
| fpr1 | 65. 6639515 | -0. 226546308 | 0. 2701043 | -0. 838736 | 0. 401617 | 0. 90084 |
| slc24a2 | 1335. 266293 | 0. 27756057 | 0. 1196813 | 2. 3191634 | 0. 020386 | 0. 268884 |
| si:dkeyp-84f3. 5 | 474. 7035447 | 0. 158577555 | 0. 1068755 | 1. 4837592 | 0. 137873 | 0. 675313 |
| cyp2p10 | 94. 78116033 | -0. 477382325 | 0. 2072822 | -2. 303055 | 0. 021276 | 0. 275152 |
| crygs1 | 0. 340386822 | -1. 882368278 | 3. 2159502 | -0. 585323 | 0. 558331 | NA |
| prssl | 1584. 786914 | -0. 563605697 | 0. 2286242 | -2. 465206 | 0. 013693 | 0. 210066 |
| sptlc1 | 512. 6410204 | -0. 087110115 | 0. 1133487 | -0. 768514 | 0. 442182 | 0. 916336 |
| vmola | 7. 326777918 | 0. 939289759 | 0. 7994518 | 1. 1749173 | 0. 240028 | NA |
| pcyt2 | 933. 3688885 | 0. 002786646 | 0. 0843528 | 0. 0330356 | 0. 973646 | 0. 996315 |
| si:dkeyp-117h8. 4 | 72. 30160218 | 0. 198091106 | 0. 24732 | 0. 8009507 | 0. 42316 | 0. 907185 |
| gnav1 | 126. 0636652 | -0. 078490316 | 0. 181601 | -0. 432213 | 0. 665587 | 0. 964736 |
| fam43a | 986. 7568203 | -0. 041916223 | 0. 0860147 | -0. 487315 | 0. 626035 | 0. 957354 |
| camk2d1 | 561. 3314134 | 0. 153860983 | 0. 1012485 | 1. 5196366 | 0. 128602 | 0. 659646 |
| chst14 | 58. 31483053 | -0. 321559585 | 0. 2551436 | -1. 260308 | 0. 207558 | 0. 775175 |
| napgb | 433. 3348022 | -0. 027473845 | 0. 1268874 | -0. 216522 | 0. 828581 | 0. 982721 |
| exoc1 | 1250. 05021 | -0. 207001424 | 0. 0843328 | -2. 454578 | 0. 014105 | 0. 214639 |
| slc26a11 | 161. 3941231 | -0. 148565625 | 0. 1638278 | -0. 90684 | 0. 364491 | 0. 886564 |
| ttbk2b | 650. 3336175 | 0. 170424787 | 0. 1058662 | 1. 6098123 | 0. 107439 | 0. 617344 |
| ints10 | 270. 6379941 | -0. 004224172 | 0. 1356094 | -0. 03115 | 0. 97515 | 0. 996762 |
| capn3b | 273. 1505696 | 0. 223647494 | 0. 1374594 | 1. 6270074 | 0. 103736 | 0. 610314 |
| fbx15 | 1136. 833689 | -0. 127603045 | 0. 0899942 | -1. 417903 | 0. 156219 | 0. 70658 |
| hiatl1b | 709. 5755931 | -0. 065226436 | 0. 097533 | -0. 668763 | 0. 503647 | 0. 935304 |
| nog2 | 253. 2702265 | -0. 075552416 | 0. 14636 | -0. 516209 | 0. 605708 | 0. 95651 |
| grp | 21. 42787689 | 0. 185564037 | 0. 4139452 | 0. 4482816 | 0. 65395 | 0. 961214 |
| nisch | 718. 5414237 | -0. 01667577 | 0. 0950642 | -0. 175416 | 0. 860753 | 0. 985773 |
| MMP23B | 63. 07009917 | 0. 271627443 | 0. 2506782 | 1. 0835703 | 0. 278555 | 0. 842483 |
| ctsz | 655. 7374188 | 0. 060417282 | 0. 1008034 | 0. 5993578 | 0. 548934 | 0. 946312 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| abhd17ab | 99.47847421 | -0.108369201 | 0.202242 | -0.535839 | 0.59207 | 0.954434 |
| alox5b.1 | 3.33596603 | 0.018100104 | 1.0488862 | 0.0172565 | 0.986232 | NA |
| alox5b.2 | 1.161136035 | -2.48301767 | 1.9168088 | -1.295391 | 0.195185 | NA |
| mpegl.2 | 279.0641239 | -0.317312255 | 0.1605563 | -1.97633 | 0.048117 | 0.432341 |
| gnas | 571.4049074 | -0.002585508 | 0.1014932 | -0.025475 | 0.979676 | 0.99687 |
| kctd6a | 190.5102853 | -0.223223955 | 0.1486646 | -1.501528 | 0.133219 | 0.667628 |
| lxn | 314.906444 | -0.361346635 | 0.1418205 | -2.547916 | 0.010837 | 0.180681 |
| qtrtl | 91.4121251 | -0.222509885 | 0.2066763 | -1.07661 | 0.281654 | 0.84357 |
| blf | 31.62677405 | 0.15301396 | 0.4174703 | 0.3665266 | 0.713972 | 0.96909 |
| cldne | 2033.327074 | 0.027356251 | 0.0754098 | 0.3627679 | 0.716778 | 0.96909 |
| notch2 | 1314.526236 | 4.55E-05 | 0.091397 | 0.0004976 | 0.999603 | 0.999704 |
| BX664625.1 | 2.487393773 | 0.182899978 | 1.1958309 | 0.152948 | 0.878439 | NA |
| cldnf | 308.1843085 | -0.07620493 | 0.1216985 | -0.626178 | 0.531198 | 0.942209 |
| cuxlb | 394.9196602 | 0.212591146 | 0.1237832 | 1.7174474 | 0.085897 | 0.562802 |
| pomca | 74.56639792 | 0.207919445 | 0.2454268 | 0.8471748 | 0.396898 | 0.899672 |
| cdca8 | 424.2928294 | -0.367037381 | 0.1127268 | -3.25599 | 0.00113 | 0.033958 |
| si:ch211-132f19.7 | 295.7089923 | 0.319390628 | 0.1366866 | 2.3366639 | 0.019457 | 0.261725 |
| orl08-3 | 0.809821446 | 0.539374789 | 2.2312571 | 0.2417358 | 0.808985 | NA |
| slc1a3b | 768.8284848 | 0.0813639 | 0.100614 | 0.8086741 | 0.418703 | 0.906406 |
| ucp2 | 2977.497094 | 0.107260046 | 0.0929615 | 1.1538112 | 0.248578 | 0.817939 |
| dnajb13 | 14.49276504 | 0.592815484 | 0.5393611 | 1.0991068 | 0.271721 | 0.836643 |
| celal.5 | 8.73201562 | -0.824044292 | 0.648548 | -1.270599 | 0.203871 | NA |
| celal.4 | 234.4829651 | -0.040331071 | 0.1482309 | -0.272083 | 0.785558 | 0.97627 |
| celal.3 | 5.548164129 | -0.693459255 | 0.8325453 | -0.832939 | 0.404879 | NA |
| celal.1 | 5.713761576 | -0.474640653 | 0.8313196 | -0.570948 | 0.568035 | NA |
| lsml | 133.5813534 | -0.091253121 | 0.1864375 | -0.489457 | 0.624518 | 0.957354 |
| bag4 | 205.9929593 | -0.097178086 | 0.161291 | -0.602502 | 0.54684 | 0.945526 |
| gpd1b | 803.6087747 | 0.154715822 | 0.1079152 | 1.4336799 | 0.151664 | 0.700137 |
| hhla2a.1 | 511.6203683 | -0.083156145 | 0.1160254 | -0.716707 | 0.473555 | 0.924993 |
| mlt1a | 487.6009574 | 0.075075178 | 0.1090622 | 0.6883701 | 0.49122 | 0.931926 |
| rnase12 | 0.513487682 | -0.887846295 | 2.6557956 | -0.334305 | 0.738149 | NA |
| si:rp71-1i20.2 | 4.438662215 | -0.105377682 | 0.9002366 | -0.117056 | 0.906816 | NA |
| nsun5 | 113.0207917 | -0.094861965 | 0.1862004 | -0.509462 | 0.610429 | 0.95688 |
| nfic | 10.73460268 | -0.315673057 | 0.5937973 | -0.531618 | 0.594991 | NA |
| ripk4 | 266.6299138 | 0.133176985 | 0.1422518 | 0.9362059 | 0.349167 | 0.880195 |
| adam17a | 769.0037967 | 0.067077143 | 0.0900061 | 0.7452508 | 0.45612 | 0.921215 |
| kcnh5a | 8.972699763 | 0.259953327 | 0.6519258 | 0.3987468 | 0.69008 | NA |
| nfixa | 9.018502278 | -0.41923497 | 0.6657586 | -0.62971 | 0.528884 | NA |
| CT573139.1 | 6.038970216 | -0.49434415 | 0.8035236 | -0.61522 | 0.538409 | NA |
| ccnal | 5.941363019 | -1.013224254 | 0.7878984 | -1.285983 | 0.198449 | NA |
| atgl1612 | 2.988813769 | 0.039232244 | 1.1513535 | 0.0340749 | 0.972817 | NA |
| arrbl | 27.23858445 | 0.651055058 | 0.3767002 | 1.728311 | 0.083932 | 0.557501 |
| si:dkey-222f2.1 | 595.2406822 | 0.177183446 | 0.0998298 | 1.7748553 | 0.075922 | 0.536938 |
| prkchb | 101.2634646 | 0.397479497 | 0.2210037 | 1.7985197 | 0.072095 | 0.525083 |
| gtf3c3 | 292.831324 | -0.07830026 | 0.1284012 | -0.609809 | 0.541988 | 0.944974 |
| irflb | 324.5677757 | -0.653723328 | 0.3323071 | -1.967227 | 0.049157 | 0.435115 |
| ppmlab | 411.2185593 | 0.290392784 | 0.1127768 | 2.5749331 | 0.010026 | 0.171049 |
| ckbb | 30104.32821 | 0.110268725 | 0.084102 | 1.3111312 | 0.189813 | 0.754269 |
| xylb | 90.72672518 | -0.287935169 | 0.2244058 | -1.2831 | 0.199457 | 0.764896 |
| morc3b | 7.878828358 | 0.352611845 | 0.6838461 | 0.5156304 | 0.606113 | NA |
| mgmt | 83.76390722 | -0.580458954 | 0.222699 | -2.606473 | 0.009148 | 0.160082 |
| aqp12 | 129.4062951 | -0.017806907 | 0.2120201 | -0.083987 | 0.933067 | 0.992702 |
| stap2b | 194.9953311 | -0.433216269 | 0.1496376 | -2.895102 | 0.00379 | 0.08411 |
| prrgl | 437.752823 | 0.036373225 | 0.1143356 | 0.3181268 | 0.750389 | 0.97419 |

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| zbtb21 | 34. 50443014 | 0. 050628456 | 0. 3368264 | 0. 1503103 | 0. 88052 | 0. 987881 |
| atgl01 | 351. 1663171 | -0. 046428451 | 0. 1276175 | -0. 363809 | 0. 716 | 0. 96909 |
| impact | 182. 3146517 | -0. 271563638 | 0. 1611113 | -1. 685566 | 0. 091879 | 0. 57849 |
| nmu | 32. 17955113 | -0. 183641528 | 0. 3582864 | -0. 512555 | 0. 608263 | 0. 956718 |
| gtf3c6 | 81. 45129484 | 0. 199261099 | 0. 2280729 | 0. 8736727 | 0. 382297 | 0. 895192 |
| nop2 | 512. 8090862 | 0. 041068964 | 0. 1075954 | 0. 3816981 | 0. 702685 | 0. 968134 |
| srd5a3 | 57. 54198809 | -0. 169714164 | 0. 2641298 | -0. 642541 | 0. 520522 | 0. 939056 |
| obsena | 184. 0738443 | -0. 000814915 | 0. 1545303 | -0. 005273 | 0. 995792 | 0. 998888 |
| ank2b | 3850. 05399 | -0. 018356992 | 0. 0710389 | -0. 258408 | 0. 796092 | 0. 978498 |
| kita | 51. 24798641 | -0. 184512265 | 0. 285468 | -0. 64635 | 0. 518053 | 0. 938592 |
| gsx2 | 77. 0994489 | -0. 140775473 | 0. 22586 | -0. 623287 | 0. 533096 | 0. 942969 |
| lnx1 | 609. 179704 | 0. 026415585 | 0. 0981259 | 0. 269201 | 0. 787775 | 0. 976596 |
| fip111a | 15. 07870021 | 1. 411664576 | 0. 5545404 | 2. 545648 | 0. 010908 | 0. 180962 |
| prkc2 | 44. 21562136 | 0. 079233737 | 0. 2866552 | 0. 2764078 | 0. 782235 | 0. 97627 |
| ccdc6a | 771. 9126927 | -0. 125238823 | 0. 0955373 | -1. 31089 | 0. 189895 | 0. 754269 |
| abraxas1 | 57. 34633644 | 0. 099053254 | 0. 2797578 | 0. 3540678 | 0. 723288 | 0. 970402 |
| np4r | 2. 783216127 | -0. 524146356 | 1. 1458538 | -0. 457429 | 0. 647363 | NA |
| gpx3 | 139. 4958366 | 0. 138908232 | 0. 1833327 | 0. 7576837 | 0. 44864 | 0. 917876 |
| tbl2 | 352. 397452 | 0. 069013966 | 0. 1225436 | 0. 563179 | 0. 573313 | 0. 949869 |
| rmnd5b | 1077. 113823 | -0. 062637828 | 0. 0913113 | -0. 685981 | 0. 492725 | 0. 931926 |
| dph3 | 20. 42882256 | -0. 007540337 | 0. 430251 | -0. 017525 | 0. 986017 | 0. 996944 |
| nck2b | 261. 1898461 | 0. 108079428 | 0. 1308603 | 0. 8259143 | 0. 408853 | 0. 90171 |
| mdh2 | 9158. 103826 | 0. 047134401 | 0. 0658969 | 0. 7152755 | 0. 474439 | 0. 925203 |
| atraid | | 0 NA | NA | NA | NA | NA |
| si:dkey-71h2. 2 | 151. 821691 | 0. 108651155 | 0. 1756497 | 0. 6185671 | 0. 536202 | 0. 943336 |
| crip3 | 84. 42697223 | -0. 112915462 | 0. 2333016 | -0. 483989 | 0. 628393 | 0. 957354 |
| fncl4a | 75. 05071177 | 0. 155687999 | 0. 2260247 | 0. 6888095 | 0. 490943 | 0. 931926 |
| nitr2a | 0. 476626891 | 2. 395187592 | 2. 815932 | 0. 8505843 | 0. 395 | NA |
| zgc:171480 | 316. 7664652 | -0. 112124628 | 0. 1288457 | -0. 870224 | 0. 384178 | 0. 895192 |
| paox1 | 100. 1806712 | 0. 178395855 | 0. 1952393 | 0. 913729 | 0. 360859 | 0. 885686 |
| rpp21 | 86. 05538086 | -0. 04530877 | 0. 2110957 | -0. 214636 | 0. 830051 | 0. 982899 |
| slc8a1b | 572. 9329862 | 0. 004907593 | 0. 123769 | 0. 0396512 | 0. 968371 | 0. 996315 |
| xkr6b | 39. 02438506 | 0. 064142992 | 0. 3037837 | 0. 2111469 | 0. 832773 | 0. 983557 |
| tnfaip2a | 183. 4062928 | 0. 463615377 | 0. 1528269 | 3. 0335983 | 0. 002417 | 0. 06142 |
| eipr1 | 545. 2798158 | 0. 009519171 | 0. 1108688 | 0. 0858598 | 0. 931578 | 0. 992702 |
| b3gnt11 | 99. 29986108 | -0. 070790452 | 0. 1969796 | -0. 35938 | 0. 719311 | 0. 969183 |
| si:dkey-5n18. 1 | 20. 79051077 | 0. 166144507 | 0. 4352655 | 0. 3817084 | 0. 702678 | 0. 968134 |
| zgc:153665 | 292. 9671651 | -0. 095100251 | 0. 1459505 | -0. 651593 | 0. 514664 | 0. 937537 |
| kcnj13 | 185. 3234642 | 0. 238030265 | 0. 1660548 | 1. 4334442 | 0. 151731 | 0. 700137 |
| si:ch211-152f2. 3 | 1. 015858219 | -2. 218611177 | 2. 2570181 | -0. 982983 | 0. 325616 | NA |
| efhd1 | 526. 2317732 | 0. 205103131 | 0. 1265656 | 1. 620528 | 0. 105119 | 0. 613317 |
| gpr55a | 3. 166508057 | 0. 146153233 | 1. 0623197 | 0. 1375793 | 0. 890573 | NA |
| itm2ca | 2342. 126637 | 0. 019305371 | 0. 078659 | 0. 245431 | 0. 806123 | 0. 980105 |
| cab39 | 115. 7166535 | 0. 144353153 | 0. 1980599 | 0. 7288359 | 0. 466102 | 0. 923865 |
| rps5 | 13316. 52554 | -0. 314251883 | 0. 0814306 | -3. 859136 | 0. 000114 | 0. 005461 |
| gapdh | 20754. 38044 | -0. 126946979 | 0. 2148628 | -0. 590828 | 0. 554636 | 0. 947449 |
| wu:fj39g12 | 107. 016013 | -0. 084622779 | 0. 191552 | -0. 441775 | 0. 658652 | 0. 962545 |
| atp6v1b2 | 3563. 115483 | 0. 025489093 | 0. 0728296 | 0. 3499827 | 0. 726352 | 0. 970402 |
| kcnk3a | 3. 157587408 | -0. 144960835 | 1. 0694863 | -0. 135542 | 0. 892183 | NA |
| ndufb11 | 843. 0827716 | 0. 031123038 | 0. 101031 | 0. 3080543 | 0. 758041 | 0. 975374 |
| sytl3 | 1. 695522939 | 0. 603725578 | 1. 4373587 | 0. 4200243 | 0. 674468 | NA |
| rsph3 | 27. 89635523 | 0. 187814992 | 0. 3588585 | 0. 5233678 | 0. 600718 | 0. 956045 |
| atp2b3a | 2982. 979486 | 0. 104637264 | 0. 1023411 | 1. 0224367 | 0. 306574 | 0. 860027 |
| tagapb | 62. 86262106 | 0. 057437884 | 0. 2425634 | 0. 2367953 | 0. 812816 | 0. 981081 |

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| opn8c | 4.255420478 | -0.92993266 | 0.9468578 | -0.982125 | 0.326038 | NA |
| rbbp8 | 74.53100619 | -0.270183296 | 0.233706 | -1.156082 | 0.247648 | 0.81711 |
| b3gnt3.1 | 83.34728857 | 0.29529689 | 0.2179368 | 1.3549657 | 0.175428 | 0.736233 |
| otx5 | 1075.813496 | -0.126094681 | 0.0909088 | -1.387046 | 0.165428 | 0.721223 |
| ube2d2 | 2234.100686 | 0.042815166 | 0.0789288 | 0.5424527 | 0.587507 | 0.953319 |
| si:ch211-22i13.2 | 423.356233 | -0.106803914 | 0.112464 | -0.949672 | 0.342279 | 0.878434 |
| irfla | 14.74935522 | -0.519159388 | 0.5382702 | -0.964496 | 0.334797 | 0.875699 |
| cltca | 6121.749414 | -0.056576772 | 0.0917041 | -0.61695 | 0.537268 | 0.943336 |
| scrn2 | 682.1787862 | 0.111841835 | 0.1095955 | 1.020497 | 0.307493 | 0.861088 |
| ccdc124 | 972.6825765 | 0.069958013 | 0.0865554 | 0.8082452 | 0.418949 | 0.906406 |
| rp111 | 9720.162231 | -0.329353865 | 0.2193893 | -1.50123 | 0.133296 | 0.667628 |
| vamp4 | 717.7672065 | 0.006765958 | 0.0976245 | 0.069306 | 0.944746 | 0.993409 |
| prdx6 | 1283.728129 | -0.126300741 | 0.0840954 | -1.501874 | 0.13313 | 0.667628 |
| si:dkey-239i20.4 | 35.59662573 | -0.062535258 | 0.3211524 | -0.194721 | 0.845611 | 0.985174 |
| si:dkey-239i20.2 | 59.18509683 | -0.720853918 | 0.2706456 | -2.66346 | 0.007734 | 0.140565 |
| plpp6 | 24.92564367 | 0.368560971 | 0.3941354 | 0.9351126 | 0.34973 | 0.880195 |
| jun | 2231.327765 | -0.363483233 | 0.078068 | -4.655985 | 3.22E-06 | 0.00028 |
| si:dkey-86e18.1 | 64.93687891 | -0.196774968 | 0.2530066 | -0.777746 | 0.436719 | 0.914408 |
| zpr1 | 275.4403898 | 0.092292908 | 0.1274175 | 0.7243348 | 0.46886 | 0.924328 |
| atg4da | 320.4730915 | -0.019200061 | 0.14064 | -0.136519 | 0.891411 | 0.989291 |
| ENKD1 | 71.77499642 | -0.004834616 | 0.2289555 | -0.021116 | 0.983153 | 0.996944 |
| ches1 | 14.96132146 | 0.183044685 | 0.5034802 | 0.3635589 | 0.716187 | 0.96909 |
| mrpl40 | 366.5520815 | 0.066537399 | 0.1177876 | 0.564893 | 0.572147 | 0.949494 |
| tmem30ab | 846.2729685 | 0.187373809 | 0.0965562 | 1.9405672 | 0.052311 | 0.449084 |
| kcnk13b | 0.325573202 | 0.005883621 | 3.3172783 | 0.0017736 | 0.998585 | NA |
| gle1 | 439.2888625 | -0.029508494 | 0.1094838 | -0.269524 | 0.787527 | 0.976596 |
| psmc1b | 1410.391186 | -0.106890524 | 0.0999891 | -1.069021 | 0.28506 | 0.845094 |
| zgc:65997 | 136.373858 | -0.186441391 | 0.1800767 | -1.035345 | 0.300508 | 0.856251 |
| nepro | 78.85477285 | -0.290185559 | 0.229529 | -1.264265 | 0.206135 | 0.773855 |
| dram2a | 8.403413498 | -1.267445112 | 0.6847565 | -1.850943 | 0.064178 | NA |
| KIF2A | 936.4675674 | -0.067145419 | 0.0942543 | -0.712386 | 0.476226 | 0.926403 |
| gadd45aa | 202.7543951 | -0.185806466 | 0.1570851 | -1.18284 | 0.236873 | 0.805854 |
| ifit15 | 1.87232127 | 2.165498693 | 1.697339 | 1.2758198 | 0.202019 | NA |
| fas | 17.44839295 | 0.392017587 | 0.510222 | 0.7683275 | 0.442293 | 0.916336 |
| srd5a2a | 194.7792206 | -0.274709024 | 0.1523535 | -1.803103 | 0.071372 | 0.522931 |
| ca4a | 27.15739445 | -0.048903919 | 0.3821105 | -0.127984 | 0.898162 | 0.990121 |
| rapgef1a | 81.00308297 | -0.506615706 | 0.2281344 | -2.22069 | 0.026372 | 0.312638 |
| eif4ebp1 | 1380.772716 | -0.174266606 | 0.084306 | -2.067073 | 0.038727 | 0.38611 |
| pqlc2 | 451.4434186 | 0.016409919 | 0.1300767 | 0.1261557 | 0.899609 | 0.990121 |
| tbc1d9 | 17.63856922 | -0.364449783 | 0.4684523 | -0.777987 | 0.436577 | 0.914408 |
| bcas2 | 658.6410695 | -0.157670342 | 0.1232216 | -1.279567 | 0.200697 | 0.766855 |
| cmc2 | 208.8253183 | 0.122010969 | 0.1528027 | 0.7984872 | 0.424588 | 0.9085 |
| cenpn | 104.6609111 | -0.066732102 | 0.1975517 | -0.337796 | 0.735517 | 0.972535 |
| ehbp1 | 791.6566837 | 0.074753383 | 0.0921563 | 0.8111587 | 0.417275 | 0.906237 |
| vkorc111 | 162.2778223 | -0.259880917 | 0.1708917 | -1.520735 | 0.128326 | 0.658954 |
| slc6a8 | 55.87132222 | 0.606158762 | 0.293895 | 2.0625008 | 0.03916 | 0.388646 |
| pnck | 4.104508093 | 1.090391271 | 0.9725146 | 1.1212081 | 0.262199 | NA |
| cxadr | 366.8254797 | -0.079153874 | 0.1222196 | -0.647636 | 0.51722 | 0.938592 |
| cadpsa | 101.2305804 | 0.168913827 | 0.2245664 | 0.7521776 | 0.451944 | 0.918761 |
| cnih2 | 544.3056112 | 0.100236978 | 0.102326 | 0.9795848 | 0.327291 | 0.872658 |
| faub | 154.9923813 | -0.118927705 | 0.1723374 | -0.690087 | 0.49014 | 0.931926 |
| si:dkey-63b1.1 | 3.306994042 | -0.018682317 | 1.0894819 | -0.017148 | 0.986319 | NA |
| glrx5 | 583.7985756 | -0.06285959 | 0.1050864 | -0.598171 | 0.549726 | 0.946312 |
| abt1 | 124.2132439 | 0.295912708 | 0.1860961 | 1.590107 | 0.111811 | 0.627242 |

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| zgc:100997 | 89.91247832 | -0.277986817 | 0.219706 | -1.265267 | 0.205776 | 0.773784 |
| si:dkey-174m14.3 | 628.212093 | 0.132707283 | 0.1016518 | 1.3055088 | 0.19172 | 0.755945 |
| ylpml | 788.6741521 | 0.063270322 | 0.0977614 | 0.6471914 | 0.517508 | 0.938592 |
| bpntl | 286.9302447 | -0.735504565 | 0.1320381 | -5.570395 | 2.54E-08 | 3.90E-06 |
| nabplb | 0.809272006 | 1.852129802 | 2.2597637 | 0.8196122 | 0.412437 | NA |
| si:ch211-59d15.9 | 64.12454911 | 0.044890212 | 0.2425205 | 0.1850987 | 0.853152 | 0.985174 |
| nefmb | 1231.887551 | 0.041650506 | 0.1069511 | 0.3894351 | 0.696954 | 0.96736 |
| gpdla | 303.4172327 | 0.257671612 | 0.1361534 | 1.89251 | 0.058423 | 0.473924 |
| mob3c | 73.32118484 | -0.415791082 | 0.2277089 | -1.825976 | 0.067854 | 0.509884 |
| parvaa | 171.8290141 | 0.070520179 | 0.1734048 | 0.4066795 | 0.684243 | 0.965824 |
| asflbb | 595.5643199 | 0.016390569 | 0.1004468 | 0.1631765 | 0.870379 | 0.987421 |
| cldn5a | 81.82172988 | 0.04524783 | 0.2182486 | 0.2073224 | 0.835758 | 0.984089 |
| c3a.6 | 472.4801467 | 0.200169898 | 0.3596891 | 0.5565081 | 0.577864 | 0.951024 |
| cdc45 | 175.7252824 | -0.102008501 | 0.1655027 | -0.616356 | 0.53766 | 0.943336 |
| cpa4 | 315.5431427 | -0.344027649 | 0.1491172 | -2.307096 | 0.021049 | 0.273477 |
| cwc27 | 242.5446388 | -0.084772849 | 0.1419262 | -0.597302 | 0.550305 | 0.946549 |
| sreklip1 | 96.31233945 | -0.219807115 | 0.2011635 | -1.092679 | 0.274535 | 0.839136 |
| plac8.1 | 411.2037912 | -0.796520252 | 0.1150603 | -6.922631 | 4.43E-12 | 1.39E-09 |
| cops4 | 1107.656028 | -0.049824569 | 0.0862071 | -0.577964 | 0.563289 | 0.948739 |
| trmu | 99.38789889 | -0.135680027 | 0.203009 | -0.668345 | 0.503913 | 0.93532 |
| si:ch211-282j17.8 | 0.515216064 | 0.926382026 | 2.6525479 | 0.3492423 | 0.726907 | NA |
| efcab11 | 18.08144405 | 0.228368259 | 0.4598438 | 0.4966214 | 0.619456 | 0.957354 |
| nrxn3a | 1552.711194 | 0.07895596 | 0.0932149 | 0.8470316 | 0.396978 | 0.899672 |
| ptbp3 | 43.11466748 | 0.415016352 | 0.3430977 | 1.2096156 | 0.226426 | 0.793959 |
| si:ch211-282j17.3 | | 0 NA | NA | NA | NA | NA |
| si:ch211-282j17.2 | | 0 NA | NA | NA | NA | NA |
| si:ch211-282j17.1 | 0.31598276 | 0.005883445 | 3.3523626 | 0.001755 | 0.9986 | NA |
| si:dkey-192d15.2 | 76.14133813 | 0.536368945 | 0.247816 | 2.1643843 | 0.030435 | 0.337343 |
| psmb10 | 114.7363785 | -0.253990749 | 0.1894014 | -1.341018 | 0.179915 | 0.741062 |
| si:rp71-7119.2 | 2.027271102 | -0.399650865 | 1.4669433 | -0.272438 | 0.785285 | NA |
| arhgdia | 2670.299785 | -0.120241864 | 0.0874054 | -1.37568 | 0.168921 | 0.725919 |
| ms4a17a.7 | 140.1259597 | 0.259577473 | 0.2046478 | 1.2684108 | 0.204651 | 0.77258 |
| cdc5l | 1655.097198 | -0.102297342 | 0.0798567 | -1.281011 | 0.20019 | 0.766271 |
| ms4a17a.1 | 23.08740213 | 0.890265023 | 0.4335773 | 2.0533016 | 0.040043 | 0.391989 |
| zmp:0000000619 | 32.97878645 | 0.196197507 | 0.3420213 | 0.5736411 | 0.566211 | 0.948739 |
| ms4a17a.8 | 76.54286134 | 0.286993217 | 0.2438623 | 1.1768661 | 0.239249 | 0.807768 |
| postna | 1094.137872 | 0.16979944 | 0.0890538 | 1.9067069 | 0.056559 | 0.46635 |
| st6galnac1.1 | 99.58296937 | -0.261162527 | 0.2111816 | -1.236672 | 0.216209 | 0.783589 |
| st6galnac1.2 | 2.801407445 | -0.167989194 | 1.1069243 | -0.151762 | 0.879375 | NA |
| si:ch211-119c20.2 | 31.17978186 | 0.05443708 | 0.3464706 | 0.1571189 | 0.875151 | 0.987881 |
| nme2a | 620.8151454 | 0.221642653 | 0.1259665 | 1.7595369 | 0.078486 | 0.545813 |
| klf7b | 939.7344293 | -0.03107598 | 0.0928783 | -0.334588 | 0.737936 | 0.972535 |
| rab3ab | 72.13979541 | 0.238297066 | 0.2397709 | 0.9938531 | 0.320294 | 0.868202 |
| si:ch73-111k22.2 | 1098.247036 | 0.127801182 | 0.083375 | 1.5328476 | 0.125313 | 0.654648 |
| akap7 | 165.9234814 | -0.338517439 | 0.1663927 | -2.034448 | 0.041906 | 0.401871 |
| tmem244 | 68.52112272 | -0.307467612 | 0.2372992 | -1.295696 | 0.19508 | 0.759653 |
| sod1 | 887.9992825 | -0.403477522 | 0.1048903 | -3.846664 | 0.00012 | 0.005664 |
| ftr54 | 4.731700852 | -0.285175349 | 0.8805195 | -0.323872 | 0.746035 | NA |
| ppil4 | 319.6710865 | 0.002780087 | 0.1289225 | 0.021564 | 0.982796 | 0.996944 |
| amd1 | 5037.102523 | 0.198487853 | 0.0724277 | 2.7404966 | 0.006135 | 0.118579 |
| ufml | 732.803213 | 0.055615677 | 0.0949095 | 0.5859863 | 0.557885 | 0.948478 |
| cdk19 | 20.08136757 | 0.637456425 | 0.4435578 | 1.437144 | 0.150677 | 0.698912 |
| nptnb | 1190.391549 | 0.056588613 | 0.0854213 | 0.6624651 | 0.507673 | 0.935734 |
| tim9 | 388.6597048 | -0.223047496 | 0.1199341 | -1.859751 | 0.062921 | 0.489621 |

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| arid4a | 1458.084911 | -0.107783664 | 0.0798511 | -1.349807 | 0.177078 | 0.738098 |
| mmachc | 38.91533217 | -0.229372592 | 0.3108591 | -0.737867 | 0.460595 | 0.921978 |
| nup43 | 221.8556127 | 0.009177907 | 0.1470762 | 0.0624024 | 0.950242 | 0.99381 |
| si:ch211-214k5.3 | 0.657159727 | -2.841717825 | 2.5166161 | -1.129182 | 0.258821 | NA |
| timml0b | 149.994827 | 0.154535232 | 0.1699599 | 0.9092455 | 0.363221 | 0.885944 |
| psma6l | 52.03732577 | -0.484823946 | 0.2837867 | -1.70841 | 0.08756 | 0.566637 |
| ugt5g2 | 0.484368597 | 0.855487352 | 2.7040894 | 0.316368 | 0.751723 | NA |
| gabrr1 | 243.4994449 | 0.260470801 | 0.1484493 | 1.7546114 | 0.079326 | 0.547489 |
| pnrc1 | 37.82816399 | 0.120302847 | 0.3571106 | 0.3368784 | 0.736209 | 0.972535 |
| rnfl4 | 373.6701966 | 0.132100443 | 0.1154328 | 1.1443925 | 0.252461 | 0.82189 |
| fgfl1b | 433.4846931 | 0.048371205 | 0.1172814 | 0.412437 | 0.680019 | 0.965311 |
| mei4 | 2.259900554 | 1.31216772 | 1.3339459 | 0.9836739 | 0.325276 | NA |
| F0904943.1 | 3.554644412 | -1.317807944 | 1.0656499 | -1.236624 | 0.216227 | NA |
| sox9b | 936.2172577 | 0.049279245 | 0.0890638 | 0.5533025 | 0.580056 | 0.951257 |
| gpn1 | 237.1537512 | -0.011482808 | 0.1353459 | -0.08484 | 0.932388 | 0.992702 |
| stmn4l | 1309.469755 | -0.279330018 | 0.1028636 | -2.715538 | 0.006617 | 0.124967 |
| il17a/f1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| il17a/f2 | | 0 NA | NA | NA | NA | NA |
| lrrc57 | 217.6384042 | 0.019803767 | 0.1609063 | 0.1230764 | 0.902047 | 0.990121 |
| rpf2 | 549.366375 | -0.035437805 | 0.1212061 | -0.292376 | 0.769999 | 0.975687 |
| fgf18b | 44.31325591 | 0.558338129 | 0.2905183 | 1.9218692 | 0.054622 | 0.457793 |
| si:ch211-241j12.3 | 292.3556335 | 0.074769694 | 0.1274477 | 0.5866697 | 0.557426 | 0.948478 |
| lrpprc | 2426.03382 | -0.070767117 | 0.0742974 | -0.952485 | 0.340851 | 0.878134 |
| ppp2r3c | 284.6860284 | -0.054003146 | 0.1369312 | -0.394382 | 0.693299 | 0.96736 |
| znf292b | 1232.257787 | -0.181885591 | 0.0858272 | -2.119207 | 0.034073 | 0.359261 |
| etflb | 3713.863704 | 0.041417635 | 0.0722745 | 0.5730603 | 0.566604 | 0.948739 |
| tubel | | 0 NA | NA | NA | NA | NA |
| setd6 | 106.3649258 | 0.076468066 | 0.1944974 | 0.3931573 | 0.694203 | 0.96736 |
| cyp2x8 | 19.53431681 | 0.697734492 | 0.4783168 | 1.4587288 | 0.14464 | 0.688975 |
| lgals3b | 1243.298122 | 0.014593157 | 0.0828771 | 0.1760819 | 0.86023 | 0.985773 |
| cyp2x7 | 164.6985182 | 0.638020656 | 0.1629622 | 3.9151456 | 9.03E-05 | 0.004478 |
| lox12a | 561.8508314 | 0.252123435 | 0.0991077 | 2.5439349 | 0.010961 | 0.181681 |
| xkrx | 306.6576868 | -0.035870709 | 0.1265501 | -0.283451 | 0.776831 | 0.975826 |
| gfra2b | 118.6172736 | 0.230104279 | 0.2001929 | 1.1494128 | 0.250386 | 0.820164 |
| myo6a | 1831.259155 | -0.306459668 | 0.076395 | -4.011516 | 6.03E-05 | 0.003224 |
| nkl.4 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| tmem86a | 15.43388681 | -0.331389976 | 0.5416907 | -0.61177 | 0.54069 | 0.944633 |
| zbtb2a | 23.82753227 | -0.41350377 | 0.4012605 | -1.030512 | 0.30277 | 0.85729 |
| stx11a | 28.98394276 | 0.144334936 | 0.3840316 | 0.3758413 | 0.707035 | 0.968664 |
| rassf2b | 9.767585071 | -0.012740553 | 0.6431717 | -0.019809 | 0.984196 | NA |
| slc18b1 | 82.73535315 | -0.887332126 | 0.2170999 | -4.087207 | 4.37E-05 | 0.002418 |
| prnpb | 51.81445488 | 0.094113857 | 0.2675156 | 0.351807 | 0.724983 | 0.970402 |
| vsnl1b | 1501.720318 | 0.119740319 | 0.0780387 | 1.5343702 | 0.124939 | 0.654531 |
| ahil | 334.2109683 | -0.025094347 | 0.1214386 | -0.206642 | 0.836289 | 0.984231 |
| lft2 | 4.927306551 | 0.763554967 | 0.8970892 | 0.8511472 | 0.394688 | NA |
| adora4a | 0.339758314 | 0.005883863 | 3.2682461 | 0.0018003 | 0.998564 | NA |
| ctbp2a | 2203.584456 | -0.005233502 | 0.0801788 | -0.065273 | 0.947957 | 0.99381 |
| TATDN3 | 122.2680852 | -0.001405656 | 0.1801253 | -0.007804 | 0.993774 | 0.998672 |
| fuca2 | 919.5679037 | -0.111682586 | 0.0977002 | -1.143115 | 0.252991 | 0.822599 |
| lox12b | 1098.543241 | 0.303002259 | 0.0840093 | 3.6067694 | 0.00031 | 0.012137 |
| pelilb | 191.3178087 | 0.143049686 | 0.1513002 | 0.9454696 | 0.344419 | 0.878434 |
| zmpste24 | 834.4931636 | 0.128750514 | 0.0933233 | 1.3796186 | 0.167704 | 0.724848 |
| pitpnab | 892.7993734 | 0.205037773 | 0.0961633 | 2.132183 | 0.032992 | 0.353977 |
| atp5if1b | 1502.409704 | -0.007373287 | 0.0830366 | -0.088796 | 0.929244 | 0.992702 |

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| rpl13a | 16898.13444 | -0.223101047 | 0.0818745 | -2.724914 | 0.006432 | 0.122415 |
| gfpt2 | 206.4983357 | -0.34512959 | 0.1435089 | -2.404934 | 0.016175 | 0.23484 |
| egr2a | 43.23510956 | 0.531150218 | 0.3139238 | 1.6919717 | 0.090651 | 0.576398 |
| znf593 | 340.6471442 | -0.073925188 | 0.1244524 | -0.594004 | 0.55251 | 0.947265 |
| cyb561d2 | 15.79552787 | 0.775644194 | 0.4805797 | 1.6139761 | 0.106533 | 0.615567 |
| txn | 448.8568756 | -0.056982087 | 0.1265977 | -0.450104 | 0.652636 | 0.960708 |
| si:ch211-214p16.1 | 1.512134105 | -0.953111348 | 1.578721 | -0.603724 | 0.546027 | NA |
| ogna | 668.1959944 | 0.262608642 | 0.0988912 | 2.6555296 | 0.007918 | 0.142994 |
| iars2 | 826.5826442 | 0.050644461 | 0.0875335 | 0.578572 | 0.562878 | 0.948728 |
| cenpp | 146.4496823 | 0.005761348 | 0.1692184 | 0.0340468 | 0.97284 | 0.996315 |
| rab3gap2 | 651.8810203 | 0.035185415 | 0.099492 | 0.3536508 | 0.723601 | 0.970402 |
| acssl | 300.7076262 | -0.390205534 | 0.1590889 | -2.452751 | 0.014177 | 0.214979 |
| nol8 | 170.499866 | 0.107101987 | 0.1624902 | 0.6591288 | 0.509813 | 0.936253 |
| wapla | 128.1791311 | -0.010863338 | 0.1773696 | -0.061247 | 0.951163 | 0.99381 |
| ppplcb | 4291.527436 | -0.079732311 | 0.0711317 | -1.120911 | 0.262326 | 0.830166 |
| mafaa | 390.8567851 | 0.153844884 | 0.1113774 | 1.3812931 | 0.167189 | 0.723887 |
| grid1b | 122.5609471 | 0.125464617 | 0.193042 | 0.6499343 | 0.515735 | 0.9377 |
| padi2 | 1374.18897 | 0.338982618 | 0.0809825 | 4.1858751 | 2.84E-05 | 0.001682 |
| prelid1b | 53.81635351 | 0.073814514 | 0.2926545 | 0.2522241 | 0.800868 | 0.979377 |
| oxtrl | 4.177494113 | 0.603235684 | 0.9250875 | 0.652085 | 0.514346 | NA |
| rbms2a | 906.7547151 | -0.008691001 | 0.0939797 | -0.092477 | 0.926319 | 0.992702 |
| staul | 2566.035569 | 0.006278115 | 0.0774055 | 0.0811069 | 0.935357 | 0.992702 |
| prkabla | 650.5744325 | -0.002404345 | 0.1019526 | -0.023583 | 0.981185 | 0.996944 |
| gxylt2 | 161.6457413 | 0.108403852 | 0.1623991 | 0.6675151 | 0.504443 | 0.935552 |
| tcta | 388.3090433 | -0.030204388 | 0.1190448 | -0.253723 | 0.79971 | 0.979377 |
| gnat1 | 2102.357003 | 0.302277079 | 0.1100651 | 2.7463492 | 0.006026 | 0.117745 |
| sumf1 | 252.6269488 | -0.251790684 | 0.1379283 | -1.825519 | 0.067923 | 0.510097 |
| endou | 35.60607137 | -0.340212599 | 0.3199559 | -1.063311 | 0.287641 | 0.845979 |
| fto | 241.0239053 | -0.091765628 | 0.1476817 | -0.621374 | 0.534353 | 0.943336 |
| si:dkey-27b3.2 | 733.100068 | 0.000988305 | 0.0936675 | 0.0105512 | 0.991582 | 0.997679 |
| BX005421.1 | 0.666939546 | 1.487980453 | 2.2924711 | 0.6490727 | 0.516291 | NA |
| dram2b | 370.0614138 | 0.084611335 | 0.1277403 | 0.6623698 | 0.507734 | 0.935734 |
| snx18b | 42.37585499 | -0.200484072 | 0.2944882 | -0.680788 | 0.496006 | 0.932377 |
| rasgef1bb | 405.9340145 | -0.063933293 | 0.1222399 | -0.523015 | 0.600964 | 0.956045 |
| paqr3b | 117.9362915 | 0.391143917 | 0.4899472 | 0.798339 | 0.424674 | 0.9085 |
| anxa3b | 735.363216 | -0.076726419 | 0.0993042 | -0.77264 | 0.439735 | 0.916082 |
| rbm18 | 340.8397816 | -0.172927407 | 0.1249786 | -1.383656 | 0.166464 | 0.722981 |
| si:ch211-243g18.2 | 819.3836356 | 0.073885041 | 0.1003977 | 0.7359234 | 0.461777 | 0.922466 |
| pimr71 | 1.352428212 | -0.694422538 | 1.6416302 | -0.423008 | 0.67229 | NA |
| cdc3711 | 93.59241976 | 0.123912168 | 0.2064123 | 0.6003139 | 0.548297 | 0.945871 |
| sumo1 | 1291.380023 | -0.032883257 | 0.0858228 | -0.383153 | 0.701606 | 0.968134 |
| sppl | 65.97555244 | -0.092805542 | 0.2481716 | -0.373957 | 0.708436 | 0.968664 |
| synpr | 60.47576771 | 0.071321041 | 0.2521465 | 0.2828556 | 0.777288 | 0.975826 |
| opnlmw3 | 0.641435609 | -0.01573847 | 2.4541227 | -0.006413 | 0.994883 | NA |
| opnlmw2 | 436.3961539 | 0.79352688 | 0.1362204 | 5.825314 | 5.70E-09 | 1.02E-06 |
| erbin | 1287.488765 | -0.178446017 | 0.0927172 | -1.924626 | 0.054276 | 0.456511 |
| smc5 | 350.3029915 | -0.288600894 | 0.1216889 | -2.371628 | 0.01771 | 0.246724 |
| rph3al | | 0 NA | NA | NA | NA | NA |
| pip5klba | 105.1579932 | -0.092901494 | 0.1980982 | -0.468967 | 0.639093 | 0.959927 |
| phax | 384.462303 | 0.042509417 | 0.1376397 | 0.3088457 | 0.757439 | 0.975374 |
| lmnb1 | 2489.568166 | 0.06351035 | 0.076185 | 0.8336338 | 0.404487 | 0.901305 |
| atf1 | 840.5207866 | -0.093063701 | 0.0975656 | -0.953857 | 0.340156 | 0.87805 |
| prrc1 | 567.1546914 | -0.002960646 | 0.102463 | -0.028895 | 0.976949 | 0.996762 |
| itgb7 | 24.42359329 | -0.193116616 | 0.3901006 | -0.495043 | 0.62057 | 0.957354 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| fstl4 | 132.7538454 | -0.095138853 | 0.1794126 | -0.53028 | 0.595918 | 0.954434 |
| zgc:193690 | 59.05304919 | -0.440036732 | 0.253771 | -1.733991 | 0.08292 | 0.555438 |
| BX950188.1 | 13.55923507 | -0.218680205 | 0.5382357 | -0.406291 | 0.684529 | 0.966043 |
| tmem185 | 448.1140375 | 0.003846185 | 0.1118636 | 0.0343828 | 0.972572 | 0.996315 |
| ankrd46a | 1198.703789 | -0.019199293 | 0.0849209 | -0.226084 | 0.821136 | 0.981748 |
| zranb2 | 797.5053386 | -0.105062739 | 0.0950386 | -1.105474 | 0.268954 | 0.834243 |
| si:ch211-218m3.16 | 4.283202237 | -0.685089387 | 0.9268254 | -0.739178 | 0.459799 | NA |
| or115-6 | 0.50625413 | -0.940106488 | 2.8357787 | -0.331516 | 0.740255 | NA |
| or115-7 | 1.499238245 | 2.909600561 | 1.7684723 | 1.6452622 | 0.099916 | NA |
| rp2 | 448.874928 | 0.020090906 | 0.1179329 | 0.1703588 | 0.864728 | 0.986052 |
| chst7 | 227.591244 | 0.100606594 | 0.1459139 | 0.6894928 | 0.490513 | 0.931926 |
| or115-13 | 0 NA | NA | NA | NA | NA | NA |
| cyfipl | 1797.914358 | -0.012933076 | 0.0804785 | -0.160702 | 0.872328 | 0.987846 |
| CT030712.1 | 3.346133651 | 0.580591656 | 1.0341509 | 0.5614187 | 0.574512 | NA |
| tp63 | 637.1118026 | 0.117429463 | 0.1039478 | 1.1296969 | 0.258604 | 0.826732 |
| tbcl23 | 951.0410007 | 0.060091612 | 0.0882537 | 0.6808966 | 0.495937 | 0.932377 |
| unc119b | 1207.235431 | 0.077175083 | 0.0867952 | 0.8891634 | 0.373915 | 0.893677 |
| angpt13 | 209.0255385 | 0.67520781 | 0.1597923 | 4.225534 | 2.38E-05 | 0.001457 |
| atg4c | 233.4750057 | -0.05075559 | 0.1498281 | -0.338759 | 0.734791 | 0.972021 |
| zgc:158291 | 894.8094467 | -0.007484749 | 0.0944075 | -0.079281 | 0.936809 | 0.992702 |
| rbmx2 | 132.1789483 | -0.426507453 | 0.207855 | -2.051947 | 0.040175 | 0.392132 |
| siah21 | 576.6560767 | 0.179109052 | 0.1214041 | 1.4753128 | 0.140128 | 0.679809 |
| cldn2 | 227.5022604 | 0.097101635 | 0.1375731 | 0.7058184 | 0.480301 | 0.927397 |
| wdr78 | 19.42751227 | 0.304828307 | 0.4400386 | 0.6927308 | 0.488479 | 0.931926 |
| nop16 | 217.9285229 | 0.061209669 | 0.1716152 | 0.3566682 | 0.72134 | 0.969666 |
| pars2 | 70.18918183 | -0.034308721 | 0.2449593 | -0.140059 | 0.888613 | 0.989291 |
| ttc4 | 201.8944769 | 0.122887975 | 0.146855 | 0.836798 | 0.402706 | 0.90084 |
| csmdla | 5.453372486 | 0.439849199 | 0.8063143 | 0.5455059 | 0.585406 | NA |
| tlr5a | 24.74425639 | -0.039238148 | 0.4084574 | -0.096064 | 0.92347 | 0.992588 |
| displ | 199.4031139 | 0.124054865 | 0.1528655 | 0.8115297 | 0.417062 | 0.906237 |
| dnajc19 | 129.9779252 | 0.002392075 | 0.187593 | 0.0127514 | 0.989826 | 0.997612 |
| acvr2ba | 84.01489564 | -0.340897161 | 0.2180455 | -1.563422 | 0.117953 | 0.641477 |
| ppig | 577.2176375 | -0.059606843 | 0.1057963 | -0.563411 | 0.573155 | 0.949762 |
| sned1 | 165.9317083 | 0.245590524 | 0.1753661 | 1.400445 | 0.16138 | 0.715364 |
| rps6ka4 | 49.50664259 | -0.245538415 | 0.2936374 | -0.836196 | 0.403045 | 0.900848 |
| cdca5 | 235.6956813 | -0.226997693 | 0.1439763 | -1.576632 | 0.11488 | 0.635519 |
| si:ch73-194h10.2 | 237.4486255 | -1.325186437 | 0.1446539 | -9.161081 | 5.14E-20 | 4.82E-17 |
| gfilab | 60.14132514 | -0.010550703 | 0.2589896 | -0.040738 | 0.967505 | 0.996315 |
| cdc23 | 275.3188166 | 0.022011481 | 0.1330987 | 0.1653772 | 0.868647 | 0.987245 |
| sall4 | 274.7476077 | -0.124333792 | 0.1279456 | -0.97177 | 0.331165 | 0.874339 |
| paklip1 | 390.1886655 | -0.146200641 | 0.1211324 | -1.206949 | 0.227452 | 0.794775 |
| tlr9 | 0.31759079 | 1.807926197 | 3.579045 | 0.5051421 | 0.613459 | NA |
| kif20a | 409.5657329 | -0.073689508 | 0.111241 | -0.662431 | 0.507695 | 0.935734 |
| ublcpl | 308.9988866 | 0.13110319 | 0.1212059 | 1.0816566 | 0.279405 | 0.842882 |
| viml | 41.62579076 | -0.44651068 | 0.3217993 | -1.387544 | 0.165276 | 0.721223 |
| etv5b | 929.9029192 | 0.036026662 | 0.096627 | 0.3728427 | 0.709266 | 0.968736 |
| ca4c | 31.72786612 | 0.028520122 | 0.3525932 | 0.0808868 | 0.935532 | 0.992702 |
| tpst11 | 451.1774087 | 0.09084164 | 0.1093478 | 0.8307586 | 0.40611 | 0.901305 |
| st6gall | 24.77081981 | 0.2634935 | 0.3839212 | 0.6863219 | 0.49251 | 0.931926 |
| eef1b2 | 5690.359838 | -0.376999751 | 0.1913201 | -1.970518 | 0.048779 | 0.434204 |
| def6b | 78.35146374 | -0.01551548 | 0.2364934 | -0.065606 | 0.947691 | 0.99381 |
| pparda | 60.24343134 | 0.208770578 | 0.2603723 | 0.8018156 | 0.42266 | 0.906865 |
| camk1ga | 242.4102678 | 0.326677049 | 0.139291 | 2.3452848 | 0.019013 | 0.257244 |
| slc15a1b | 140.8627304 | -0.703809052 | 0.2123269 | -3.314742 | 0.000917 | 0.029089 |

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| nr4a2b | 516.9359625 | 0.025556152 | 0.1012895 | 0.252308 | 0.800803 | 0.979377 |
| CR631122.1 | 5.614026907 | -0.49250602 | 0.8243752 | -0.597429 | 0.550221 | NA |
| fkbp2 | 905.7546394 | -0.009593162 | 0.0874118 | -0.109747 | 0.91261 | 0.991119 |
| ppplr14ba | 1669.546022 | -0.00153182 | 0.0892274 | -0.017168 | 0.986303 | 0.996965 |
| zgc:110782 | 36.93055239 | -0.079734215 | 0.3357287 | -0.237496 | 0.812272 | 0.981081 |
| zgc:77262 | 1456.796668 | -0.019899884 | 0.0839011 | -0.237183 | 0.812515 | 0.981081 |
| zgc:112416 | 7.142103242 | 0.492349808 | 0.7213601 | 0.6825298 | 0.494904 | NA |
| hif1a12 | 54.10475247 | 0.271250238 | 0.3070968 | 0.8832729 | 0.377089 | 0.895192 |
| atg9a | 647.1352492 | 0.029789251 | 0.0999029 | 0.2981819 | 0.765564 | 0.975374 |
| pacsla | 322.2555501 | 0.103189211 | 0.1340746 | 0.76964 | 0.441513 | 0.916336 |
| ccr7 | 2.200169039 | -0.208059758 | 1.2753711 | -0.163137 | 0.870411 | NA |
| cycsb | 4614.360418 | 0.171363553 | 0.0732301 | 2.3400703 | 0.01928 | 0.259881 |
| olal | 2868.83093 | -0.133112824 | 0.0729541 | -1.824609 | 0.06806 | 0.51036 |
| fabp6 | 184.7446125 | -1.915979857 | 0.2178374 | -8.795461 | 1.42E-18 | 1.04E-15 |
| ttcl | 171.6259169 | -0.127097819 | 0.1578839 | -0.805008 | 0.420815 | 0.90651 |
| cldn19 | 243.7535321 | 0.248585554 | 0.1417139 | 1.7541372 | 0.079407 | 0.547489 |
| cdc42 | 3799.053598 | 0.004165281 | 0.0716591 | 0.0581263 | 0.953648 | 0.994213 |
| rbms3 | 40.30085763 | 0.146444686 | 0.3098523 | 0.4726273 | 0.636479 | 0.958565 |
| vars | 1383.152346 | -0.125047674 | 0.0799729 | -1.563626 | 0.117905 | 0.641446 |
| tex261 | 228.2846402 | 0.257217823 | 0.1454545 | 1.7683726 | 0.076999 | 0.540058 |
| emp2 | 1269.247086 | 0.100416192 | 0.0801865 | 1.2522824 | 0.210467 | 0.778338 |
| pgap2 | 75.60400563 | 0.008378379 | 0.2380965 | 0.035189 | 0.971929 | 0.996315 |
| ncbp3 | 566.2245227 | 0.033063587 | 0.0991474 | 0.3334792 | 0.738773 | 0.972722 |
| plppr2b | 33.65599086 | -0.034139701 | 0.3301636 | -0.103402 | 0.917644 | 0.991623 |
| rtn4a | 4262.259116 | 0.163846753 | 0.0690909 | 2.3714668 | 0.017718 | 0.246724 |
| stx121 | 451.7908393 | -0.189017329 | 0.1065579 | -1.773847 | 0.076088 | 0.537348 |
| clqb | 1.819038829 | 4.314240719 | 3.5266802 | 1.223315 | 0.221211 | NA |
| clqa | 3.702316027 | 0.603058782 | 1.0916209 | 0.5524434 | 0.580645 | NA |
| zak | 311.0666103 | 0.104330847 | 0.1304886 | 0.7995397 | 0.423978 | 0.908025 |
| birc2 | 2047.639039 | -0.05282397 | 0.0747581 | -0.706598 | 0.479816 | 0.927094 |
| polq | 59.25973589 | -0.014512409 | 0.251835 | -0.057627 | 0.954046 | 0.994271 |
| pcf11 | 1217.167609 | -0.008453139 | 0.0984182 | -0.08589 | 0.931554 | 0.992702 |
| ccdc90b | 62.81463973 | -0.29334631 | 0.2562362 | -1.144828 | 0.25228 | 0.821887 |
| alg8 | 143.2674585 | -0.166286396 | 0.1707626 | -0.973787 | 0.330162 | 0.874097 |
| dtd1 | 277.6328238 | -0.124880606 | 0.1399469 | -0.892343 | 0.372209 | 0.892686 |
| gucald | 14.681825 | 1.046610776 | 0.5046994 | 2.073731 | 0.038104 | 0.382552 |
| myo7ab | 164.3906371 | 0.124873585 | 0.1676031 | 0.7450551 | 0.456238 | 0.921215 |
| sc5d | 120.1846979 | -0.32110956 | 0.1855753 | -1.730347 | 0.083568 | 0.557158 |
| st14b | 263.6877556 | -0.387003033 | 0.140464 | -2.755176 | 0.005866 | 0.115189 |
| hplbp3 | 8225.158551 | -0.062340889 | 0.0613422 | -1.016281 | 0.309496 | 0.861604 |
| parapinopsinb | 93.26220074 | 0.148330701 | 0.2129464 | 0.6965635 | 0.486076 | 0.930833 |
| rbp41 | 402.1410148 | 0.212864467 | 0.1387639 | 1.5340044 | 0.125029 | 0.654648 |
| nr0b2a | 79.07640256 | -0.194335067 | 0.2501363 | -0.776917 | 0.437208 | 0.914408 |
| dusp4 | 422.1039891 | 0.092300251 | 0.1157088 | 0.7976941 | 0.425048 | 0.908819 |
| ppplr3b | 114.4429539 | 0.072262315 | 0.2003745 | 0.3606363 | 0.718371 | 0.96909 |
| eril | 185.5346195 | 0.093936833 | 0.1602478 | 0.5861974 | 0.557743 | 0.948478 |
| fybb | 37.64750933 | 0.010868801 | 0.3121491 | 0.0348193 | 0.972224 | 0.996315 |
| ccdc8012 | 200.5346063 | 0.299072401 | 0.1461915 | 2.045758 | 0.04078 | 0.394957 |
| or137-2 | 0.658957134 | 2.851427774 | 2.5143902 | 1.1340434 | 0.256776 | NA |
| vav2 | 445.4633203 | 0.05609205 | 0.10675 | 0.5254525 | 0.599269 | 0.955949 |
| or115-12 | 7.589833803 | 0.071009569 | 0.7144599 | 0.0993892 | 0.920829 | NA |
| ddt | 647.8838147 | -0.071996375 | 0.0994755 | -0.72376 | 0.469213 | 0.924496 |
| p2rx4a | 50.94999243 | -1.36356122 | 0.2820089 | -4.83517 | 1.33E-06 | 0.000128 |
| idh3b | 1503.960443 | 0.050402727 | 0.0780214 | 0.6460118 | 0.518272 | 0.938661 |

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| gnrh2 | 43.39485038 | -0.439421393 | 0.307918 | -1.427073 | 0.153559 | 0.702578 |
| si:dkeyp-87d8.8 | 26.85536519 | -0.004535823 | 0.400111 | -0.011336 | 0.990955 | 0.997679 |
| gnaia | 853.0491716 | -0.071152134 | 0.0931404 | -0.763923 | 0.444913 | 0.916906 |
| mitd1 | 103.2536363 | 0.178923701 | 0.201893 | 0.8862303 | 0.375493 | 0.894316 |
| tspan10 | 32.73935658 | -0.298569398 | 0.3627929 | -0.822975 | 0.410522 | 0.903084 |
| kctd13 | 570.8044269 | -0.093599966 | 0.0994968 | -0.940734 | 0.346841 | 0.8794 |
| pou5f3 | 9.137955491 | -1.131795659 | 0.6621651 | -1.709235 | 0.087407 | NA |
| fut7 | 5.801381656 | 0.754985306 | 0.7856989 | 0.9609093 | 0.336598 | NA |
| clic3 | 130.5773244 | -0.076463795 | 0.1833245 | -0.417095 | 0.676609 | 0.965257 |
| bace2 | 204.6865563 | -0.139388002 | 0.1573499 | -0.885847 | 0.3757 | 0.894316 |
| entpd2b | 4.373150299 | 0.252795547 | 0.9042089 | 0.2795765 | 0.779802 | NA |
| cd8a | | 0 NA | NA | NA | NA | NA |
| wdr38 | 6.652040099 | 0.15139751 | 0.7361272 | 0.2056676 | 0.837051 | NA |
| aadacl4 | 3.596934559 | -0.907275404 | 1.2165545 | -0.745775 | 0.455804 | NA |
| dhrr3b | 300.346437 | -0.004176423 | 0.1239481 | -0.033695 | 0.97312 | 0.996315 |
| dck | 139.382871 | -0.042721862 | 0.1751409 | -0.243928 | 0.807286 | 0.980545 |
| slc4a4b | 184.1737583 | 0.248158584 | 0.1654055 | 1.5003043 | 0.133536 | 0.667982 |
| fpgs | 417.8972105 | -0.137715152 | 0.1121994 | -1.227414 | 0.219667 | 0.786189 |
| cdk9 | 752.6755339 | -0.054385738 | 0.0903224 | -0.602129 | 0.547088 | 0.945526 |
| ttcl7 | 502.2395166 | 0.076910141 | 0.1159954 | 0.6630449 | 0.507302 | 0.935734 |
| vps33b | 254.1322536 | -0.081062056 | 0.1320995 | -0.613644 | 0.539451 | 0.943908 |
| serinc4 | 234.3471438 | -0.002721065 | 0.1385524 | -0.019639 | 0.984331 | 0.996944 |
| cstfl | 475.7364582 | -0.122566362 | 0.1091723 | -1.122687 | 0.26157 | 0.829691 |
| wnt7aa | 621.5613906 | 0.300129128 | 0.0956598 | 3.1374643 | 0.001704 | 0.047485 |
| zgc:171599 | 133.8492331 | -0.30732337 | 0.1818372 | -1.690102 | 0.091009 | 0.578093 |
| wbp2n1 | 953.0382851 | -0.123535405 | 0.1157819 | -1.066966 | 0.285987 | 0.845942 |
| opn1lw2 | 19854.6338 | 0.312969501 | 0.0933204 | 3.3537095 | 0.000797 | 0.025763 |
| opn1lw1 | 4.7098439 | 1.349805194 | 0.9216147 | 1.464609 | 0.143028 | NA |
| zgc:92107 | 585.6421407 | -0.121855421 | 0.1031981 | -1.180791 | 0.237686 | 0.806474 |
| crygm2e | 15.4708169 | -0.564511894 | 0.5373267 | -1.050593 | 0.293445 | 0.849325 |
| zgc:113307 | 205.3823135 | 0.123116739 | 0.1454867 | 0.8462405 | 0.397419 | 0.899672 |
| fmoda | 1623.102551 | 0.211985068 | 0.0776014 | 2.7317178 | 0.006301 | 0.120958 |
| tmem183a | 466.7725018 | 0.101623569 | 0.1167033 | 0.8707858 | 0.383871 | 0.895192 |
| prlhr2a | 15.07566495 | 0.347987956 | 0.5039948 | 0.6904594 | 0.489905 | 0.931926 |
| atp2b4 | 3722.434171 | 0.080987899 | 0.0706571 | 1.1462099 | 0.251708 | 0.821198 |
| suc1g2 | 1136.589822 | -0.180689094 | 0.0838249 | -2.155555 | 0.031118 | 0.341651 |
| ube2w | 216.7836246 | -0.093728644 | 0.1642796 | -0.570543 | 0.568309 | 0.948983 |
| gdf11 | 6.297148392 | 0.318472818 | 0.7416264 | 0.4294248 | 0.667614 | NA |
| cdk5rap1 | 100.2736126 | -0.227934276 | 0.2007531 | -1.135396 | 0.256209 | 0.824633 |
| hpd | 184.3653601 | 0.116020278 | 0.1712045 | 0.6776708 | 0.49798 | 0.933548 |
| cbx2 | 419.7966981 | -0.443455379 | 0.134993 | -3.285025 | 0.00102 | 0.031507 |
| mrpl45 | 345.8265176 | -0.105656126 | 0.1208923 | -0.873969 | 0.382135 | 0.895192 |
| npepps | 1895.042143 | 0.055755383 | 0.0773464 | 0.7208534 | 0.471 | 0.924838 |
| rnf8 | 340.8875285 | -0.134066686 | 0.1192201 | -1.124531 | 0.260788 | 0.828804 |
| slitla | 214.9474629 | 0.15594992 | 0.1504293 | 1.0366989 | 0.299876 | 0.855995 |
| zgc:114123 | 1.839504714 | 1.42777393 | 1.4235548 | 1.0029638 | 0.315878 | NA |
| vcla | 438.8051155 | 0.314194793 | 0.1130904 | 2.7782627 | 0.005465 | 0.109711 |
| bcap31 | 802.7692385 | 0.049945856 | 0.0910314 | 0.5486663 | 0.583234 | 0.952214 |
| krt98 | 14.8038423 | 0.170507815 | 0.5083909 | 0.3353872 | 0.737333 | 0.972535 |
| krt94 | 1017.549343 | 0.070282364 | 0.0913948 | 0.7689975 | 0.441895 | 0.916336 |
| krt93 | 18.02101918 | -2.318428905 | 0.5193457 | -4.464134 | 8.04E-06 | 0.000593 |
| kpna6 | 63.0156505 | -0.191115353 | 0.2469554 | -0.773886 | 0.438998 | 0.916082 |
| dhrr3a | 208.2625566 | 0.027198387 | 0.1593166 | 0.1707191 | 0.864445 | 0.98601 |
| plvapb | 816.5983942 | -0.095922824 | 0.093003 | -1.031395 | 0.302355 | 0.85729 |

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| ptprga | 105.7072739 | 0.11805139 | 0.2168039 | 0.5445077 | 0.586092 | 0.953231 |
| tapbp.2 | 22.03214295 | -0.380984411 | 0.4127039 | -0.923142 | 0.355933 | 0.882844 |
| tuba2 | 5871.463193 | 0.190499315 | 0.0747014 | 2.5501453 | 0.010768 | 0.179985 |
| cyp27b1 | 21.92669827 | 1.249540542 | 0.4297363 | 2.9076915 | 0.003641 | 0.081518 |
| npffl | 120.3662332 | -0.097087458 | 0.1830926 | -0.530264 | 0.595929 | 0.954434 |
| pdrgl | 161.8217993 | -0.05408791 | 0.1624183 | -0.333016 | 0.739122 | 0.972722 |
| aamp | 763.79472 | -0.316711391 | 0.0996623 | -3.177846 | 0.001484 | 0.042398 |
| lhfp15a | 19.27285176 | 0.375850074 | 0.4642829 | 0.8095281 | 0.418211 | 0.906406 |
| ift52 | 273.3816042 | -0.039504101 | 0.129836 | -0.304262 | 0.760929 | 0.975374 |
| rab9a | 58.3839336 | -0.226871759 | 0.2511832 | -0.903212 | 0.366413 | 0.887239 |
| cdc42ep4b | 744.757034 | 0.124345122 | 0.0952267 | 1.3057798 | 0.191627 | 0.755886 |
| tekt3 | 33.83957464 | 0.268522924 | 0.33719 | 0.7963549 | 0.425826 | 0.909514 |
| kcnj16 | 5.946820114 | 0.004311976 | 0.7579672 | 0.0056889 | 0.995461 | NA |
| slc16a3 | 1825.983794 | -0.074222804 | 0.0870512 | -0.852633 | 0.393863 | 0.898496 |
| abl1mb | 876.5736916 | -0.020843964 | 0.0920517 | -0.226438 | 0.820861 | 0.981628 |
| vtila | 202.727355 | 0.01997019 | 0.1489201 | 0.1341 | 0.893323 | 0.989291 |
| entpd1 | 586.8494648 | 0.213847488 | 0.0992171 | 2.1553482 | 0.031135 | 0.341651 |
| kcnkla | 24.01155045 | 0.761962541 | 0.4031269 | 1.8901307 | 0.05874 | 0.474103 |
| itgb3b | 20.02138698 | 0.412876165 | 0.4326967 | 0.9541929 | 0.339986 | 0.87805 |
| chad | 293.7810402 | -0.101721541 | 0.1554844 | -0.654224 | 0.512968 | 0.936253 |
| arl4d | 788.8406625 | -0.017829073 | 0.1035191 | -0.17223 | 0.863257 | 0.985841 |
| tmem106a | 220.8350352 | -0.22828163 | 0.1536594 | -1.485634 | 0.137376 | 0.674358 |
| cdk5r1b | 611.8386054 | 0.015088735 | 0.1036389 | 0.1455895 | 0.884245 | 0.98879 |
| si:ch211-270n8.1 | 97.5082542 | 0.640482204 | 0.2700505 | 2.3717124 | 0.017706 | 0.246724 |
| mrpl10 | 244.3585424 | 0.114486123 | 0.1352613 | 0.846407 | 0.397326 | 0.899672 |
| cdk5rap3 | 382.5017464 | -0.087297091 | 0.113986 | -0.765858 | 0.443761 | 0.916631 |
| si:dkey-222b8.1 | 13.00049722 | 0.856797136 | 0.5366157 | 1.5966681 | 0.11034 | 0.624637 |
| elac1 | 153.2515407 | 0.105702694 | 0.183189 | 0.5770143 | 0.56393 | 0.948739 |
| foxn2b | 573.084893 | -0.074057983 | 0.0989276 | -0.748608 | 0.454094 | 0.920295 |
| oplah | 515.4542185 | -0.277803415 | 0.1143763 | -2.428854 | 0.015147 | 0.225353 |
| FAM53C | 609.3562907 | 0.057796858 | 0.1028795 | 0.561792 | 0.574258 | 0.950037 |
| fkbp10b | 471.071668 | 0.193834577 | 0.1084799 | 1.786824 | 0.073966 | 0.53012 |
| klhl11 | 211.6633667 | 0.043796394 | 0.140989 | 0.310637 | 0.756077 | 0.975374 |
| id4 | 664.6834562 | 0.065129463 | 0.0977036 | 0.6666028 | 0.505026 | 0.935724 |
| vdac1 | 6369.400422 | -0.05307031 | 0.0712489 | -0.744858 | 0.456358 | 0.921215 |
| CABZ01084564.1 | 3.143591673 | 0.768833306 | 1.1366807 | 0.6763846 | 0.498796 | NA |
| ca7 | 45.09105839 | -0.148512872 | 0.2929235 | -0.507002 | 0.612153 | 0.95688 |
| lcmt1 | 238.2821525 | -0.020390007 | 0.1596275 | -0.127735 | 0.898359 | 0.990121 |
| aqp8a.1 | 252.908889 | -0.301689632 | 0.1365042 | -2.210113 | 0.027097 | 0.317055 |
| hbae5 | 40.49415602 | -0.627018374 | 0.3120413 | -2.009409 | 0.044494 | 0.41501 |
| hbbe2 | 2311.798758 | -0.015040429 | 0.0837239 | -0.179643 | 0.857433 | 0.985703 |
| zgc:163057 | 22.74136561 | 0.185589614 | 0.4171516 | 0.4448973 | 0.656394 | 0.961833 |
| shisa9a | 377.9221637 | -0.08478946 | 0.1280628 | -0.662093 | 0.507912 | 0.935734 |
| tomm22 | 989.784681 | -0.064423925 | 0.0900219 | -0.715647 | 0.474209 | 0.925066 |
| tmem184ba | 1013.077282 | 0.179395534 | 0.0844232 | 2.1249548 | 0.03359 | 0.357045 |
| csnkle | 991.8854379 | -0.108764363 | 0.0859762 | -1.265052 | 0.205853 | 0.773784 |
| slc16a8 | 30.01521258 | -0.122324593 | 0.409773 | -0.298518 | 0.765308 | 0.975374 |
| phf5a | 196.4195709 | -0.103825086 | 0.1808994 | -0.573938 | 0.56601 | 0.948739 |
| rgs9b | 271.7333835 | -0.041046624 | 0.1322028 | -0.310482 | 0.756194 | 0.975374 |
| si:ch211-147h1.4 | 1.479747632 | 0.372261087 | 1.6452828 | 0.2262596 | 0.820999 | NA |
| zdhhc4 | 266.592628 | -0.064142758 | 0.1350431 | -0.47498 | 0.634801 | 0.9578 |
| msrb1b | | 0 NA | NA | NA | NA | NA |
| npix2b | 17.0064386 | 0.252845772 | 0.4767639 | 0.5303375 | 0.595878 | 0.954434 |
| bhlha15 | 5.334386492 | 0.561092373 | 0.8236099 | 0.6812598 | 0.495707 | NA |

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| dlgap5 | 611.6423492 | -0.101012011 | 0.1146652 | -0.88093 | 0.378356 | 0.895192 |
| minpp1b | 55.9626411 | -0.028828304 | 0.2629353 | -0.10964 | 0.912695 | 0.991119 |
| pofut2 | 183.8266612 | 0.041327411 | 0.1499948 | 0.2755256 | 0.782912 | 0.97627 |
| acta2 | 1541.445857 | -0.379939845 | 0.0865994 | -4.387329 | 1.15E-05 | 0.000811 |
| ch25h | 30.03746104 | -0.233377273 | 0.3715044 | -0.628195 | 0.529876 | 0.942209 |
| zgc:55262 | 521.5152659 | -0.040728223 | 0.1020395 | -0.399142 | 0.689789 | 0.966819 |
| duspl9b | 125.1549516 | 0.012964294 | 0.1874748 | 0.0691522 | 0.944868 | 0.993409 |
| dkk1b | 29.31839532 | 0.067770419 | 0.3888614 | 0.1742791 | 0.861646 | 0.985841 |
| glipr1a | 10.26642731 | -0.26945528 | 0.6048592 | -0.445484 | 0.65597 | NA |
| stub1 | 688.7114634 | 0.094254899 | 0.0980649 | 0.9611478 | 0.336478 | 0.876088 |
| cox6b1 | 1816.407621 | -0.459082211 | 0.0883452 | -5.196458 | 2.03E-07 | 2.59E-05 |
| h3f3b.1 | 12077.25864 | -0.158574856 | 0.0690534 | -2.29641 | 0.021652 | 0.278385 |
| nif3l1 | 223.9632166 | -0.282499804 | 0.1559292 | -1.811719 | 0.07003 | 0.516704 |
| zmp:0000000624 | 92.59186824 | 0.04725195 | 0.2154305 | 0.2193373 | 0.826387 | 0.982196 |
| decr2 | 206.9301523 | -0.353467391 | 0.1547706 | -2.283815 | 0.022382 | 0.285346 |
| gsnb | 1279.300369 | -0.053076298 | 0.0996823 | -0.532455 | 0.594411 | 0.954434 |
| gsg112b | 69.13695309 | 0.246523257 | 0.2331624 | 1.0573027 | 0.290373 | 0.846262 |
| tectb | 165.0053482 | 0.308744644 | 0.1566906 | 1.9704099 | 0.048791 | 0.434204 |
| pts | 142.3485376 | -0.414209444 | 0.1967542 | -2.105213 | 0.035273 | 0.365366 |
| tmem204 | 122.4260227 | -0.011327293 | 0.1814994 | -0.06241 | 0.950237 | 0.99381 |
| klhl14 | 204.1325127 | -0.068174855 | 0.156288 | -0.436213 | 0.662682 | 0.964665 |
| rdh12l | 31.23509875 | -0.254142165 | 0.3668269 | -0.692812 | 0.488427 | 0.931926 |
| gpr137c | 121.4582053 | -0.244697794 | 0.1827873 | -1.338702 | 0.180668 | 0.741776 |
| sh3glb1a | 287.9884989 | 0.135104494 | 0.1543552 | 0.8752829 | 0.38142 | 0.895192 |
| cops9 | 488.0631003 | -0.067183786 | 0.1386672 | -0.484497 | 0.628034 | 0.957354 |
| phb2a | 1627.290817 | -0.018770065 | 0.0749911 | -0.250297 | 0.802358 | 0.979492 |
| wipf2a | 775.0173249 | 0.099400894 | 0.1071996 | 0.9272507 | 0.353796 | 0.881976 |
| vmolb | 139.5119112 | -0.142923275 | 0.2100337 | -0.680478 | 0.496202 | 0.932415 |
| st8sia3 | 7.487307365 | 1.821628108 | 0.7443825 | 2.4471667 | 0.014398 | NA |
| smpx | 346.1896436 | -0.010049882 | 0.1220976 | -0.08231 | 0.9344 | 0.992702 |
| mtfr1 | 229.1198588 | 0.212213484 | 0.138421 | 1.5331021 | 0.125251 | 0.654648 |
| pde7a | 1164.600733 | -0.016299453 | 0.0837456 | -0.194631 | 0.845682 | 0.985174 |
| slc51a | 234.7430065 | 0.412515208 | 0.1408249 | 2.9292781 | 0.003398 | 0.077847 |
| polal | 655.4741767 | -0.208797209 | 0.1077144 | -1.938433 | 0.05257 | 0.449847 |
| map7d2b | 1996.250419 | -0.045510725 | 0.0744335 | -0.611428 | 0.540916 | 0.944633 |
| pkp4 | 720.9088407 | 0.01643117 | 0.0949482 | 0.173054 | 0.862609 | 0.985841 |
| si:ch211-140b10.6 | 149.9708899 | -0.163198874 | 0.1640259 | -0.994958 | 0.319757 | 0.86809 |
| usp46 | 4.428642533 | 0.037005916 | 0.9852832 | 0.0375587 | 0.97004 | NA |
| ccdc58 | 133.2567284 | -0.056097133 | 0.1756067 | -0.319448 | 0.749387 | 0.97419 |
| cst14a.2 | 441.9481881 | -0.123327303 | 0.1332025 | -0.925863 | 0.354517 | 0.882105 |
| eloca | 182.768136 | -0.18976527 | 0.1603729 | -1.183275 | 0.2367 | 0.805854 |
| elocb | 1007.171079 | 0.086539196 | 0.0991637 | 0.8726905 | 0.382832 | 0.895192 |
| flj110111 | 299.3753871 | 0.196658275 | 0.1320875 | 1.4888487 | 0.136527 | 0.673303 |
| trappc3 | 638.0248479 | 0.046500012 | 0.0970191 | 0.4792872 | 0.631734 | 0.957356 |
| tubalb | 1836.321408 | -0.225858329 | 0.0812452 | -2.77996 | 0.005437 | 0.10944 |
| prdm14 | 15.55591818 | 0.379877881 | 0.5128919 | 0.7406588 | 0.4589 | 0.921978 |
| ngdn | 147.6457975 | -0.003455863 | 0.1705693 | -0.020261 | 0.983835 | 0.996944 |
| pabpn1 | 3716.698484 | -0.01760715 | 0.0746471 | -0.235872 | 0.813532 | 0.981081 |
| pil5a | 4.510926119 | -0.518191062 | 0.8876956 | -0.583749 | 0.559389 | NA |
| gpr22b | 184.813521 | 0.215640358 | 0.1624711 | 1.327254 | 0.184425 | 0.747376 |
| cd226 | 40.78116619 | -0.104300046 | 0.3265137 | -0.319435 | 0.749396 | 0.97419 |
| mtrr | 165.1559682 | -0.181480218 | 0.1565942 | -1.158921 | 0.246489 | 0.816426 |
| cct5 | 4822.529551 | -0.098108962 | 0.0737338 | -1.330584 | 0.183326 | 0.747003 |
| mllt10 | 1658.215992 | -0.14610997 | 0.0909167 | -1.607075 | 0.108038 | 0.619409 |

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| commd3 | 236.0916114 | 0.019072155 | 0.1438713 | 0.132564 | 0.894538 | 0.989716 |
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| acad11 | 249.3401067 | -0.190820162 | 0.1347561 | -1.416041 | 0.156764 | 0.707081 |
| gcm2 | 183.2211098 | -0.021892848 | 0.1530317 | -0.143061 | 0.886242 | 0.988936 |
| elov12 | 237.7677036 | -0.176004716 | 0.1452709 | -1.211562 | 0.22568 | 0.793245 |
| gnal | 97.35437395 | 0.159744224 | 0.198053 | 0.8065731 | 0.419912 | 0.90651 |
| mppel | 201.5600113 | -0.031327063 | 0.1510409 | -0.207408 | 0.835691 | 0.984089 |
| fam49bb | 329.5907306 | -0.030385671 | 0.1391397 | -0.218382 | 0.827131 | 0.982678 |
| epdr1 | 360.1369548 | 0.060027018 | 0.120704 | 0.4973074 | 0.618972 | 0.957354 |
| stard3nl | 372.664346 | -0.152188586 | 0.1149359 | -1.324117 | 0.185464 | 0.74928 |
| otulina | 206.9232223 | 0.282715104 | 0.159137 | 1.7765515 | 0.075642 | 0.535726 |
| si:ch211-146110.8 | 0 NA | NA | NA | NA | NA | NA |
| zgc:173856 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-96n2.3 | 1.471026404 | -0.306609088 | 1.5202188 | -0.201687 | 0.840161 | NA |
| mcee | 218.8896652 | 0.013676228 | 0.1516292 | 0.0901952 | 0.928132 | 0.992702 |
| slc35b3 | 254.6711766 | 0.249499794 | 0.1486143 | 1.6788409 | 0.093183 | 0.580702 |
| cpbl | 888.678764 | -0.459717425 | 0.1301309 | -3.532731 | 0.000411 | 0.015173 |
| agtrlb | 30.05099266 | -0.028846725 | 0.356252 | -0.080973 | 0.935464 | 0.992702 |
| fzd8a | 546.1901123 | -0.067674617 | 0.1182951 | -0.572083 | 0.567266 | 0.948739 |
| slc35g2b | 798.7087439 | -0.072365026 | 0.0924017 | -0.783157 | 0.433535 | 0.913667 |
| fl3a1a.1 | 1.929313885 | -1.585101638 | 1.6063823 | -0.986752 | 0.323764 | NA |
| ralaa | 554.0864614 | -0.033327488 | 0.1058446 | -0.314872 | 0.752859 | 0.97481 |
| lanc12 | 968.1795383 | -0.130006698 | 0.0861301 | -1.509423 | 0.131191 | 0.663979 |
| gsap | 79.65255111 | -0.155875077 | 0.218121 | -0.714627 | 0.47484 | 0.925399 |
| stk381 | 409.5503912 | -0.019424157 | 0.1145745 | -0.169533 | 0.865377 | 0.986385 |
| lrtm2a | 167.8432129 | -0.165030067 | 0.1642422 | -1.004797 | 0.314995 | 0.866054 |
| dcplb | 193.1555878 | 0.109190002 | 0.1631869 | 0.6691101 | 0.503425 | 0.935304 |
| rassf8b | 169.6962851 | 0.179589903 | 0.1574198 | 1.1408346 | 0.253939 | 0.823394 |
| pawr | 381.4704003 | -0.12708327 | 0.1163575 | -1.092179 | 0.274754 | 0.839332 |
| rps16 | 10064.98331 | -0.36464431 | 0.0972606 | -3.749149 | 0.000177 | 0.007745 |
| ndufb2 | 1768.41285 | 0.028573112 | 0.0807318 | 0.3539265 | 0.723394 | 0.970402 |
| slc35e3 | 231.4956477 | 0.04469834 | 0.1531139 | 0.2919287 | 0.770341 | 0.975687 |
| gramd4b | 544.188569 | 0.046460446 | 0.1088227 | 0.426937 | 0.669425 | 0.965093 |
| tbc1d22a | 242.6742561 | -0.084781 | 0.1360699 | -0.623069 | 0.533239 | 0.942971 |
| taf3 | 788.7819071 | -0.052704626 | 0.1233484 | -0.427283 | 0.669173 | 0.965037 |
| atp5f1c | 6440.004032 | 0.014359318 | 0.0851912 | 0.168554 | 0.866148 | 0.986647 |
| kin | 139.689452 | -0.016965695 | 0.1770995 | -0.095798 | 0.923681 | 0.992628 |
| itih2 | 1587.107493 | 0.185803682 | 0.1042672 | 1.7819953 | 0.07475 | 0.532583 |
| itih5 | 51.27967902 | -0.032621061 | 0.2739909 | -0.119059 | 0.905229 | 0.990702 |
| tmem1101 | 320.4432055 | 0.105538943 | 0.1340405 | 0.7873659 | 0.431068 | 0.91234 |
| sfmbt2 | 20.04070328 | -0.435236755 | 0.4491145 | -0.9691 | 0.332495 | 0.874653 |
| acot15 | 324.7417193 | -0.17038193 | 0.1560815 | -1.091622 | 0.274999 | 0.839541 |
| lamb1b | 503.2109566 | 0.047424008 | 0.105677 | 0.4487637 | 0.653602 | 0.961112 |
| tmcc3 | 723.5725034 | -0.095738136 | 0.0932424 | -1.026767 | 0.30453 | 0.858905 |
| nr2c1 | 573.4518543 | -0.122011384 | 0.0976199 | -1.249862 | 0.21135 | 0.778917 |
| fgd6 | 219.3357437 | 0.037167259 | 0.1420203 | 0.2617039 | 0.79355 | 0.977937 |
| si:ch211-244b2.4 | 23.32238252 | -0.139757731 | 0.400242 | -0.349183 | 0.726952 | 0.970402 |
| ppp6r2a | 829.0999174 | 0.129003093 | 0.0883979 | 1.4593461 | 0.14447 | 0.688868 |
| gcc1 | 314.5674432 | -0.12958285 | 0.1213093 | -1.068202 | 0.285429 | 0.845164 |
| lamtor4 | 509.6468606 | -0.199125642 | 0.1088581 | -1.829222 | 0.067366 | 0.508048 |
| atp6v1f | 913.8642745 | 0.139364742 | 0.0886906 | 1.5713593 | 0.116099 | 0.63841 |
| hgfa | 61.10322083 | 0.37647734 | 0.2477834 | 1.519381 | 0.128667 | 0.659646 |
| lepb | 48.07301449 | 0.430116261 | 0.3635581 | 1.1830745 | 0.23678 | 0.805854 |
| bik | 67.3009804 | 0.007439474 | 0.257015 | 0.0289457 | 0.976908 | 0.996762 |

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| si:dkey-202b22.6 | 11.25515564 | 0.287995353 | 0.5876458 | 0.4900832 | 0.624075 | 0.957354 |
| hsd17b2 | 27.74157067 | -0.179491398 | 0.3615499 | -0.49645 | 0.619577 | 0.957354 |
| snx20 | 23.58375401 | 0.544796907 | 0.3919681 | 1.3899012 | 0.164559 | 0.720706 |
| sco2 | 0 NA | NA | NA | NA | NA | NA |
| OTUD7A | 147.5684913 | 0.159887462 | 0.1754894 | 0.9110944 | 0.362246 | 0.885944 |
| socs2 | 59.89574863 | 0.130237211 | 0.2523969 | 0.5160015 | 0.605853 | 0.956575 |
| mybpc1 | 1013.058389 | 0.064253855 | 0.0871075 | 0.7376385 | 0.460734 | 0.921978 |
| dram1 | 39.78870389 | -0.094129297 | 0.3158374 | -0.298031 | 0.76568 | 0.975374 |
| pus1 | 140.8819728 | -0.097335486 | 0.1753987 | -0.554939 | 0.578937 | 0.951052 |
| washc3 | 299.336 | -0.07154663 | 0.1260757 | -0.56749 | 0.570382 | 0.949061 |
| noc4l | 291.1146182 | -0.228948742 | 0.1270456 | -1.802099 | 0.07153 | 0.522931 |
| phpt1 | 254.8584353 | -0.127745914 | 0.1343672 | -0.950722 | 0.341745 | 0.878134 |
| bcat1 | 458.3970656 | 0.039775194 | 0.1204499 | 0.3302218 | 0.741232 | 0.973154 |
| lrmp | 408.4318439 | 0.247806166 | 0.1143751 | 2.1666097 | 0.030265 | 0.33626 |
| lum | 1731.248933 | 0.244080309 | 0.0738459 | 3.3052659 | 0.000949 | 0.029735 |
| zgc:172145 | 48.9474431 | 0.36828726 | 0.2906941 | 1.2669238 | 0.205183 | 0.773257 |
| kcnj8 | 24.44269688 | 0.469456662 | 0.4272844 | 1.0986984 | 0.2719 | 0.836816 |
| tnni2a.1 | 744.0255433 | -0.090486044 | 0.0935234 | -0.967523 | 0.333282 | 0.874926 |
| shisalla | 141.1252125 | -0.252770339 | 0.1699721 | -1.487129 | 0.136981 | 0.673303 |
| si:dkey-14k9.3 | 108.6886916 | -0.063465023 | 0.1887319 | -0.336271 | 0.736667 | 0.972535 |
| rassf8a | 66.82998543 | 0.057675816 | 0.2515761 | 0.229258 | 0.818668 | 0.981594 |
| akr1b1.2 | 110.4719064 | 0.472790164 | 0.1910137 | 2.475164 | 0.013318 | 0.207028 |
| cax1 | 45.42660027 | -0.104723727 | 0.2907272 | -0.360213 | 0.718688 | 0.969092 |
| ticrr | 219.6253413 | -0.20559046 | 0.1428786 | -1.438917 | 0.150174 | 0.698387 |
| alkbh3 | 118.6316127 | -0.160210972 | 0.1915562 | -0.836366 | 0.402949 | 0.90084 |
| tafa5b | 175.0129205 | -0.071519432 | 0.1561615 | -0.457984 | 0.646964 | 0.960362 |
| nfybb | 265.776299 | -0.30240259 | 0.1429303 | -2.115735 | 0.034367 | 0.360397 |
| lrrc10 | 12.36412099 | 0.488775439 | 0.54829 | 0.8914542 | 0.372686 | 0.892868 |
| clta | 5152.19943 | 0.023007571 | 0.0683493 | 0.3366173 | 0.736405 | 0.972535 |
| nansa | 597.4792723 | -0.036289763 | 0.0967984 | -0.3749 | 0.707735 | 0.968664 |
| nek8 | 66.57920087 | 0.136186529 | 0.2425485 | 0.5614817 | 0.574469 | 0.950037 |
| rab34a | 137.2651079 | 0.114380414 | 0.1756308 | 0.6512548 | 0.514882 | 0.937646 |
| asb15a | 150.523323 | 0.195296746 | 0.1822293 | 1.0717085 | 0.283851 | 0.844676 |
| lmod2a | 1.49754665 | -1.062363946 | 1.7496145 | -0.607199 | 0.543719 | NA |
| rb12 | 288.240974 | 0.019737804 | 0.1334485 | 0.1479057 | 0.882417 | 0.988344 |
| slc13a1 | 165.2316395 | -0.745850185 | 0.1936836 | -3.850869 | 0.000118 | 0.005608 |
| elavl4 | 6413.52884 | 0.018500874 | 0.0678247 | 0.272775 | 0.785026 | 0.97627 |
| usp3 | 195.499836 | -0.144100994 | 0.1536611 | -0.937785 | 0.348355 | 0.880195 |
| cal2 | 21.27044499 | 0.36220087 | 0.4358681 | 0.8309874 | 0.405981 | 0.901305 |
| msrb3 | 456.9480844 | 0.314533543 | 0.1105575 | 2.8449777 | 0.004441 | 0.094639 |
| hic11 | 305.7521698 | -0.05960833 | 0.1301732 | -0.457915 | 0.647013 | 0.960362 |
| irf7 | 110.6291201 | -0.281003466 | 0.1944847 | -1.444862 | 0.148497 | 0.696298 |
| ANKRD50 | 225.8579655 | 0.2730202 | 0.155817 | 1.7521851 | 0.079742 | 0.548458 |
| si:dkey-39a18.1 | 33.80233532 | -0.308880855 | 0.3280103 | -0.94168 | 0.346356 | 0.879249 |
| ifnglr | 0 NA | NA | NA | NA | NA | NA |
| il26 | 1.805681893 | 0.297287591 | 1.5041014 | 0.1976513 | 0.843318 | NA |
| il22 | 4.484643323 | -1.189880749 | 1.0142747 | -1.173135 | 0.240742 | NA |
| mdml | 46.38827173 | 0.087593745 | 0.3022586 | 0.2897974 | 0.771971 | 0.975687 |
| calua | 1675.719534 | 0.198347752 | 0.0778791 | 2.5468681 | 0.010869 | 0.180962 |
| opnlsw1 | 45416.23535 | 0.371200098 | 0.0814901 | 4.5551552 | 5.23E-06 | 0.000414 |
| tnpo3 | 1020.493604 | -0.021476283 | 0.0837615 | -0.256398 | 0.797643 | 0.978668 |
| irf5 | 91.83072314 | -0.298026972 | 0.2103655 | -1.416711 | 0.156568 | 0.706842 |
| ccdc87 | 8.625234117 | -0.122881884 | 0.6472275 | -0.189859 | 0.84942 | NA |
| cntn1b | 832.5561626 | 0.139982607 | 0.0913007 | 1.5332038 | 0.125226 | 0.654648 |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| pdzrn4 | 479.6014303 | -0.058014296 | 0.1109552 | -0.522863 | 0.60107 | 0.956045 |
| zcrbl | 118.4554394 | -0.181131175 | 0.2007104 | -0.90245 | 0.366818 | 0.88734 |
| pphln1 | 781.0537012 | 0.021666116 | 0.089743 | 0.2414241 | 0.809226 | 0.980642 |
| prickle1b | 750.098246 | 0.050620556 | 0.0974577 | 0.5194104 | 0.603475 | 0.956045 |
| myca | 885.0480232 | -0.030300338 | 0.0936613 | -0.32351 | 0.746309 | 0.97419 |
| mrpl23 | 750.9877826 | -0.162697277 | 0.0926779 | -1.755513 | 0.079172 | 0.547489 |
| dclrelc | 245.3709117 | -0.127725661 | 0.1342141 | -0.951656 | 0.341272 | 0.878134 |
| meigl | 64.03792225 | -0.070388008 | 0.2389942 | -0.294518 | 0.768362 | 0.975687 |
| tspan9b | 251.7404111 | 0.056281719 | 0.1340765 | 0.4197732 | 0.674651 | 0.965257 |
| adm2a | 75.39296939 | -0.222640272 | 0.235698 | -0.9446 | 0.344863 | 0.878434 |
| ciapin1 | 656.4889205 | 0.072724789 | 0.0998356 | 0.7284454 | 0.466341 | 0.923908 |
| gucalg | 60.41337696 | 0.40661553 | 0.249088 | 1.632417 | 0.102592 | 0.608473 |
| cped1 | 382.2512987 | 0.102801307 | 0.1151178 | 0.8930096 | 0.371852 | 0.892248 |
| stab2 | 118.9885967 | -0.007621209 | 0.2113421 | -0.036061 | 0.971234 | 0.996315 |
| ppfibpla | 473.7228479 | -0.144229458 | 0.108527 | -1.328973 | 0.183857 | 0.747376 |
| sytl0 | 195.4496807 | 0.121863268 | 0.1513047 | 0.8054161 | 0.42058 | 0.90651 |
| si:ch211-161n3.4 | 2.512227917 | 0.978540643 | 1.3795503 | 0.7093186 | 0.478127 | NA |
| tmtc2a | 267.4739311 | -0.002544952 | 0.1311748 | -0.019401 | 0.984521 | 0.996944 |
| mettl25 | 53.94899065 | 0.040358037 | 0.2647136 | 0.1524593 | 0.878825 | 0.987881 |
| ccdc59 | 33.74727933 | 0.161356227 | 0.333889 | 0.4832631 | 0.628909 | 0.957354 |
| cracr2ab | 21.44296897 | -0.580595847 | 0.4281657 | -1.356008 | 0.175097 | 0.735545 |
| prmt8b | 209.3016501 | 0.263221772 | 0.1468128 | 1.7929079 | 0.072988 | 0.526929 |
| asb13a.2 | 9.003724326 | 0.461328018 | 0.6606333 | 0.6983118 | 0.484982 | NA |
| cryla | 2679.484868 | -0.02658284 | 0.0710034 | -0.374388 | 0.708116 | 0.968664 |
| PYURF | 141.8787624 | -0.091843081 | 0.1892161 | -0.485387 | 0.627402 | 0.957354 |
| cnbpa | 3015.81896 | -0.011982548 | 0.0687248 | -0.174356 | 0.861586 | 0.985841 |
| zgc:103499 | 160.3613892 | 0.135876858 | 0.1592175 | 0.8534041 | 0.393435 | 0.898076 |
| avprlab | 88.36400764 | 0.043164457 | 0.2362647 | 0.1826953 | 0.855037 | 0.985174 |
| srgap1b | 812.7144722 | -0.040692457 | 0.0946788 | -0.429795 | 0.667345 | 0.964736 |
| si:ch211-125a15.1 | 160.5661003 | -0.208542371 | 0.1664864 | -1.252609 | 0.210348 | 0.778043 |
| si:dkey-106n21.1 | 24.52295866 | 0.68734934 | 0.4218173 | 1.6294953 | 0.103208 | 0.609625 |
| si:ch211-68a17.7 | 228.3425657 | 0.123441399 | 0.1620091 | 0.7619414 | 0.446095 | 0.917154 |
| acanb | 148.4021397 | 0.240340701 | 0.1669445 | 1.4396447 | 0.149968 | 0.697935 |
| fbxl14b | 716.364812 | 0.127777507 | 0.0943649 | 1.3540794 | 0.175711 | 0.736411 |
| hapln3 | 132.8353114 | 0.288338279 | 0.1739791 | 1.6573155 | 0.097456 | 0.595884 |
| mfge8b | 350.5091292 | 0.114011273 | 0.1300499 | 0.876673 | 0.380664 | 0.895192 |
| abhd2b | 221.7163871 | 0.101680073 | 0.1381935 | 0.7357806 | 0.461864 | 0.922466 |
| rlbplb | 244.4756894 | -0.258215404 | 0.1752979 | -1.473009 | 0.140749 | 0.681252 |
| lrtm2b | 93.53485048 | 0.211645714 | 0.220975 | 0.9577813 | 0.338173 | 0.876778 |
| samm50 | 1055.676529 | 0.105945072 | 0.0855663 | 1.2381641 | 0.215655 | 0.78305 |
| mcm10 | 106.5838931 | 0.003583471 | 0.1978522 | 0.0181119 | 0.98555 | 0.996944 |
| tnnt2e | 832.0517687 | 0.112510174 | 0.1050062 | 1.0714626 | 0.283961 | 0.844697 |
| zgc:101783 | 239.4651528 | -0.237138537 | 0.137634 | -1.722965 | 0.084895 | 0.560519 |
| lyrm5b | 36.62646242 | -0.744843651 | 0.323363 | -2.303429 | 0.021255 | 0.275144 |
| cart2 | 72.71391365 | -0.004541799 | 0.2272415 | -0.019987 | 0.984054 | 0.996944 |
| si:dkey-14d8.7 | 16.93009187 | -0.310652359 | 0.4925394 | -0.630716 | 0.528226 | 0.941768 |
| si:dkey-14d8.6 | 34.89832624 | -0.198296656 | 0.3415978 | -0.580497 | 0.561579 | 0.948728 |
| mapk11 | 296.8593937 | 0.014945885 | 0.1412398 | 0.1058192 | 0.915726 | 0.991314 |
| si:dkey-14d8.20 | 53.03661746 | -0.058217816 | 0.281199 | -0.207034 | 0.835983 | 0.984089 |
| zgc:113263 | 674.0569012 | -0.287916747 | 0.0973618 | -2.957184 | 0.003105 | 0.073687 |
| apex1 | 1888.807955 | -0.096772825 | 0.079652 | -1.214946 | 0.224387 | 0.79161 |
| osgep | 184.0957243 | -0.142652969 | 0.1651644 | -0.863703 | 0.387751 | 0.896133 |
| si:ch211-214j24.10 | 998.5001817 | -0.125086551 | 0.0999152 | -1.251927 | 0.210596 | 0.778338 |
| ccdc167 | 233.2413229 | -0.127510871 | 0.145964 | -0.873578 | 0.382348 | 0.895192 |

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| galnt8b.1 | 41.37787251 | -0.291204287 | 0.3186659 | -0.913823 | 0.36081 | 0.885686 |
| rad51ap1 | 111.874285 | -0.106327181 | 0.1861229 | -0.571274 | 0.567814 | 0.948739 |
| fgf23 | 7.185158702 | 1.376123048 | 0.7314625 | 1.8813309 | 0.059927 | NA |
| fgf6b | 5.507163081 | -0.092962368 | 0.8216518 | -0.113141 | 0.909919 | NA |
| cebpz | 560.4022728 | -0.220629751 | 0.1031002 | -2.139954 | 0.032359 | 0.350031 |
| tigarb | 107.1082597 | 0.078212901 | 0.210191 | 0.3721039 | 0.709815 | 0.968928 |
| asb15b | 7.314660455 | -0.794068057 | 0.7183358 | -1.105427 | 0.268974 | NA |
| lmod2b | 43.1390607 | 0.269521534 | 0.3089869 | 0.872275 | 0.383058 | 0.895192 |
| plekha5 | 1103.564675 | -0.095751601 | 0.1002094 | -0.955515 | 0.339317 | 0.87805 |
| frs2a | 33.11758962 | 0.056793536 | 0.3325041 | 0.1708055 | 0.864377 | 0.98601 |
| yeats4 | 396.68644 | -0.21760231 | 0.1136343 | -1.914935 | 0.055501 | 0.461579 |
| ube2nb | 1053.63828 | 0.005093422 | 0.0962932 | 0.0528949 | 0.957816 | 0.99467 |
| nudt4b | 417.6632875 | 0.23689035 | 0.1144319 | 2.0701427 | 0.038439 | 0.384468 |
| gas2l3 | 148.4912919 | 0.154405619 | 0.180395 | 0.8559305 | 0.392036 | 0.897688 |
| scaf11 | 1131.021079 | -0.166634747 | 0.085914 | -1.939553 | 0.052434 | 0.449428 |
| slc38a2 | 2565.007154 | 0.212990733 | 0.0875638 | 2.4324058 | 0.014999 | 0.224348 |
| mmp30 | 423.6527592 | 0.303485154 | 0.1366274 | 2.221261 | 0.026333 | 0.312554 |
| acat1 | 1832.302761 | 0.116842418 | 0.077312 | 1.511311 | 0.130709 | 0.662797 |
| kctd15a | 732.6780352 | 0.237815921 | 0.1004542 | 2.3674058 | 0.017913 | 0.247704 |
| si:ch211-152c2.3 | 480.0831694 | 0.174205979 | 0.1090184 | 1.5979497 | 0.110054 | 0.624518 |
| agbl5 | 303.1834059 | -0.157977816 | 0.1360718 | -1.160988 | 0.245647 | 0.815431 |
| nr2e3 | 271.1354031 | -0.031866654 | 0.158664 | -0.200844 | 0.840821 | 0.985092 |
| dynlt1 | 71.26167812 | -0.36073552 | 0.2659491 | -1.356408 | 0.174969 | 0.735545 |
| tmem181 | 674.8932037 | -0.031549307 | 0.1121575 | -0.281295 | 0.778484 | 0.975942 |
| tulp4a | 642.7594296 | -0.017292336 | 0.1077036 | -0.160555 | 0.872444 | 0.987846 |
| mrps10 | 245.9540878 | -0.100825555 | 0.1648886 | -0.611477 | 0.540884 | 0.944633 |
| si:ch211-51e12.7 | 3005.258935 | -0.10065532 | 0.0736823 | -1.366071 | 0.171917 | 0.730757 |
| crabp1a | 494.4082899 | 0.046141384 | 0.1131013 | 0.4079651 | 0.683299 | 0.965476 |
| slc25a44a | 27.46381231 | 0.31206238 | 0.3905458 | 0.7990417 | 0.424266 | 0.908243 |
| psma4 | 1547.083152 | -0.068410554 | 0.0799514 | -0.855651 | 0.392191 | 0.897688 |
| oaz2a | 2359.65603 | 0.104610279 | 0.0780967 | 1.3394962 | 0.180409 | 0.741452 |
| rbpms2a | 2268.946473 | -0.058225368 | 0.0740709 | -0.786076 | 0.431823 | 0.912787 |
| cpebl1a | 19.5091976 | 0.345235739 | 0.4423823 | 0.7804013 | 0.435155 | 0.914408 |
| immp11 | 42.68429697 | -0.352750419 | 0.2996907 | -1.177048 | 0.239176 | 0.807768 |
| pax6b | 857.1228166 | 0.074326722 | 0.111005 | 0.6695797 | 0.503126 | 0.935304 |
| slc6a1a | 489.4824377 | 0.120069657 | 0.1129982 | 1.0625801 | 0.287972 | 0.845979 |
| syn2a | 2627.155619 | 0.10761449 | 0.0719803 | 1.4950557 | 0.1349 | 0.670689 |
| sec24d | 1106.085307 | 0.006823904 | 0.0980958 | 0.0695637 | 0.944541 | 0.993409 |
| hrc | 2843.318856 | 0.141538753 | 0.0964323 | 1.4677532 | 0.142171 | 0.683847 |
| kat5b | 496.8470288 | -0.123487998 | 0.1081812 | -1.141492 | 0.253665 | 0.823394 |
| prlrb | 10.15374304 | 0.445497854 | 0.5916944 | 0.7529188 | 0.451499 | NA |
| kcnk10b | 7.686117375 | 0.380410401 | 0.6774592 | 0.5615252 | 0.57444 | NA |
| gpr65 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |
| egfl6 | 1834.395296 | 0.271405494 | 0.0868732 | 3.1241552 | 0.001783 | 0.049384 |
| csf3r | 8.444168541 | 0.614344503 | 0.6930188 | 0.886476 | 0.375361 | NA |
| spg11 | 448.0234893 | -0.012638359 | 0.1201196 | -0.105215 | 0.916205 | 0.991314 |
| sidt2 | 902.0016154 | -0.199341437 | 0.1068916 | -1.864893 | 0.062196 | 0.487078 |
| chchd6b | 606.9497261 | 0.008664937 | 0.1039689 | 0.0833416 | 0.93358 | 0.992702 |
| zgc:l53704 | 754.7704502 | 0.040851256 | 0.1029296 | 0.3968855 | 0.691452 | 0.967305 |
| si:ch73-55i23.1 | 1.343078476 | -0.679794512 | 1.7232066 | -0.394494 | 0.693216 | NA |
| zbtb43 | 4.864267533 | 0.283942516 | 0.8819076 | 0.321964 | 0.74748 | NA |
| arf4a | 397.2472891 | 0.093289444 | 0.1142949 | 0.8162169 | 0.414376 | 0.906237 |
| saa | 5.833548158 | -2.036597977 | 0.9082933 | -2.242225 | 0.024947 | NA |
| necap2 | 729.3729016 | -0.084568897 | 0.1177056 | -0.718478 | 0.472462 | 0.924838 |

| | | | | | | |
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| med20 | 231. 8829274 | -0. 105093373 | 0. 1371707 | -0. 76615 | 0. 443587 | 0. 916631 |
| tmcc2 | 306. 2952872 | -0. 036977156 | 0. 1410572 | -0. 262143 | 0. 793211 | 0. 977937 |
| kdm2bb | 742. 59613 | -0. 071864885 | 0. 0929025 | -0. 773552 | 0. 439196 | 0. 916082 |
| slc47a1 | 102. 5678677 | 0. 087679388 | 0. 2002944 | 0. 4377525 | 0. 661566 | 0. 964237 |
| rasl11a | 148. 7463832 | -0. 004516365 | 0. 1675056 | -0. 026962 | 0. 97849 | 0. 996762 |
| kcna6a | 74. 70238047 | 0. 18401947 | 0. 2320329 | 0. 7930749 | 0. 427734 | 0. 91075 |
| snailb | 481. 2745975 | -0. 26600231 | 0. 1079814 | -2. 463409 | 0. 013762 | 0. 210896 |
| CU914487. 1 | 19. 07597195 | -0. 223408306 | 0. 4723593 | -0. 472963 | 0. 63624 | 0. 958561 |
| tmed7 | 1339. 409066 | 0. 049852663 | 0. 087554 | 0. 5693936 | 0. 569089 | 0. 948983 |
| pym1 | 202. 0512668 | -0. 167069015 | 0. 1580575 | -1. 057014 | 0. 290505 | 0. 846262 |
| zgc:110339 | 1143. 53748 | 0. 02978306 | 0. 0953901 | 0. 3122237 | 0. 754871 | 0. 97522 |
| slc27a6 | 44. 43512221 | 0. 026359665 | 0. 2941793 | 0. 0896041 | 0. 928602 | 0. 992702 |
| CT027815. 1 | 200. 2438007 | 0. 086716511 | 0. 1604768 | 0. 540368 | 0. 588943 | 0. 953345 |
| zgc:77838 | 129. 8196746 | -0. 02262726 | 0. 1944209 | -0. 116383 | 0. 907349 | 0. 990702 |
| snx16 | 264. 6138913 | 0. 159254684 | 0. 1411541 | 1. 1282329 | 0. 259222 | 0. 82755 |
| stk11 | 777. 0207255 | -0. 022350086 | 0. 0918349 | -0. 243372 | 0. 807717 | 0. 980642 |
| cacng6b | 42. 04325517 | -0. 102975124 | 0. 31284 | -0. 329162 | 0. 742033 | 0. 973154 |
| bloc1s2 | 180. 6664459 | -0. 118139929 | 0. 154305 | -0. 765626 | 0. 443899 | 0. 916631 |
| brd2b | 101. 8190433 | -0. 154634633 | 0. 2076095 | -0. 744834 | 0. 456372 | 0. 921215 |
| dhrs11a | 60. 56986198 | -0. 056371363 | 0. 2570679 | -0. 219286 | 0. 826427 | 0. 982196 |
| si:ch211-283g2. 1 | 74. 47125055 | 0. 004687306 | 0. 2325239 | 0. 0201584 | 0. 983917 | 0. 996944 |
| si:ch211-283g2. 3 | | 0 NA | NA | NA | NA | NA |
| ebp | 138. 1490983 | -0. 308821055 | 0. 1706973 | -1. 809173 | 0. 070424 | 0. 519033 |
| rab10 | 2262. 950345 | 0. 173098227 | 0. 0735468 | 2. 35358 | 0. 018594 | 0. 254199 |
| caskin1 | 1362. 028845 | -0. 028097975 | 0. 0863676 | -0. 32533 | 0. 744931 | 0. 974094 |
| rab11fip1a | 141. 863227 | 0. 152393855 | 0. 1709337 | 0. 891538 | 0. 372641 | 0. 892868 |
| tk2 | 198. 8750915 | 0. 008817943 | 0. 1546873 | 0. 057005 | 0. 954541 | 0. 994533 |
| dynlt3 | 1084. 445881 | -0. 012111664 | 0. 0922584 | -0. 13128 | 0. 895554 | 0. 989814 |
| b3galnt2 | 115. 878128 | -0. 131676571 | 0. 2026172 | -0. 649879 | 0. 515771 | 0. 9377 |
| zgc:112038 | 7. 117663688 | -0. 900968083 | 0. 7193983 | -1. 252391 | 0. 210427 | NA |
| zgc:162025 | 33. 95329789 | -0. 189548745 | 0. 3518454 | -0. 538727 | 0. 590075 | 0. 953903 |
| si:ch211-170d8. 5 | 32. 33584251 | 0. 67896273 | 0. 3575538 | 1. 8989105 | 0. 057576 | 0. 470971 |
| prkab1b | 661. 6578531 | -0. 137571334 | 0. 1017029 | -1. 352678 | 0. 176159 | 0. 736595 |
| tnfaip812b | 130. 6820911 | -0. 198919138 | 0. 1932111 | -1. 029543 | 0. 303224 | 0. 85729 |
| b4galnt4a | 133. 9106387 | 0. 118287828 | 0. 1769368 | 0. 6685314 | 0. 503794 | 0. 935314 |
| RPS17 | 10080. 69746 | -0. 296328048 | 0. 081902 | -3. 618081 | 0. 000297 | 0. 011738 |
| CR339041. 1 | 2. 625644215 | 1. 597784907 | 1. 3735324 | 1. 163267 | 0. 244721 | NA |
| CR339041. 2 | 4. 751885588 | -0. 166843382 | 0. 9489733 | -0. 175815 | 0. 86044 | NA |
| mhc11fa | 8. 061286832 | -0. 448565471 | 0. 703349 | -0. 637757 | 0. 523632 | NA |
| mhc11ga | 3. 475778967 | -0. 997344656 | 1. 0431524 | -0. 956087 | 0. 339028 | NA |
| si:ch211-113a14. 24 | 4. 296999548 | -0. 425853306 | 0. 9034068 | -0. 471386 | 0. 637365 | NA |
| nfatc3b | 162. 3244442 | -0. 015992952 | 0. 1619695 | -0. 09874 | 0. 921344 | 0. 992138 |
| slc7a10b | 209. 4609677 | 0. 073840571 | 0. 1518893 | 0. 4861473 | 0. 626863 | 0. 957354 |
| faap24 | 14. 22963842 | -0. 755561158 | 0. 5548453 | -1. 361751 | 0. 173276 | 0. 732435 |
| si:ch211-113a14. 18 | 10. 7217266 | 1. 065594984 | 0. 607412 | 1. 7543198 | 0. 079376 | NA |
| hist1h2a4 | 2. 698914385 | 1. 161843446 | 2. 6284126 | 0. 4420324 | 0. 658466 | NA |
| zgc:173552 | 4. 87880366 | 0. 939791974 | 0. 9472679 | 0. 9921079 | 0. 321145 | NA |
| ada2a | 352. 5460279 | -0. 148933389 | 0. 1176116 | -1. 266315 | 0. 2054 | 0. 773635 |
| ccnd2a | 190. 3407823 | 0. 294258597 | 0. 1592862 | 1. 8473573 | 0. 064695 | 0. 497355 |
| tigara | 51. 26516584 | 0. 245028225 | 0. 2794641 | 0. 8767789 | 0. 380607 | 0. 895192 |
| rprip11 | 60. 71356253 | 0. 07116864 | 0. 2503222 | 0. 2843081 | 0. 776174 | 0. 975826 |
| pdhx | 540. 1339509 | 0. 05899583 | 0. 1081755 | 0. 5453713 | 0. 585498 | 0. 95262 |
| igl4v10 | 0. 513487682 | -0. 887846295 | 2. 6557956 | -0. 334305 | 0. 738149 | NA |
| trim44 | 185. 8236739 | -0. 054122265 | 0. 1508718 | -0. 35873 | 0. 719797 | 0. 969318 |

| | | | | | | |
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| CABZ01080568.1 | 293.5476642 | 0.495428928 | 0.1514279 | 3.2717153 | 0.001069 | 0.03262 |
| sntb2 | 289.2883853 | 0.020060907 | 0.1341574 | 0.1495327 | 0.881133 | 0.988177 |
| fhod1 | 215.056885 | 0.012987144 | 0.1468364 | 0.0884463 | 0.929522 | 0.992702 |
| rplp0 | 20794.14485 | -0.248624075 | 0.1762422 | -1.410696 | 0.158334 | 0.709224 |
| dhx33 | 56.88943441 | 0.010627177 | 0.2598896 | 0.0408911 | 0.967383 | 0.996315 |
| zgc:113426 | 31.12109925 | -0.356318035 | 0.366021 | -0.973491 | 0.330309 | 0.874098 |
| si:dkeyp-110c12.3 | 1.9678137 | 1.585325189 | 1.440232 | 1.1007429 | 0.271009 | NA |
| brdlb | 611.9718115 | 0.022601318 | 0.1025601 | 0.2203715 | 0.825582 | 0.982196 |
| fnbp4 | 2703.558027 | -0.058192771 | 0.0746686 | -0.779348 | 0.435775 | 0.914408 |
| BX664721.1 | 0.981193923 | 0.036684775 | 1.9489489 | 0.0188229 | 0.984982 | NA |
| CU469568.1 | 53.23714502 | 0.325342438 | 0.2750772 | 1.1827314 | 0.236916 | 0.805854 |
| btr12 | 62.01060059 | -0.201886278 | 0.2531881 | -0.797377 | 0.425232 | 0.908835 |
| ptrz1a | 1044.520621 | 0.035000486 | 0.0841091 | 0.4161319 | 0.677313 | 0.965257 |
| aass | 430.3904739 | 0.257488941 | 0.1308463 | 1.9678739 | 0.049083 | 0.435115 |
| swap70a | 60.6197305 | 0.241972229 | 0.246443 | 0.9818588 | 0.326169 | 0.872073 |
| hyal4 | 256.8612582 | 0.136312607 | 0.1381885 | 0.9864248 | 0.323925 | 0.870928 |
| tmef2a | 907.7295092 | -0.096642025 | 0.0857725 | -1.126726 | 0.259858 | 0.828288 |
| si:dkeyp-19e1.3 | 112.7248514 | -0.1435601 | 0.1986485 | -0.722684 | 0.469874 | 0.924783 |
| ctu2 | 118.7215517 | -0.324727036 | 0.1878117 | -1.729003 | 0.083809 | 0.557501 |
| kcncla | 592.5544186 | 0.12732285 | 0.1057538 | 1.2039554 | 0.228607 | 0.796028 |
| galns | 206.2851268 | -0.218950109 | 0.1553735 | -1.409185 | 0.15878 | 0.709382 |
| cdt1 | 171.6957855 | -0.184958846 | 0.1668718 | -1.108389 | 0.267694 | 0.833349 |
| tes | 279.90892 | -0.052270878 | 0.13769 | -0.379627 | 0.704222 | 0.968134 |
| ccdc33 | 1.535978683 | 1.070276215 | 1.659346 | 0.6449988 | 0.518928 | NA |
| pkp3a | 1316.95423 | 0.037540224 | 0.0828841 | 0.4529245 | 0.650603 | 0.960708 |
| zgc:158222 | 288.8321113 | -0.024701622 | 0.135426 | -0.182399 | 0.855269 | 0.985174 |
| stra6 | 852.5153534 | 0.169975678 | 0.0896771 | 1.8954183 | 0.058037 | 0.472311 |
| islr2 | 6366.784494 | 0.024383597 | 0.0690524 | 0.3531174 | 0.724 | 0.970402 |
| ush1c | 244.2697559 | -0.882847956 | 0.1398702 | -6.311911 | 2.76E-10 | 6.12E-08 |
| abcc8 | 519.1466593 | 0.031701983 | 0.1053737 | 0.3008528 | 0.763527 | 0.975374 |
| kcnj11 | 147.7526174 | 0.37145879 | 0.1793685 | 2.0709251 | 0.038366 | 0.384124 |
| ankrd11 | 272.5977553 | -0.1620995 | 0.1272278 | -1.274089 | 0.202632 | 0.769545 |
| ist1 | 1791.424053 | -0.053088176 | 0.076804 | -0.691216 | 0.48943 | 0.931926 |
| dhodh | 293.8963194 | -0.173636483 | 0.1269931 | -1.36729 | 0.171534 | 0.729995 |
| hp | 6.153177061 | -0.931696183 | 0.8440224 | -1.103876 | 0.269647 | NA |
| rsph10b | 28.56684289 | 0.31842911 | 0.3687333 | 0.8635756 | 0.387821 | 0.896133 |
| kcnq4b | 40.1137704 | 0.501345202 | 0.3212346 | 1.5606823 | 0.118599 | 0.642318 |
| fbn2a | 82.18263249 | 0.092547557 | 0.2294995 | 0.4032581 | 0.686758 | 0.966376 |
| exoc311 | 144.1588895 | -0.042336732 | 0.1912632 | -0.221353 | 0.824817 | 0.982196 |
| prmt7 | 292.7297437 | 0.108622357 | 0.1269422 | 0.8556833 | 0.392173 | 0.897688 |
| hpxb | 171.9793032 | -0.314974142 | 0.1814865 | -1.735524 | 0.082648 | 0.554782 |
| slc14a2 | 33.22189234 | 0.430643562 | 0.3412455 | 1.2619758 | 0.206958 | 0.774778 |
| pde5ab | 16.11778994 | -0.857306196 | 0.4929889 | -1.738997 | 0.082035 | 0.552886 |
| cdk7 | 311.4856294 | 0.178470666 | 0.1230147 | 1.4508076 | 0.146833 | 0.693524 |
| nsmaf | 295.6690186 | -0.304824149 | 0.1298757 | -2.347046 | 0.018923 | 0.256465 |
| slc30a5 | 627.8259746 | 0.081802957 | 0.0972811 | 0.8408925 | 0.400408 | 0.90084 |
| ccnbl | 715.8243711 | -0.087931818 | 0.0986065 | -0.891745 | 0.37253 | 0.892868 |
| cyb5r2 | 261.7589621 | -0.703223534 | 0.1368185 | -5.139828 | 2.75E-07 | 3.40E-05 |
| plagl | 151.0381496 | -0.039913642 | 0.1683014 | -0.237156 | 0.812536 | 0.981081 |
| edc3 | 384.3178999 | -0.078435397 | 0.1171862 | -0.669323 | 0.503289 | 0.935304 |
| kxd1 | 84.72733571 | -0.277100215 | 0.2235744 | -1.239409 | 0.215194 | 0.78279 |
| ergic2 | 322.6487597 | -0.002049256 | 0.1292774 | -0.015852 | 0.987353 | 0.997136 |
| pcxb | 1097.469089 | -0.744388579 | 0.1049703 | -7.091421 | 1.33E-12 | 4.45E-10 |
| ugt2a4 | 698.3340111 | -0.622040952 | 0.1133822 | -5.486232 | 4.11E-08 | 6.10E-06 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| ythdc1 | 1288.663874 | -0.093951262 | 0.089163 | -1.053702 | 0.292019 | 0.848075 |
| brmsl | 231.4872051 | 0.058040806 | 0.1379878 | 0.4206227 | 0.674031 | 0.965257 |
| iscal | 803.5223645 | 0.046590477 | 0.1025966 | 0.4541133 | 0.649747 | 0.960708 |
| selenom | 275.1070861 | 0.056611562 | 0.1419678 | 0.3987634 | 0.690068 | 0.966857 |
| zpd | | 0 NA | NA | NA | NA | NA |
| mmp15a | 134.1823438 | -0.062041986 | 0.1768378 | -0.350841 | 0.725707 | 0.970402 |
| btr01 | 55.48350643 | -0.173313156 | 0.2700231 | -0.641846 | 0.520973 | 0.939056 |
| smulb | 254.3300637 | -0.018297357 | 0.1471849 | -0.124315 | 0.901065 | 0.990121 |
| cd99 | 738.1914635 | 0.176524265 | 0.0918515 | 1.9218451 | 0.054625 | 0.457793 |
| STX3 | 174.9758798 | 0.030930206 | 0.1530678 | 0.2020687 | 0.839863 | 0.984979 |
| ndufs8a | 3926.147745 | 0.04766578 | 0.0723188 | 0.6591066 | 0.509827 | 0.936253 |
| tmem187 | 47.5896638 | 0.558153682 | 0.2892777 | 1.9294736 | 0.053672 | 0.45394 |
| si:dkey-9i23.4 | 0.667059899 | 1.488443644 | 2.4079024 | 0.6181495 | 0.536477 | NA |
| cav2 | 247.5875372 | -0.206829639 | 0.1366686 | -1.513366 | 0.130187 | 0.662797 |
| ciao2b | 285.39082 | 0.142185257 | 0.1306537 | 1.0882607 | 0.27648 | 0.839541 |
| rrad | 196.863565 | 0.081159912 | 0.1631385 | 0.4974907 | 0.618843 | 0.957354 |
| rtn4r12a | 88.87500728 | 0.592877969 | 0.2663095 | 2.226274 | 0.025996 | 0.311101 |
| cabp2a | 153.5653601 | 0.067315498 | 0.1718903 | 0.3916189 | 0.69534 | 0.96736 |
| si:ch73-109d9.1 | 106.8439213 | -0.078722213 | 0.1992805 | -0.395032 | 0.692819 | 0.96736 |
| cmtm4 | 17.41853229 | -0.296723184 | 0.4577586 | -0.648209 | 0.51685 | 0.938543 |
| pomgnt1 | 464.3197051 | 0.041639286 | 0.1066129 | 0.3905651 | 0.696119 | 0.96736 |
| tspan1 | 37.47111543 | 0.051003674 | 0.3339023 | 0.1527503 | 0.878595 | 0.987881 |
| akr1a1b | 349.7960352 | -0.154374058 | 0.1173074 | -1.315979 | 0.188181 | 0.753063 |
| nxn11 | 96.32675832 | 0.44361529 | 0.2050524 | 2.1634239 | 0.030509 | 0.337781 |
| trim35-1 | 35.32724513 | 0.279611675 | 0.3287267 | 0.8505901 | 0.394997 | 0.899122 |
| caspb | 804.7234059 | -0.113896831 | 0.1266902 | -0.899019 | 0.368643 | 0.888057 |
| ggt5a | 265.3234908 | 0.226444874 | 0.132962 | 1.7030798 | 0.088553 | 0.569447 |
| parietopsin | 1.157631196 | 2.488108944 | 1.9178096 | 1.2973702 | 0.194504 | NA |
| pcolceb | 690.6141732 | 0.019752372 | 0.1164023 | 0.1696905 | 0.865254 | 0.986367 |
| PAQR9 | 95.17921442 | 0.205973859 | 0.2242558 | 0.9184773 | 0.358369 | 0.884398 |
| col4a6 | 4483.418735 | 0.175940487 | 0.0709292 | 2.4805077 | 0.01312 | 0.204756 |
| col4a5 | 11458.28736 | 0.206352011 | 0.0867033 | 2.3799778 | 0.017314 | 0.243166 |
| si:dkeyp-93a5.2 | | 0 NA | NA | NA | NA | NA |
| dnajb9a | 50.11965994 | -0.212543027 | 0.2763701 | -0.769052 | 0.441862 | 0.916336 |
| blcap | 1021.145979 | -0.034098898 | 0.0853726 | -0.399413 | 0.689589 | 0.966799 |
| si:ch211-122f10.4 | 218.618697 | -0.251606554 | 0.1420426 | -1.771346 | 0.076503 | 0.538876 |
| gabarapb | 2583.885267 | -0.086664308 | 0.0755275 | -1.147453 | 0.251194 | 0.820469 |
| cxcr1 | 10.90994557 | 0.455650919 | 0.6052672 | 0.7528095 | 0.451564 | NA |
| CCKAR | 24.22563079 | 0.060119126 | 0.4207618 | 0.1428816 | 0.886384 | 0.988936 |
| rbpjb | 48.31463032 | -0.113538731 | 0.2780434 | -0.408349 | 0.683018 | 0.965476 |
| notch1b | 284.9137619 | 0.075211313 | 0.1303434 | 0.5770242 | 0.563923 | 0.948739 |
| trim35-31 | 2.348514823 | -0.844313062 | 1.2558901 | -0.672283 | 0.501404 | NA |
| agxta | 256.1913341 | 0.275753637 | 0.1452272 | 1.8987746 | 0.057594 | 0.470971 |
| dtymk | 134.6482253 | -0.235659392 | 0.1748093 | -1.348094 | 0.177628 | 0.738343 |
| atg4b | 351.6336887 | -0.090469652 | 0.1189274 | -0.760713 | 0.446828 | 0.917154 |
| zgc:114041 | 32.17353636 | 0.223038573 | 0.35163 | 0.6342991 | 0.525886 | 0.940223 |
| mboat4 | 0.824006558 | 0.61083159 | 2.1185808 | 0.2883211 | 0.773101 | NA |
| hexa | 440.3892221 | 0.039127428 | 0.1136624 | 0.3442424 | 0.730664 | 0.97149 |
| crtc3 | 44.4722316 | 0.190724641 | 0.3008596 | 0.6339325 | 0.526125 | 0.94048 |
| ehf | 13.43098832 | 0.47587525 | 0.5558251 | 0.8561601 | 0.391909 | 0.897688 |
| adamts15 | 95.1032321 | 0.136014769 | 0.2032535 | 0.6691878 | 0.503376 | 0.935304 |
| rag2 | 18.1705254 | 0.309313248 | 0.475803 | 0.6500868 | 0.515636 | 0.9377 |
| rag1 | 46.24534224 | -0.31675626 | 0.2808086 | -1.128015 | 0.259314 | 0.827577 |
| accs | 245.5586023 | 0.207361036 | 0.1386879 | 1.4951629 | 0.134872 | 0.670689 |

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| boka | 167.6461025 | 0.022391451 | 0.163389 | 0.1370438 | 0.890996 | 0.989291 |
| gli3 | 220.3263509 | -0.097180229 | 0.1516845 | -0.640673 | 0.521735 | 0.939056 |
| slc1a2a | 730.302228 | 0.346907538 | 0.1063239 | 3.2627424 | 0.001103 | 0.033311 |
| notch3 | 2206.979951 | 0.020039134 | 0.0766051 | 0.2615899 | 0.793638 | 0.977937 |
| acvr1bb | 21.35143808 | 0.003590866 | 0.4114184 | 0.008728 | 0.993036 | 0.99854 |
| ptgs1 | 206.387023 | 0.178961406 | 0.1492876 | 1.1987695 | 0.230618 | 0.79878 |
| pbx4 | 3278.544978 | -0.008280432 | 0.0702865 | -0.11781 | 0.906218 | 0.990702 |
| lix1 | 365.9944469 | -0.26162159 | 0.1274281 | -2.053092 | 0.040064 | 0.391993 |
| lrrc8ab | 455.4333061 | -0.147273661 | 0.1092729 | -1.347761 | 0.177735 | 0.738343 |
| il12rb2 | 17.5774267 | 0.056445733 | 0.4678099 | 0.1206596 | 0.903961 | 0.990291 |
| il23r | 2.874060145 | 0.175591628 | 1.1472468 | 0.1530548 | 0.878355 | NA |
| znf507 | 44.52523646 | -0.126233025 | 0.2989816 | -0.42221 | 0.672872 | 0.965257 |
| si:ch211-236k19.2 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| uapl | 452.8225926 | -0.232222329 | 0.1109132 | -2.093731 | 0.036284 | 0.372062 |
| zgc:171711 | 6.434388318 | -0.49593674 | 0.7744227 | -0.640395 | 0.521916 | NA |
| eif2s1b | 2438.596621 | -0.187120248 | 0.0808837 | -2.313449 | 0.020698 | 0.271768 |
| rbfox2 | 3055.652662 | 0.070498237 | 0.0752125 | 0.9373204 | 0.348594 | 0.880195 |
| znf541 | 3.817778069 | 1.173373341 | 1.0877206 | 1.0787451 | 0.280701 | NA |
| fdx2 | 160.6791747 | 0.026950515 | 0.1646754 | 0.1636584 | 0.87 | 0.987395 |
| s1pr5b | 5.12827744 | -0.276188339 | 0.8231363 | -0.335532 | 0.737224 | NA |
| c3a.3 | 799.3797375 | 0.575700258 | 0.3057092 | 1.8831631 | 0.059678 | 0.478288 |
| btr02 | 113.0997796 | -0.033164522 | 0.1894312 | -0.175074 | 0.861021 | 0.985773 |
| zgc:114118 | 8.916297873 | 0.889534008 | 0.6408344 | 1.3880871 | 0.165111 | NA |
| rcvrna | 1183.193031 | 0.242944245 | 0.0990106 | 2.4537184 | 0.014139 | 0.214731 |
| aff2 | 317.111153 | -0.027825227 | 0.1282874 | -0.216898 | 0.828288 | 0.982721 |
| zgc:158564 | 1322.240237 | 0.230362605 | 0.0833359 | 2.7642665 | 0.005705 | 0.113266 |
| alkbh4 | 126.9070979 | -0.12023762 | 0.1794847 | -0.669904 | 0.502919 | 0.935304 |
| trim35-3 | 1.914913393 | -0.225421391 | 1.5437063 | -0.146026 | 0.883901 | NA |
| rab1aa | 416.6675015 | -0.012541399 | 0.1263598 | -0.099251 | 0.920939 | 0.992138 |
| slc22a18 | 395.2044544 | -0.165740877 | 0.1106116 | -1.498404 | 0.134028 | 0.669349 |
| cabp2b | 108.2810248 | -0.012815448 | 0.2043141 | -0.062724 | 0.949986 | 0.99381 |
| osgn1 | 430.1837838 | -0.095401117 | 0.1167482 | -0.817152 | 0.413841 | 0.905864 |
| zmp:0000000634 | 78.10805576 | 0.384087131 | 0.236846 | 1.6216742 | 0.104873 | 0.612814 |
| rab33ba | 281.3700719 | 0.002500194 | 0.1314167 | 0.0190249 | 0.984821 | 0.996944 |
| pimr198 | | 0 NA | NA | NA | NA | NA |
| zgc:171489 | 35.84139838 | 0.445280828 | 0.3241175 | 1.3738254 | 0.169496 | 0.726744 |
| uqcrc1 | 5101.207651 | 0.021699033 | 0.0742535 | 0.292229 | 0.770112 | 0.975687 |
| pimr196 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |
| t1r5b | 100.243556 | 0.506745305 | 0.2087501 | 2.4275214 | 0.015202 | 0.225685 |
| slc4a2b | 92.61404641 | -0.220112349 | 0.2019172 | -1.090112 | 0.275664 | 0.839541 |
| abcf2b | 85.04118815 | 0.274047557 | 0.2329113 | 1.1766179 | 0.239348 | 0.807932 |
| ftr98 | 1.452835086 | -1.011714448 | 1.6795834 | -0.60236 | 0.546934 | NA |
| ociad1 | 660.4563608 | -0.02411107 | 0.0933564 | -0.258269 | 0.796199 | 0.978498 |
| ociad2 | 304.6476382 | -1.367291519 | 0.1328876 | -10.28908 | 7.89E-25 | 1.30E-21 |
| sgcb | 349.6729265 | -1.228622711 | 0.1357819 | -9.048501 | 1.45E-19 | 1.19E-16 |
| spata18 | 52.71319218 | 0.397938602 | 0.2883484 | 1.3800619 | 0.167568 | 0.724734 |
| tbl3 | 615.1528012 | -0.182110758 | 0.117591 | -1.54868 | 0.121459 | 0.647929 |
| smarca5 | 2698.149653 | -0.008791616 | 0.0759935 | -0.115689 | 0.907899 | 0.990702 |
| si:dkey-156n14.3 | 662.1558572 | 0.057896201 | 0.0991517 | 0.5839151 | 0.559277 | 0.948478 |
| cacng1b | 2.049235703 | -0.962029482 | 1.3853896 | -0.694411 | 0.487425 | NA |
| il15 | 56.02194096 | 0.034528864 | 0.262555 | 0.131511 | 0.895371 | 0.989814 |
| cltb | 147.948757 | 0.409950503 | 0.1764259 | 2.3236418 | 0.020145 | 0.266806 |
| higd2a | 533.2218138 | 0.047135534 | 0.1122543 | 0.4198995 | 0.674559 | 0.965257 |
| faf2 | 924.5151926 | -0.01296486 | 0.0871639 | -0.148741 | 0.881758 | 0.988344 |

| | | | | | | |
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| zgc:66455 | 4.31299211 | -0.212183118 | 0.8982527 | -0.236218 | 0.813264 | NA |
| b3gnt2a | 3.927366378 | -1.187204437 | 1.0923885 | -1.086797 | 0.277127 | NA |
| psmd12 | 1712.749356 | 0.108420913 | 0.0786964 | 1.3777109 | 0.168293 | 0.725919 |
| ccdc22 | 507.9141096 | -0.138627547 | 0.1096107 | -1.264726 | 0.205969 | 0.773798 |
| clndnd1b | 269.2047406 | -0.10534118 | 0.1360276 | -0.77441 | 0.438688 | 0.915997 |
| pou2f3 | 160.8768414 | -0.235784197 | 0.1611821 | -1.462844 | 0.14351 | 0.686804 |
| pcgf5b | 32.74853622 | 0.026981984 | 0.3336331 | 0.0808732 | 0.935543 | 0.992702 |
| tmed8 | 493.0561314 | 0.163911349 | 0.1033257 | 1.5863555 | 0.112659 | 0.628587 |
| pkz | 17.98130938 | 0.401065875 | 0.4604204 | 0.8710861 | 0.383707 | 0.895192 |
| gpr6 | 7.246993234 | -0.028323449 | 0.7563899 | -0.037446 | 0.97013 | NA |
| dnmt3ba | 930.2458612 | 0.029866094 | 0.0849118 | 0.3517307 | 0.72504 | 0.970402 |
| pak6b | 69.51946785 | 0.251378526 | 0.2605724 | 0.9647167 | 0.334687 | 0.875699 |
| mgat2 | 324.8262701 | -0.190831552 | 0.1292158 | -1.476844 | 0.139718 | 0.678481 |
| si:dkey-7111.1 | 53.04895954 | 0.287041291 | 0.2786166 | 1.0302377 | 0.302898 | 0.85729 |
| crfb12 | 88.46305656 | 0.471205598 | 0.233346 | 2.0193428 | 0.043452 | 0.409149 |
| ankrd12 | 923.0774149 | -0.205610722 | 0.0919741 | -2.235528 | 0.025383 | 0.308303 |
| ppp1r12c | 526.0349797 | -0.057336952 | 0.1020837 | -0.561666 | 0.574344 | 0.950037 |
| si:ch211-256e16.3 | 245.2963259 | -0.092793992 | 0.1491518 | -0.622145 | 0.533847 | 0.943276 |
| bicd12 | 152.0049884 | -0.251272058 | 0.167221 | -1.502634 | 0.132933 | 0.667628 |
| si:dkey-43k4.3 | 27.17695176 | -0.397812467 | 0.3732594 | -1.06578 | 0.286523 | 0.845942 |
| syngn2a | 518.6574469 | -0.201403153 | 0.1135875 | -1.773111 | 0.07621 | 0.538016 |
| inha | 0.365141898 | 1.973577737 | 3.3927314 | 0.5817076 | 0.560764 | NA |
| spred2a | 447.010446 | 0.065110557 | 0.116515 | 0.5588169 | 0.576287 | 0.950611 |
| mia | 813.9876737 | -0.057597624 | 0.0913056 | -0.630823 | 0.528157 | 0.941768 |
| actr2a | 1595.270911 | -0.038014567 | 0.0886603 | -0.428766 | 0.668093 | 0.964736 |
| hspb2 | 67.95578403 | 0.25470919 | 0.2725859 | 0.934418 | 0.350088 | 0.880195 |
| rhpn1 | 5.940875815 | 0.824204419 | 0.7893904 | 1.0441024 | 0.296438 | NA |
| porcn1 | 156.4010779 | -0.154440779 | 0.1627662 | -0.948851 | 0.342697 | 0.878434 |
| pisd | 813.0985177 | 0.101625761 | 0.0966293 | 1.051708 | 0.292934 | 0.848631 |
| dusp10 | 4.281636488 | 0.017568423 | 0.910727 | 0.0192905 | 0.984609 | NA |
| gsk3bb | 36.62339484 | -0.114592384 | 0.3309498 | -0.346253 | 0.729153 | 0.970822 |
| igfbp2a | 1149.244205 | 0.275683823 | 0.0999282 | 2.7588179 | 0.005801 | 0.114711 |
| tafla | 106.8846062 | 0.101311673 | 0.1910145 | 0.5303873 | 0.595843 | 0.954434 |
| pcdd11 | 984.1898613 | -0.087393231 | 0.0885473 | -0.986967 | 0.323659 | 0.870928 |
| arhgef11 | 917.3549507 | 0.018029896 | 0.0964244 | 0.1869848 | 0.851673 | 0.985174 |
| pcdh18b | 1433.832484 | -0.029113787 | 0.0820152 | -0.35498 | 0.722604 | 0.970375 |
| arhgap45a | 13.99275157 | 0.433112939 | 0.5468006 | 0.7920857 | 0.428311 | 0.911082 |
| zgc:110789 | 148.5591981 | -0.503205111 | 0.1747074 | -2.880273 | 0.003973 | 0.086636 |
| lin28b | 4.977601262 | 0.543509786 | 0.9033323 | 0.6016721 | 0.547392 | NA |
| tsgal0 | 65.31635023 | 0.080445226 | 0.2575827 | 0.3123084 | 0.754806 | 0.975207 |
| calcoco2 | 55.80291821 | 0.275824607 | 0.2698183 | 1.0222605 | 0.306658 | 0.86012 |
| stx4 | 358.2739134 | 0.145324012 | 0.123573 | 1.1760179 | 0.239588 | 0.808091 |
| sgms2a | 63.83326225 | -0.176276718 | 0.243608 | -0.723608 | 0.469306 | 0.924505 |
| snx11 | 248.3498702 | -0.027882828 | 0.1419985 | -0.19636 | 0.844328 | 0.985174 |
| mullb | 84.10743973 | -0.100492019 | 0.2204581 | -0.455833 | 0.64851 | 0.960708 |
| CR762407.1 | 20.32133164 | -0.019196108 | 0.4186222 | -0.045855 | 0.963425 | 0.995927 |
| ubxn10 | 7.132604418 | -0.439663095 | 0.7382231 | -0.595569 | 0.551463 | NA |
| tial | 1586.285065 | 0.14514812 | 0.0825281 | 1.7587727 | 0.078616 | 0.546417 |
| cptp | 244.701865 | 0.185979765 | 0.1424284 | 1.3057776 | 0.191628 | 0.755886 |
| lig3 | 880.4199519 | 0.033839625 | 0.0883523 | 0.383008 | 0.701714 | 0.968134 |
| fgfr11b | 469.8352812 | 0.011653901 | 0.1184392 | 0.0983957 | 0.921618 | 0.992138 |
| porcn | 182.1701363 | 0.017684126 | 0.1636918 | 0.1080331 | 0.913969 | 0.991119 |
| cenpi | 199.7236031 | -0.11820422 | 0.1621506 | -0.728978 | 0.466015 | 0.923865 |
| tmem35 | 2432.355097 | 0.058918746 | 0.0817794 | 0.7204592 | 0.471242 | 0.924838 |

| | | | | | | |
|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| arl13a | 226.9474743 | -0.129212163 | 0.1590272 | -0.812516 | 0.416495 | 0.906237 |
| c6ast4 | 137.0948735 | -0.077989156 | 0.5324691 | -0.146467 | 0.883553 | 0.988706 |
| nkiras2 | 455.948905 | -0.059635238 | 0.1061069 | -0.56203 | 0.574096 | 0.950037 |
| cpeb2 | 14.09848427 | -0.300681467 | 0.5371295 | -0.559793 | 0.57562 | 0.950373 |
| dpp9 | 1598.211967 | 0.085763156 | 0.0788036 | 1.0883148 | 0.276456 | 0.839541 |
| CU468164.1 | 0.846012444 | -0.57358332 | 2.1013569 | -0.272959 | 0.784885 | NA |
| olig4 | 41.11840304 | -0.353523029 | 0.3105063 | -1.138537 | 0.254896 | 0.823581 |
| tnmd | 693.4285549 | 0.371624291 | 0.0968544 | 3.8369389 | 0.000125 | 0.005865 |
| raver1 | 388.3559595 | 0.014801962 | 0.1122973 | 0.1318105 | 0.895134 | 0.989814 |
| ahrrb | 2.297362113 | -1.312358568 | 1.3717981 | -0.95667 | 0.338734 | NA |
| bsdc1 | 1115.494072 | -0.062907878 | 0.0848821 | -0.74112 | 0.45862 | 0.921978 |
| spryd7a | 384.2217794 | 0.054507193 | 0.1133538 | 0.4808592 | 0.630617 | 0.957354 |
| fkbp1b | 516.6669933 | 0.422429277 | 0.1031487 | 4.0953424 | 4.22E-05 | 0.002358 |
| AL954655.1 | 17.61165038 | 0.355286615 | 0.5060257 | 0.7021118 | 0.482609 | 0.929042 |
| si:ch211-106n13.3 | 117.7703736 | -0.094664974 | 0.2029016 | -0.466556 | 0.640817 | 0.959994 |
| fam210b | 217.8710976 | -0.271803776 | 0.1838578 | -1.478337 | 0.139318 | 0.678204 |
| kpna3 | 1557.167594 | 0.158556295 | 0.0817013 | 1.9406817 | 0.052297 | 0.449084 |
| shisa9b | 5.943211754 | -0.840791973 | 0.790625 | -1.063452 | 0.287577 | NA |
| cal0a | 570.1545212 | 0.186585592 | 0.099611 | 1.873142 | 0.061049 | 0.482482 |
| ftr69 | 2.946489095 | 1.015072657 | 1.1238134 | 0.9032395 | 0.366399 | NA |
| hs3st4 | 20.17770528 | -0.503897431 | 0.4568212 | -1.103052 | 0.270005 | 0.834705 |
| ube2ia | 1337.918202 | -0.002511636 | 0.0804796 | -0.031208 | 0.975103 | 0.996762 |
| fermt1 | 468.9490202 | -0.235440615 | 0.1082097 | -2.175781 | 0.029572 | 0.332811 |
| thrab | 93.14550401 | -0.151361593 | 0.2108964 | -0.717706 | 0.472939 | 0.924993 |
| si:ch211-193e13.5 | 2.156906127 | 0.220425787 | 1.2793919 | 0.1722895 | 0.86321 | NA |
| pptc7b | 43.2609523 | -0.191745952 | 0.2912123 | -0.65844 | 0.510255 | 0.936253 |
| sept7b | 1955.016263 | -0.063799537 | 0.0772598 | -0.825779 | 0.408929 | 0.90171 |
| csnkl1a1 | 3552.661769 | 0.017929324 | 0.0673447 | 0.266232 | 0.790061 | 0.977338 |
| si:ch211-138g9.2 | 0.650115553 | 1.435486287 | 2.5894636 | 0.5543566 | 0.579335 | NA |
| si:dkey-182g1.2 | 332.6250848 | -0.159222052 | 0.130833 | -1.216987 | 0.223609 | 0.790003 |
| paqr5b | 60.32926786 | -0.25427674 | 0.2775019 | -0.916306 | 0.359506 | 0.884959 |
| arrdc3a | 4854.295018 | 0.136563092 | 0.0733345 | 1.862194 | 0.062576 | 0.487923 |
| si:dkey-172m14.1 | 283.5660808 | -0.186077051 | 0.1374336 | -1.353942 | 0.175755 | 0.736411 |
| nr2fla | 2353.250308 | 0.072171876 | 0.0751196 | 0.9607602 | 0.336673 | 0.876088 |
| bdh2 | | 0 NA | NA | NA | NA | NA |
| fam172a | 259.5308422 | 0.055279574 | 0.143477 | 0.3852852 | 0.700026 | 0.967998 |
| SLC9B2 | 299.8273725 | -0.065619785 | 0.1349651 | -0.486198 | 0.626827 | 0.957354 |
| smpd2b | 119.1893478 | -0.021206957 | 0.2037743 | -0.104071 | 0.917113 | 0.991572 |
| capn1a | 815.6440964 | 0.121023388 | 0.0952092 | 1.2711316 | 0.203682 | 0.771276 |
| cisd2 | 172.7793042 | -0.005824395 | 0.1553136 | -0.037501 | 0.970086 | 0.996315 |
| pkp1b | 186.3176671 | -0.16559702 | 0.1656173 | -0.999878 | 0.31737 | 0.867404 |
| tnnilb | 178.9102019 | -0.11289862 | 0.1627361 | -0.693753 | 0.487837 | 0.931809 |
| suc1g1 | 3216.730504 | -0.069112008 | 0.0767277 | -0.900744 | 0.367724 | 0.887476 |
| lrrtml | 660.9419666 | 0.219393799 | 0.093932 | 2.3356651 | 0.019509 | 0.262069 |
| prim2 | 382.5812731 | -0.044054661 | 0.1204799 | -0.36566 | 0.714619 | 0.96909 |
| s1tm | 2526.868827 | -0.045728979 | 0.0743621 | -0.61495 | 0.538588 | 0.943336 |
| ankrd31 | 1.84649756 | 1.471731511 | 1.5572461 | 0.945086 | 0.344615 | NA |
| hmgcra | 734.0114823 | -0.100932286 | 0.1110364 | -0.909002 | 0.363349 | 0.885944 |
| egf | 67.97554988 | -0.101083792 | 0.2678208 | -0.377431 | 0.705854 | 0.968412 |
| card11 | 110.1141445 | 0.016784106 | 0.1919557 | 0.0874374 | 0.930324 | 0.992702 |
| grinab | 1169.659579 | -0.088234273 | 0.0908439 | -0.971273 | 0.331412 | 0.874362 |
| gpatch3 | 255.8233799 | -0.280938534 | 0.1437655 | -1.954145 | 0.050684 | 0.44139 |
| capn1b | 415.1590269 | 0.075797143 | 0.1102283 | 0.687638 | 0.491681 | 0.931926 |
| pimr130 | 1.302602537 | 2.681479841 | 1.8879348 | 1.4203244 | 0.155513 | NA |

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| chrnb3a | 338.2139982 | -0.01547032 | 0.1227973 | -0.125983 | 0.899746 | 0.990121 |
| gria2b | 1079.68118 | -0.00287036 | 0.0867595 | -0.033084 | 0.973608 | 0.996315 |
| si:ch211-239f4.1 | 36.89029941 | 0.270671253 | 0.313961 | 0.8621175 | 0.388623 | 0.896271 |
| glrbb | 1493.439894 | 0.067895194 | 0.0793595 | 0.8555394 | 0.392253 | 0.897688 |
| opn3 | 94.92202421 | 0.135156212 | 0.2018822 | 0.6694807 | 0.503189 | 0.935304 |
| zgc:153932 | 205.8183645 | 0.722998693 | 0.3639615 | 1.9864703 | 0.046981 | 0.425369 |
| glrba | 260.2122829 | 0.234374414 | 0.1316679 | 1.7800418 | 0.075069 | 0.533746 |
| cdc42ep3 | 325.6070922 | 0.282602249 | 0.1223647 | 2.3095075 | 0.020915 | 0.273172 |
| zdhhc12b | 97.04727354 | 0.132286064 | 0.2074559 | 0.6376587 | 0.523696 | 0.939336 |
| azinla | 545.5665671 | 0.019334326 | 0.1055519 | 0.1831737 | 0.854662 | 0.985174 |
| shmt1 | 847.1614528 | -0.237912765 | 0.093617 | -2.54134 | 0.011043 | 0.18215 |
| smcr8a | 201.8974511 | 0.300599219 | 0.1527722 | 1.9676304 | 0.049111 | 0.435115 |
| runx3 | 198.4012373 | -0.187718784 | 0.1470147 | -1.276871 | 0.201648 | 0.767736 |
| top3a | 149.608818 | -0.159436832 | 0.1671118 | -0.954073 | 0.340047 | 0.87805 |
| zfang3 | 1891.625628 | -0.0375857 | 0.0945351 | -0.397585 | 0.690936 | 0.967157 |
| ndufs4 | 866.851656 | 0.124296525 | 0.1059177 | 1.1735198 | 0.240587 | 0.808802 |
| ppifb | 546.474859 | -0.008444921 | 0.1095633 | -0.077078 | 0.938562 | 0.992849 |
| fsta | 530.8339252 | -0.08296961 | 0.1036521 | -0.800462 | 0.423443 | 0.90766 |
| golp3 | 1201.388239 | -0.011454543 | 0.0811343 | -0.14118 | 0.887728 | 0.989291 |
| ctso | 66.62969089 | 0.115164738 | 0.2734969 | 0.4210825 | 0.673695 | 0.965257 |
| khdrbs1a | 14196.39998 | -0.050307989 | 0.0667878 | -0.753251 | 0.451299 | 0.918761 |
| chp1 | 107.3702005 | -0.1121362 | 0.2039515 | -0.549818 | 0.582444 | 0.952117 |
| htt | 830.0501618 | 0.030667784 | 0.1043061 | 0.2940173 | 0.768745 | 0.975687 |
| CR933791.1 | 2.141233338 | -0.239702095 | 1.3293395 | -0.180317 | 0.856904 | NA |
| CR933791.2 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| dnajb5 | 25.66562571 | 0.70295893 | 0.3759255 | 1.8699421 | 0.061492 | 0.483475 |
| rx3 | 254.9361785 | 0.043519108 | 0.1418214 | 0.3068585 | 0.758951 | 0.975374 |
| znf532 | 118.1497443 | 0.021647486 | 0.2038586 | 0.1061887 | 0.915433 | 0.991171 |
| htra3a | 5.91287694 | -0.314279182 | 0.7736277 | -0.406241 | 0.684566 | NA |
| atxn2 | 449.7967099 | 0.223543714 | 0.1229004 | 1.8189021 | 0.068926 | 0.513259 |
| kenk3b | 8.637162451 | 0.559197357 | 0.7288272 | 0.7672565 | 0.442929 | NA |
| CU550714.1 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| zgc:153642 | | 0 NA | NA | NA | NA | NA |
| rtnk2b | 60.70170955 | 0.109264887 | 0.2617868 | 0.4173812 | 0.6764 | 0.965257 |
| zgc:165423 | 670.5146567 | -0.143304226 | 0.1142162 | -1.254675 | 0.209597 | 0.776996 |
| bcl7a | 961.6874614 | 0.085978187 | 0.0885936 | 0.9704788 | 0.331808 | 0.874653 |
| wnt8a | | 0 NA | NA | NA | NA | NA |
| si:dkey-57n24.6 | 122.2900998 | -0.071288272 | 0.1953955 | -0.364841 | 0.71523 | 0.96909 |
| si:ch211-202f3.3 | 387.2450358 | 0.223050343 | 0.1143936 | 1.9498494 | 0.051194 | 0.443542 |
| adrb3b | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| zgc:113162 | 211.1962356 | -0.182757312 | 0.1485915 | -1.229931 | 0.218723 | 0.785734 |
| arf6b | 1141.688284 | 0.243585519 | 0.0865389 | 2.8147502 | 0.004882 | 0.101715 |
| aspg | 496.5341152 | -0.092394662 | 0.1034952 | -0.892744 | 0.371994 | 0.89248 |
| nppal | 106.1171504 | -0.037312135 | 0.192781 | -0.193547 | 0.846531 | 0.985174 |
| arhgap23a | 1268.427591 | -0.083592345 | 0.0807586 | -1.035088 | 0.300628 | 0.856282 |
| rab25b | 28.56615168 | -0.76239504 | 0.3767933 | -2.023377 | 0.043034 | 0.407353 |
| plcd3a | 331.7022437 | 0.032597487 | 0.1181504 | 0.2758981 | 0.782626 | 0.97627 |
| nppb | 8.466021169 | -0.833179915 | 0.7138148 | -1.167221 | 0.243121 | NA |
| nppa | 152.3737868 | -0.096873915 | 0.1801691 | -0.537683 | 0.590796 | 0.954193 |
| nmt1a | 2264.335531 | 0.024330866 | 0.0813034 | 0.2992601 | 0.764742 | 0.975374 |
| ubqln4 | 2087.694977 | 0.036175039 | 0.0863698 | 0.4188388 | 0.675334 | 0.965257 |
| mbnl1 | 43.99512322 | 0.227873512 | 0.2957678 | 0.7704472 | 0.441035 | 0.916336 |
| gabrr2a | 117.154629 | 0.427858149 | 0.1859447 | 2.3009972 | 0.021392 | 0.276471 |
| xcr1b.1 | | 0 NA | NA | NA | NA | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| slc25a28 | 1051.004747 | 0.081427167 | 0.0872555 | 0.9332036 | 0.350715 | 0.880195 |
| sema4e | 270.237294 | 0.270504464 | 0.1322065 | 2.0460751 | 0.040749 | 0.394957 |
| slc35f1 | 248.1037958 | 0.056719177 | 0.1347782 | 0.4208334 | 0.673877 | 0.965257 |
| cd22 | 10.81495379 | -0.660752148 | 0.5875273 | -1.124632 | 0.260745 | NA |
| lpcat2 | 177.127342 | -0.107889671 | 0.1659928 | -0.649966 | 0.515714 | 0.9377 |
| rnft2 | 324.8162649 | 0.182815785 | 0.1435027 | 1.273954 | 0.20268 | 0.769545 |
| grsfl | 386.7210037 | 0.084418887 | 0.1135841 | 0.7432278 | 0.457344 | 0.921679 |
| kif19 | 466.5335493 | -0.308050749 | 0.1143338 | -2.69431 | 0.007053 | 0.131086 |
| si:dkey-33i11.1 | 5.07439649 | 0.860185401 | 0.8698884 | 0.9888457 | 0.322739 | NA |
| si:ch211-203b20.7 | 3.36019841 | 0.597187268 | 1.032289 | 0.5785079 | 0.562921 | NA |
| EIF2S2 | 4057.777448 | 0.009906662 | 0.0697263 | 0.1420793 | 0.887017 | 0.989231 |
| rps11 | 12341.0561 | -0.372917877 | 0.1045452 | -3.56705 | 0.000361 | 0.013676 |
| CR628323.2 | 3.655522653 | -0.523832987 | 0.9791613 | -0.534981 | 0.592663 | NA |
| tubb1 | 17.93004819 | 0.426819089 | 0.4582655 | 0.9313795 | 0.351657 | 0.880769 |
| cyp8b1 | 338.3623168 | -0.403192444 | 0.1277556 | -3.155966 | 0.0016 | 0.045253 |
| gosr2 | 433.1874492 | -0.222704093 | 0.1177206 | -1.891802 | 0.058517 | 0.473924 |
| gipc3 | 49.95477581 | -0.171065902 | 0.2738772 | -0.624608 | 0.532228 | 0.942546 |
| thada | 178.7278815 | -0.450224764 | 0.1581724 | -2.846418 | 0.004421 | 0.094496 |
| mthfr | 493.708897 | -0.058477795 | 0.1112059 | -0.525851 | 0.598991 | 0.955806 |
| si:ch211-204c21.1 | 708.1539752 | -0.139919244 | 0.1002312 | -1.395965 | 0.162725 | 0.717762 |
| hsf2 | 1255.02297 | -0.250785331 | 0.086644 | -2.894433 | 0.003798 | 0.08411 |
| prpf38b | 983.1027374 | -0.051396068 | 0.0899405 | -0.571445 | 0.567698 | 0.948739 |
| fam102ba | 88.48552611 | 0.541761991 | 0.2131512 | 2.5416797 | 0.011032 | 0.18215 |
| cep44 | 64.55229778 | -0.009148901 | 0.2492357 | -0.036708 | 0.970718 | 0.996315 |
| pkib | 298.3733616 | -0.037789772 | 0.130353 | -0.289903 | 0.77189 | 0.975687 |
| ly75 | 315.3184752 | 0.139390504 | 0.1281204 | 1.0879652 | 0.27661 | 0.839683 |
| si:ch211-272h9.3 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| smpd13a | 26.50437426 | -0.735903943 | 0.394527 | -1.865281 | 0.062142 | 0.486844 |
| clvs2 | 18.08049711 | 0.257394001 | 0.4593982 | 0.5602851 | 0.575285 | 0.95035 |
| si:dkey-148a17.6 | 1.753484786 | 2.139621533 | 1.6668905 | 1.2836005 | 0.199282 | NA |
| helb | 96.54582456 | -0.19552869 | 0.2070924 | -0.944161 | 0.345087 | 0.878434 |
| carhsp1 | 437.5633869 | -0.083462643 | 0.1183654 | -0.705127 | 0.480731 | 0.927601 |
| pcp4a | 1106.459822 | 0.058678338 | 0.0983939 | 0.5963615 | 0.550934 | 0.946549 |
| irak3 | 35.1974825 | -0.09695623 | 0.3352242 | -0.289228 | 0.772407 | 0.975687 |
| b3gnt71 | 143.3780287 | 0.22393653 | 0.1934054 | 1.1578607 | 0.246921 | 0.816669 |
| taslr2.1 | | 0 NA | NA | NA | NA | NA |
| b2m | 29.80143922 | 0.035157754 | 0.3778003 | 0.0930591 | 0.925857 | 0.992702 |
| lrrc47 | 519.6224439 | -0.176945966 | 0.103125 | -1.715839 | 0.086191 | 0.563157 |
| pcmt1 | 616.3360547 | -0.323189696 | 0.0976503 | -3.309663 | 0.000934 | 0.029459 |
| alg3 | 364.1715812 | 0.066551957 | 0.1197736 | 0.5556481 | 0.578451 | 0.951052 |
| prss56 | 8.224589799 | 0.44339293 | 0.7057208 | 0.6282838 | 0.529818 | NA |
| zgc:110626 | 280.1114132 | 0.096740219 | 0.1302887 | 0.7425063 | 0.457781 | 0.921978 |
| zgc:113377 | 21.64846739 | -0.223406587 | 0.4491102 | -0.497443 | 0.618877 | 0.957354 |
| chic1 | 162.9630502 | -0.264675214 | 0.1613879 | -1.639994 | 0.101006 | 0.604004 |
| cttnbp2n1a | 75.1886995 | -0.070366911 | 0.2306389 | -0.305096 | 0.760293 | 0.975374 |
| vstm4b | 40.18065587 | -0.061131235 | 0.3079032 | -0.19854 | 0.842622 | 0.985174 |
| galnt16 | 332.8149725 | 0.169505517 | 0.1260517 | 1.34473 | 0.178712 | 0.739486 |
| pdzd11 | 487.3446501 | 0.177280716 | 0.1094566 | 1.6196438 | 0.105309 | 0.613727 |
| mtor | 1209.628509 | -0.045551129 | 0.0816466 | -0.557906 | 0.576908 | 0.950728 |
| dis3l | 136.2381188 | -0.242886749 | 0.1840886 | -1.319401 | 0.187035 | 0.751002 |
| zgc:172323 | 44.37115338 | 0.204628153 | 0.3007674 | 0.6803534 | 0.496281 | 0.932415 |
| snx22 | 47.58599251 | -0.155857255 | 0.2868355 | -0.543368 | 0.586876 | 0.953319 |
| ppfia4 | 163.6775495 | 0.08759401 | 0.1650826 | 0.5306073 | 0.595691 | 0.954434 |
| smad6a | 400.0366222 | -0.124904393 | 0.119389 | -1.046197 | 0.29547 | 0.852067 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| mel | 90.38011226 | 0.175170758 | 0.241608 | 0.7250206 | 0.468439 | 0.924328 |
| cox7a2a | 1691.300415 | -0.043316613 | 0.1177013 | -0.368021 | 0.712857 | 0.96909 |
| asb5b | 262.2655139 | 0.149014523 | 0.1414849 | 1.0532183 | 0.292241 | 0.848075 |
| itgblb.1 | 380.6985186 | 0.218535727 | 0.1139123 | 1.9184558 | 0.055053 | 0.459919 |
| kif6 | 13.24242881 | 0.153695332 | 0.5518669 | 0.2785007 | 0.780628 | 0.97627 |
| sts | 62.03931868 | 0.014409213 | 0.2577622 | 0.0559012 | 0.955421 | 0.994543 |
| depdc7b | 2.12476036 | 1.178327444 | 1.3385161 | 0.8803237 | 0.378684 | NA |
| inab | 599.4206033 | 0.205277813 | 0.1044853 | 1.9646581 | 0.049454 | 0.436093 |
| mylpfa | 75609.85044 | 0.133837241 | 0.1087918 | 1.2302143 | 0.218617 | 0.785734 |
| zgc:113090 | 69.83427903 | 0.165327667 | 0.2355606 | 0.7018476 | 0.482774 | 0.929133 |
| atplb4 | 3212.953801 | 0.219099739 | 0.0731193 | 2.99647 | 0.002731 | 0.067381 |
| zgc:113372 | 78.68021722 | -0.169135553 | 0.2188435 | -0.772861 | 0.439605 | 0.916082 |
| slc2a15b | 123.9146874 | -0.037031421 | 0.1776334 | -0.208471 | 0.834861 | 0.984089 |
| RAP1GAP | 96.29337912 | -0.161859576 | 0.2305702 | -0.701997 | 0.482681 | 0.929089 |
| apln | 1848.329368 | 0.080972786 | 0.0777861 | 1.0409666 | 0.297891 | 0.85401 |
| pnrc2 | 6797.395364 | -0.059083508 | 0.0715083 | -0.826247 | 0.408664 | 0.90171 |
| ftr14 | 46.50315792 | -0.112054795 | 0.3032004 | -0.369573 | 0.7117 | 0.969006 |
| nkx2.2a | 289.5342571 | 0.103883765 | 0.1247485 | 0.8327458 | 0.404988 | 0.901305 |
| insmlb | 605.6276203 | -0.102602755 | 0.1078101 | -0.951699 | 0.341249 | 0.878134 |
| tespal | 18.57301846 | 0.100012858 | 0.4359862 | 0.2293945 | 0.818562 | 0.981594 |
| tmprss3a | 48.14505518 | 0.03402756 | 0.2853189 | 0.1192615 | 0.905068 | 0.990702 |
| lrrc6 | 33.38481884 | 0.142781118 | 0.3280431 | 0.4352511 | 0.66338 | 0.964736 |
| zgc:112285 | 1148.681011 | 0.030674139 | 0.0877694 | 0.3494855 | 0.726725 | 0.970402 |
| gnallb | 81.9367352 | -0.122136317 | 0.2346264 | -0.520556 | 0.602676 | 0.956045 |
| si:ch211-138g9.3 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| adgrdl | 15.75846478 | -0.330906703 | 0.4814507 | -0.687312 | 0.491886 | 0.931926 |
| si:dkey-56i24.1 | 15.24652252 | 0.116603563 | 0.4875445 | 0.239165 | 0.810978 | 0.981081 |
| baspl | 8204.150736 | 0.060231352 | 0.0691412 | 0.8711351 | 0.38368 | 0.895192 |
| cilp | 1307.646228 | 0.352864167 | 0.080731 | 4.3708625 | 1.24E-05 | 0.000862 |
| pax10 | 297.8023952 | 0.060267116 | 0.1437949 | 0.4191186 | 0.675129 | 0.965257 |
| rpl31 | 10042.59225 | -0.472108287 | 0.1073421 | -4.398165 | 1.09E-05 | 0.000791 |
| ftr12 | 7.387239509 | 0.418454123 | 0.7541435 | 0.5548733 | 0.578981 | NA |
| eif3jb | 855.9496905 | 0.183845184 | 0.0950835 | 1.9335125 | 0.053173 | 0.452412 |
| nptxrb | 493.7063354 | 0.100587294 | 0.1192354 | 0.8436025 | 0.398892 | 0.900446 |
| fam189a1 | 280.6790505 | -0.175136853 | 0.1331054 | -1.315776 | 0.188249 | 0.753073 |
| plppla | 612.5759154 | 0.076946109 | 0.1113581 | 0.6909787 | 0.489579 | 0.931926 |
| rprma | 62.14899762 | 0.016543617 | 0.2502801 | 0.0661004 | 0.947298 | 0.99381 |
| wdr27 | 5.828665551 | -0.043629462 | 0.8162126 | -0.053454 | 0.957371 | NA |
| CU207281.1 | | 0 NA | NA | NA | NA | NA |
| jade2 | 6.836486527 | 0.209480812 | 0.7143129 | 0.293262 | 0.769322 | NA |
| cdkn2aipn1 | 514.9221017 | -0.124127726 | 0.1245232 | -0.996824 | 0.31885 | 0.867746 |
| PPP2CA | 1537.012389 | -0.066889782 | 0.0762917 | -0.876763 | 0.380615 | 0.895192 |
| sord | 323.5746221 | -0.118886595 | 0.132253 | -0.898933 | 0.368688 | 0.888057 |
| myl2b | 83.61928398 | -0.187598564 | 0.2304264 | -0.814137 | 0.415567 | 0.906237 |
| serinc21 | 12.42329956 | 0.818825678 | 0.5699089 | 1.4367658 | 0.150785 | 0.698912 |
| si:ch211-257p13.3 | 360.1515742 | 0.147536507 | 0.1295339 | 1.1389798 | 0.254712 | 0.823484 |
| subla | 1204.80062 | -0.054758505 | 0.1172432 | -0.467051 | 0.640464 | 0.959994 |
| ppp4r2b | 944.7017192 | -0.046505032 | 0.088233 | -0.52707 | 0.598145 | 0.955466 |
| si:ch211-251f6.6 | 349.1110808 | -0.105219031 | 0.1375381 | -0.765018 | 0.444261 | 0.916726 |
| pyya | 285.3254635 | 0.041239736 | 0.1383104 | 0.298168 | 0.765575 | 0.975374 |
| ftr06 | 1.108833117 | 1.320027098 | 2.0128984 | 0.6557843 | 0.511963 | NA |
| pop5 | 119.8134717 | -0.148794834 | 0.1875619 | -0.793311 | 0.427597 | 0.91075 |
| mpp2a | 143.7182937 | -0.081438924 | 0.1670254 | -0.487584 | 0.625844 | 0.957354 |
| cntn3b | 18.86245448 | 0.020449376 | 0.4481308 | 0.0456326 | 0.963603 | 0.995927 |

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|-----------------|-------------|--------------|-----------|-----------|----------|----------|
| ccdc103 | 28.76218851 | 0.046065749 | 0.3707085 | 0.1242641 | 0.901106 | 0.990121 |
| GK3P | 567.2415161 | 0.111294109 | 0.1017986 | 1.0932776 | 0.274272 | 0.839136 |
| rp123 | 12085.0902 | -0.377917343 | 0.1068048 | -3.538393 | 0.000403 | 0.014879 |
| rybpb | 740.1068355 | -0.027059046 | 0.0910334 | -0.297243 | 0.766281 | 0.975437 |
| si:dkey-283b1.7 | 11.86521276 | 0.188378187 | 0.5829563 | 0.3231429 | 0.746587 | 0.97419 |
| c3a.5 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| poglut1 | 218.9909491 | 0.185562958 | 0.1499934 | 1.237141 | 0.216035 | 0.783484 |
| timmcd1 | 400.7344742 | 0.058745157 | 0.1175837 | 0.4996029 | 0.617355 | 0.957354 |
| gtpbp1 | 1185.125638 | 0.039175819 | 0.0803414 | 0.4876168 | 0.625821 | 0.957354 |
| adam10a | 2449.109876 | -0.037025149 | 0.0714857 | -0.517938 | 0.604502 | 0.95651 |
| tdrkh | 290.6472494 | 0.18683805 | 0.1273319 | 1.4673313 | 0.142286 | 0.684232 |
| ngb | 524.40735 | 0.032698277 | 0.1063613 | 0.3074265 | 0.758519 | 0.975374 |
| lipca | 12.43931118 | 0.995377319 | 0.6015614 | 1.6546563 | 0.097994 | 0.59749 |
| gdf6a | 151.5091309 | -0.402522087 | 0.1750236 | -2.299816 | 0.021459 | 0.276973 |
| aqp9b | 1354.20449 | 0.247751346 | 0.0916693 | 2.7026646 | 0.006879 | 0.128683 |
| entpd5a | 153.2313153 | -0.010659435 | 0.1710294 | -0.062325 | 0.950304 | 0.99381 |
| zgc:113054 | 513.9396292 | 0.133638526 | 0.1047384 | 1.2759272 | 0.201981 | 0.76789 |
| syne2b | 818.6140917 | -0.100652315 | 0.100006 | -1.006462 | 0.314193 | 0.865176 |
| aldh6a1 | 3644.860663 | -0.087324032 | 0.0767625 | -1.137588 | 0.255293 | 0.823868 |
| osbp2 | 386.362997 | 0.365880672 | 0.1149768 | 3.1822123 | 0.001462 | 0.041885 |
| si:ch73-22a13.3 | 5.333327902 | 0.204593977 | 0.8345108 | 0.2451664 | 0.806328 | NA |
| aldh1a2 | 1161.150346 | -0.244918031 | 0.0977321 | -2.506015 | 0.01221 | 0.195183 |
| gemin8 | 259.4131809 | -0.1100746 | 0.1439382 | -0.764735 | 0.444429 | 0.916726 |
| ednrbb | 1.141958407 | 1.326526475 | 1.8207251 | 0.7285704 | 0.466264 | NA |
| isl2b | 492.7437696 | -0.147377223 | 0.112518 | -1.30981 | 0.19026 | 0.754967 |
| cbsa | 176.0258864 | 0.158569355 | 0.1667904 | 0.9507102 | 0.341752 | 0.878134 |
| cryaa | 1002.698708 | -0.079005897 | 0.0975245 | -0.810113 | 0.417875 | 0.906293 |
| fbxo22 | 659.03709 | 0.017965792 | 0.1041307 | 0.1725311 | 0.86302 | 0.985841 |
| kazald3 | 206.3569583 | 0.33785217 | 0.1702127 | 1.9848828 | 0.047158 | 0.42638 |
| crybb2 | 12.99196775 | -0.153758546 | 0.5367507 | -0.286462 | 0.774524 | 0.975687 |
| si:dkey-1f12.3 | 785.85654 | -0.072368026 | 0.1015054 | -0.712947 | 0.475878 | 0.926338 |
| adhfel | 146.7872108 | -0.061000499 | 0.1659369 | -0.367613 | 0.713162 | 0.96909 |
| L0017829.1 | 25.79618856 | 0.046175916 | 0.3797066 | 0.1216095 | 0.903208 | 0.990121 |
| enpp7.2 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| enpp7.1 | 4.495563059 | -0.090510502 | 0.8823123 | -0.102583 | 0.918294 | NA |
| snx24 | 38.19081545 | -0.071572342 | 0.319539 | -0.223986 | 0.822768 | 0.982189 |
| nog3 | 221.0061387 | -0.026861801 | 0.1437052 | -0.186923 | 0.851721 | 0.985174 |
| cyp4f3 | 7.878436152 | -0.536736202 | 0.7328783 | -0.732367 | 0.463944 | NA |
| lmo7b | 244.0781516 | 0.131251789 | 0.1510359 | 0.8690104 | 0.384841 | 0.89551 |
| kctd12.2 | 244.9604427 | 0.243866002 | 0.1343861 | 1.8146672 | 0.069575 | 0.514708 |
| hspa41 | 1112.593151 | 0.303948652 | 0.0972583 | 3.1251708 | 0.001777 | 0.049283 |
| jakmip2 | 1207.16898 | 0.10142385 | 0.0910704 | 1.1136865 | 0.265414 | 0.831302 |
| wdr76 | 407.2722697 | 0.161031851 | 0.1232409 | 1.3066431 | 0.191334 | 0.755886 |
| rtnk2a | 127.4408341 | 0.095187062 | 0.1817583 | 0.5237012 | 0.600486 | 0.956045 |
| tspan3b | 524.528742 | -0.055511268 | 0.1065172 | -0.521148 | 0.602264 | 0.956045 |
| ms4a17a.12 | 16.18649451 | -0.509032787 | 0.5152324 | -0.987967 | 0.323169 | 0.870607 |
| pstpip1b | 2.610036199 | -0.735004429 | 1.1858366 | -0.619819 | 0.535377 | NA |
| sox3 | 865.0648845 | -0.179103838 | 0.0946844 | -1.891588 | 0.058546 | 0.473924 |
| AL590151.1 | 9.782438733 | -0.129684519 | 0.6238728 | -0.20787 | 0.83533 | NA |
| adob | 556.9324543 | -0.273932728 | 0.1032647 | -2.652724 | 0.007985 | 0.143794 |
| fancd2 | 373.9188617 | 0.000968093 | 0.1153291 | 0.0083942 | 0.993302 | 0.998554 |
| gpat2 | 18.90481449 | 0.428521565 | 0.4871842 | 0.8795885 | 0.379082 | 0.895192 |
| htr1fb | 1.50674929 | -0.34759043 | 1.6384219 | -0.21215 | 0.83199 | NA |
| cers6 | 253.3364045 | 0.048724479 | 0.1377005 | 0.3538438 | 0.723456 | 0.970402 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| crebla | 901.0874695 | -0.003727911 | 0.0949303 | -0.03927 | 0.968675 | 0.996315 |
| gatd1 | 325.2647165 | -0.194621735 | 0.1205226 | -1.614816 | 0.106351 | 0.615567 |
| camk2a | 142.1877128 | 0.174639797 | 0.1767124 | 0.9882714 | 0.32302 | 0.870607 |
| sral | 223.8599085 | -0.045516671 | 0.1497645 | -0.303922 | 0.761188 | 0.975374 |
| ebi3 | 14.61964724 | 1.333673757 | 0.5144019 | 2.5926687 | 0.009523 | 0.163896 |
| csflrb | 3.67853806 | 0.519303748 | 0.9984485 | 0.5201107 | 0.602986 | NA |
| anxa2b | 739.5221279 | -0.899031339 | 0.0939364 | -9.570642 | 1.06E-21 | 1.17E-18 |
| si:dkey-182o15.5 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| cracr2b | 87.56251095 | -0.317501422 | 0.2149786 | -1.476898 | 0.139703 | 0.678481 |
| got111 | 10.79061851 | 0.038493526 | 0.5865342 | 0.0656288 | 0.947673 | NA |
| adrb3a | 60.32104327 | 0.068038132 | 0.2702502 | 0.2517598 | 0.801227 | 0.979377 |
| or135-1 | 1.163603234 | 0.397890555 | 1.8318468 | 0.2172073 | 0.828047 | NA |
| foxb1b | 49.43936102 | -0.317883166 | 0.2847706 | -1.116278 | 0.264303 | 0.830245 |
| ndufaf6 | 119.2452236 | -0.069032132 | 0.1882888 | -0.366629 | 0.713896 | 0.96909 |
| lypla2 | 1835.61399 | 0.13030136 | 0.0898888 | 1.4495833 | 0.147175 | 0.69407 |
| gabrg2 | 15.04041077 | 0.78622352 | 0.510214 | 1.540968 | 0.123325 | 0.651258 |
| myb | 439.7897994 | -0.147186204 | 0.1111742 | -1.323924 | 0.185528 | 0.749313 |
| stag2b | 2260.005139 | -0.051434893 | 0.0836253 | -0.615064 | 0.538513 | 0.943336 |
| aldob | 7379.785354 | -0.253752525 | 0.2032349 | -1.248567 | 0.211823 | 0.779854 |
| gtf2a2 | 248.9712119 | 0.015779452 | 0.1334178 | 0.118271 | 0.905853 | 0.990702 |
| maea | 1069.161892 | -0.059217998 | 0.0854173 | -0.693279 | 0.488135 | 0.93189 |
| zgc:162948 | 89.23648529 | -0.057757118 | 0.2088457 | -0.276554 | 0.782123 | 0.97627 |
| il2rgb | 12.9560187 | -0.063705574 | 0.5236669 | -0.121653 | 0.903174 | 0.990121 |
| ghrhrb | 17.56622833 | -0.043369239 | 0.4601429 | -0.094252 | 0.924909 | 0.992676 |
| si:ch73-89b15.3 | 66.19557929 | -0.828253365 | 0.2429799 | -3.408731 | 0.000653 | 0.021837 |
| GPR68 | 3.527337275 | 0.427371899 | 1.0327804 | 0.4138071 | 0.679015 | NA |
| ccdc88c | 667.282847 | 0.074473485 | 0.0948077 | 0.7855215 | 0.432148 | 0.912959 |
| zgc:153990 | 369.784995 | -0.1499748 | 0.122045 | -1.228848 | 0.219129 | 0.785734 |
| adcyp1r1a | 117.4496443 | -0.046124666 | 0.1838384 | -0.250898 | 0.801893 | 0.979492 |
| tt113 | 23.41114739 | -0.377061855 | 0.3936373 | -0.957891 | 0.338117 | 0.876778 |
| AL954695.1 | 4.891743218 | 0.007533135 | 0.9055065 | 0.0083193 | 0.993362 | NA |
| dcdc2b | 46.77091627 | 0.112866943 | 0.2810646 | 0.4015694 | 0.688001 | 0.966493 |
| CABZ01084566.1 | 199.364252 | 0.111376216 | 0.1514985 | 0.7351639 | 0.46224 | 0.922698 |
| mff | 599.3069404 | 0.010689921 | 0.096988 | 0.110219 | 0.912236 | 0.991119 |
| si:dkey-187j14.4 | 91.59105281 | 0.093130905 | 0.20688 | 0.4501688 | 0.652589 | 0.960708 |
| apbb3 | 36.79034395 | 0.209750711 | 0.3193423 | 0.656821 | 0.511296 | 0.936253 |
| vgl12b | 53.70942439 | 0.077951608 | 0.275439 | 0.2830086 | 0.77717 | 0.975826 |
| alpi.2 | 47.01786869 | -1.21123605 | 0.3107935 | -3.897238 | 9.73E-05 | 0.004774 |
| si:ch211-218m3.13 | 2.705409119 | 0.403021954 | 1.2517504 | 0.3219667 | 0.747478 | NA |
| si:rp71-1g18.1 | 230.7006941 | -0.284679258 | 0.1541127 | -1.847215 | 0.064716 | 0.497355 |
| si:ch211-276c2.4 | 467.3103872 | -0.062145304 | 0.1171149 | -0.530636 | 0.595671 | 0.954434 |
| cbln5 | 9.303091386 | 0.105770925 | 0.6165626 | 0.1715494 | 0.863792 | NA |
| klhl43 | 398.5203178 | 0.370589242 | 0.1425199 | 2.600263 | 0.009315 | 0.162001 |
| osbpl2a | 20.40875535 | -0.040754866 | 0.4617477 | -0.088262 | 0.929668 | 0.992702 |
| trubl | 90.75400073 | 0.156232156 | 0.2086804 | 0.748667 | 0.454058 | 0.920295 |
| hnrnpc | 1530.615463 | -0.090628026 | 0.0850517 | -1.065564 | 0.286621 | 0.845942 |
| or115-11 | 5.987295806 | -0.022475656 | 0.8032585 | -0.027981 | 0.977678 | NA |
| or115-2 | | 0 NA | NA | NA | NA | NA |
| pcmt2a | 224.1710017 | -0.311839167 | 0.1530977 | -2.036863 | 0.041664 | 0.400593 |
| ubxn11 | 14.54741991 | -0.429849046 | 0.5299522 | -0.811109 | 0.417303 | 0.906237 |
| pax9 | 246.0174616 | -0.030163855 | 0.153342 | -0.19671 | 0.844055 | 0.985174 |
| vtnb | 958.6632852 | 0.21032799 | 0.0986261 | 2.1325797 | 0.032959 | 0.35382 |
| mtnr1ba | 1.800015086 | 0.733377371 | 1.542912 | 0.4753203 | 0.634559 | NA |
| plekhh1 | 37.01455161 | 0.53912523 | 0.3201448 | 1.6840042 | 0.092181 | 0.57849 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| si:ch211-284o19.8 | 52.9329911 | -1.048287623 | 0.2902207 | -3.612035 | 0.000304 | 0.011943 |
| ei24 | 242.0186379 | 0.176946343 | 0.1352449 | 1.3083401 | 0.190758 | 0.755212 |
| cbln14 | 21.42614485 | 0.115619137 | 0.4045994 | 0.285762 | 0.77506 | 0.975687 |
| slc13a2 | 633.5173211 | -0.080463262 | 0.1460539 | -0.550915 | 0.581692 | 0.951868 |
| uts2a | 6.43477612 | -0.660941272 | 0.7538791 | -0.87672 | 0.380638 | NA |
| ccdc187 | 256.8883158 | -0.100507731 | 0.1510609 | -0.665346 | 0.505829 | 0.935724 |
| cripl | 829.403796 | -0.15890177 | 0.088343 | -1.798691 | 0.072068 | 0.525083 |
| ism2b | 4.594972336 | 1.568955315 | 0.9620126 | 1.6309092 | 0.102909 | NA |
| crygmX | 5602.853677 | 0.089887461 | 0.0711697 | 1.2630019 | 0.206589 | 0.774129 |
| elmsan1b | 617.229459 | 0.14470349 | 0.1111656 | 1.3016928 | 0.193021 | 0.756795 |
| etv2 | 66.59561551 | -0.338472503 | 0.2819184 | -1.200605 | 0.229905 | 0.79764 |
| crybalb | 19194.8472 | -0.01901612 | 0.0707011 | -0.268965 | 0.787957 | 0.976685 |
| klhl26 | 51.29964744 | 0.034225796 | 0.2804069 | 0.1220576 | 0.902853 | 0.990121 |
| cpdb | 1.495310112 | -0.994696088 | 1.5684186 | -0.634203 | 0.525948 | NA |
| inpp5l | 462.6493478 | 0.125520636 | 0.1084387 | 1.1575264 | 0.247057 | 0.816669 |
| med13a | 1778.076594 | -0.008877039 | 0.0974968 | -0.09105 | 0.927453 | 0.992702 |
| tmem62 | 47.81917898 | 0.079381361 | 0.2822591 | 0.2812358 | 0.77853 | 0.975942 |
| slc30a1b | 40.20484231 | 0.522712156 | 0.3104726 | 1.6836017 | 0.092259 | 0.57849 |
| angpt2b | 46.68731384 | 0.667872646 | 0.2867607 | 2.3290247 | 0.019858 | 0.265495 |
| si:dkey-42123.3 | 0 | NA | NA | NA | NA | NA |
| fb1 | 2310.392096 | -0.193394418 | 0.0863771 | -2.238954 | 0.025159 | 0.30686 |
| alg10 | 132.8503118 | -0.048794808 | 0.1810059 | -0.269576 | 0.787487 | 0.976596 |
| srfa | 34.30652804 | 0.395973571 | 0.3419441 | 1.1580068 | 0.246861 | 0.816669 |
| si:dkey-117a8.3 | 1.657414181 | -1.213759884 | 1.5969087 | -0.760068 | 0.447214 | NA |
| opn4b | 29.65797698 | 0.236749262 | 0.3585702 | 0.6602592 | 0.509088 | 0.936123 |
| si:dkey-42123.5 | 0 | NA | NA | NA | NA | NA |
| hdhd3 | 94.03891108 | -0.151092484 | 0.2138613 | -0.706498 | 0.479879 | 0.927125 |
| si:ch211-137j23.8 | 0 | NA | NA | NA | NA | NA |
| tgfa | 107.281484 | 0.329187781 | 0.1989255 | 1.6548296 | 0.097959 | 0.59749 |
| btr32 | 8.399494854 | 0.138607217 | 0.7145032 | 0.193991 | 0.846183 | NA |
| lin37 | 214.1914607 | -0.138232125 | 0.1707546 | -0.809537 | 0.418207 | 0.906406 |
| myadml2 | 17.12740463 | 0.549888821 | 0.5374192 | 1.0232028 | 0.306212 | 0.860027 |
| sptbn2 | 1249.13016 | -0.021266356 | 0.0896867 | -0.237118 | 0.812565 | 0.981081 |
| cdc42ep2 | 39.14290756 | -0.202321086 | 0.3069195 | -0.659199 | 0.509768 | 0.936253 |
| slc2a11a | 17.93309923 | 1.192638065 | 0.4585698 | 2.6007777 | 0.009301 | 0.162001 |
| npm2b | 4.944556129 | 0.518728999 | 0.8953113 | 0.5793839 | 0.56233 | NA |
| cypl7a2 | 15.81318029 | 0.433287396 | 0.5326106 | 0.8135162 | 0.415922 | 0.906237 |
| fetub | 7379.94389 | 0.296884674 | 0.2094799 | 1.4172467 | 0.156411 | 0.706639 |
| chmp2a | 608.3525398 | -0.112488006 | 0.1045558 | -1.075865 | 0.281988 | 0.843666 |
| htrlb | 53.13162804 | 0.332625297 | 0.263301 | 1.2632893 | 0.206485 | 0.774129 |
| hmgb2b | 6133.828744 | -0.276993055 | 0.0661156 | -4.189527 | 2.80E-05 | 0.001665 |
| sfil | 156.9529493 | -0.032603122 | 0.1747762 | -0.186542 | 0.85202 | 0.985174 |
| gpank1 | 153.7570228 | -0.182293764 | 0.174863 | -1.042495 | 0.297182 | 0.853945 |
| rargb | 6.155671599 | 0.541202192 | 0.7707005 | 0.7022212 | 0.482541 | NA |
| ppplr2 | 317.7805036 | -0.022409121 | 0.1277752 | -0.175379 | 0.860782 | 0.985773 |
| scafl | 2468.551931 | 0.004437131 | 0.0953563 | 0.0465321 | 0.962886 | 0.995927 |
| ttl16 | 63.81730287 | -0.041324743 | 0.2488624 | -0.166055 | 0.868114 | 0.987245 |
| hoxb8b | 92.42771119 | 0.01485889 | 0.2175652 | 0.0682963 | 0.94555 | 0.993589 |
| mustn1a | 13.5201232 | -0.157891939 | 0.5194387 | -0.303966 | 0.761153 | 0.975374 |
| hoxb5b | 527.570692 | -0.072427413 | 0.1071929 | -0.675673 | 0.499248 | 0.934006 |
| mxd4 | 361.5960626 | -0.284140317 | 0.1204865 | -2.358276 | 0.01836 | 0.25227 |
| rab24 | 187.9036465 | 0.003729582 | 0.1494317 | 0.0249584 | 0.980088 | 0.996879 |
| hoxblb | 147.0524077 | -0.036614939 | 0.1703724 | -0.214911 | 0.829837 | 0.982821 |
| rnf34b | 8.221721251 | 0.550238281 | 0.6747004 | 0.8155298 | 0.414769 | NA |

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|------------------|-------------|--------------|-----------|-----------|----------|----------|
| plin1 | 8.286729563 | -0.863858166 | 0.7030091 | -1.228801 | 0.219146 | NA |
| vsig8a | 122.2990482 | 0.024400843 | 0.1884634 | 0.1294726 | 0.896984 | 0.990006 |
| zgc:153219 | 9.167597045 | 0.543278231 | 0.6733417 | 0.8068389 | 0.419759 | NA |
| ostn | 38.26702138 | 0.133591344 | 0.3086265 | 0.4328576 | 0.665118 | 0.964736 |
| hlfx | 3360.591014 | -0.364794547 | 0.0730752 | -4.992042 | 5.97E-07 | 6.51E-05 |
| pof1b | 570.9103864 | 0.086100268 | 0.099482 | 0.8654857 | 0.386772 | 0.89551 |
| arpc4 | 943.3419624 | 0.031877267 | 0.099097 | 0.3216776 | 0.747697 | 0.97419 |
| tatdn3 | 23.35068222 | -0.248448735 | 0.4019454 | -0.618116 | 0.536499 | 0.943336 |
| irsl | 364.8108253 | 0.033451888 | 0.1267941 | 0.2638284 | 0.791912 | 0.977937 |
| rbm41 | 39.81125805 | -0.066445497 | 0.3294316 | -0.201697 | 0.840153 | 0.985029 |
| rippy1 | 37.07217314 | 0.249333403 | 0.3262164 | 0.764319 | 0.444677 | 0.916777 |
| tmem30b | 359.7545665 | 0.067975174 | 0.1142956 | 0.5947315 | 0.552023 | 0.947215 |
| htr1d | 142.1654043 | -0.029386236 | 0.1770057 | -0.166019 | 0.868142 | 0.987245 |
| slc26a61 | 69.80685852 | 0.491039012 | 0.2364028 | 2.0771283 | 0.03779 | 0.380669 |
| im:7136021 | 74.66671167 | 0.036375161 | 0.2300504 | 0.1581182 | 0.874364 | 0.987881 |
| ccdc105 | 11.90825301 | 0.225894928 | 0.5658667 | 0.3992016 | 0.689745 | 0.966819 |
| adgrg6 | 468.0691096 | 0.133277904 | 0.1076857 | 1.2376569 | 0.215843 | 0.783484 |
| cx23 | 289.2728546 | 0.097466255 | 0.1429457 | 0.6818409 | 0.49534 | 0.931928 |
| nmbr | 10.53962832 | -0.125784773 | 0.5987156 | -0.210091 | 0.833597 | NA |
| ftr50 | 0.809151653 | 1.852283317 | 2.2398915 | 0.8269523 | 0.408264 | NA |
| bms1 | 763.6233897 | 0.023487944 | 0.0905829 | 0.2592977 | 0.795406 | 0.978498 |
| pcna | 4292.065529 | -0.071681705 | 0.0937953 | -0.764235 | 0.444727 | 0.916777 |
| zgc:113625 | 9.013449487 | 1.04595687 | 0.7389907 | 1.4153857 | 0.156955 | NA |
| nfatc4 | 101.879934 | 0.086107037 | 0.2080311 | 0.4139143 | 0.678937 | 0.965257 |
| mrps17 | 178.0965266 | -0.208766521 | 0.1553363 | -1.343965 | 0.17896 | 0.73986 |
| ltb4r2b | 45.63341694 | 0.545173123 | 0.2925252 | 1.863679 | 0.062367 | 0.487498 |
| pgrmc1 | 782.4437079 | -0.244306348 | 0.1031932 | -2.367467 | 0.01791 | 0.247704 |
| adgrala | 483.5634997 | 0.045743716 | 0.1120854 | 0.4081147 | 0.683189 | 0.965476 |
| valopb | 16.79395408 | 0.1100941 | 0.4647875 | 0.2368697 | 0.812758 | 0.981081 |
| btr06 | 19.83091811 | -1.32752586 | 0.4542182 | -2.922661 | 0.003471 | 0.079063 |
| ncslb | 109.3119006 | -0.174747967 | 0.1918065 | -0.911064 | 0.362262 | 0.885944 |
| pgkl | 9420.156242 | -0.043233136 | 0.0798808 | -0.541221 | 0.588356 | 0.953319 |
| slc38a8b | 30.01719479 | 0.608555915 | 0.3625704 | 1.678449 | 0.093259 | 0.580702 |
| mthfd21 | 42.0174381 | 0.162492292 | 0.2931065 | 0.5543797 | 0.579319 | 0.951257 |
| rnf40 | 1521.998416 | -0.015646432 | 0.0774267 | -0.202081 | 0.839854 | 0.984979 |
| hbl4 | 19.42971131 | -0.280849511 | 0.4797758 | -0.585377 | 0.558295 | 0.948478 |
| npffr111 | 2.713391684 | 0.16139052 | 1.2526068 | 0.1288437 | 0.897481 | NA |
| CU682777.1 | 9.3105948 | 0.038250223 | 0.6430733 | 0.0594803 | 0.95257 | NA |
| phkg2 | 245.4936309 | 0.07820637 | 0.1422786 | 0.5496707 | 0.582545 | 0.952161 |
| st8sia7.1 | 49.16665296 | -0.894297797 | 0.2946055 | -3.035577 | 0.002401 | 0.061172 |
| hectd1 | 4199.920981 | 0.045054322 | 0.0823485 | 0.5471174 | 0.584298 | 0.952332 |
| si:ch73-269m23.5 | 57.98615334 | -0.180304253 | 0.2550577 | -0.706916 | 0.479619 | 0.927091 |
| ap4sl | 95.29376324 | -0.201423268 | 0.2196138 | -0.917171 | 0.359053 | 0.884725 |
| fbxl8 | 52.56441519 | -0.256994056 | 0.2698635 | -0.952311 | 0.340939 | 0.878134 |
| ipoll | 331.37547 | 0.127811704 | 0.1312899 | 0.9735078 | 0.330301 | 0.874098 |
| taarl6a | | 0 NA | NA | NA | NA | NA |
| ghrl | 3.921838121 | -0.479920225 | 0.9699521 | -0.494788 | 0.62075 | NA |
| crbn | 273.0277529 | -0.223819696 | 0.1430522 | -1.564602 | 0.117676 | 0.641446 |
| pqlc3 | 78.50395075 | 0.048307119 | 0.220831 | 0.2187515 | 0.826844 | 0.982473 |
| taarl8d | | 0 NA | NA | NA | NA | NA |
| sobpa | 13.44097452 | -0.109429524 | 0.5134031 | -0.213145 | 0.831214 | 0.983098 |
| taarl8a | 0.332645115 | 0.005883744 | 3.2924249 | 0.0017871 | 0.998574 | NA |
| tctex1d2 | 68.77155612 | 0.207556006 | 0.2370098 | 0.8757275 | 0.381178 | 0.895192 |
| nat10 | 544.8691952 | -0.021620873 | 0.1041567 | -0.20758 | 0.835557 | 0.984089 |

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| taar20c | 0.349228403 | 0.005884014 | 3.2372587 | 0.0018176 | 0.99855 | NA |
| cog4 | 388.8134729 | 0.156727477 | 0.1178387 | 1.3300175 | 0.183513 | 0.747284 |
| cdkn1bb | 1415.224729 | -0.019971494 | 0.089791 | -0.222422 | 0.823985 | 0.982196 |
| caprin1b | 2874.549715 | -0.237917027 | 0.0740199 | -3.214231 | 0.001308 | 0.038259 |
| zgc:63972 | 66.13575038 | -0.265061107 | 0.2393219 | -1.107551 | 0.268056 | 0.83343 |
| acinla | 3886.547152 | -0.160974156 | 0.0991749 | -1.623134 | 0.104561 | 0.612567 |
| si:ch211-14a17.11 | 246.0105284 | -0.132291859 | 0.1418761 | -0.932446 | 0.351106 | 0.880473 |
| dhrrs1 | 639.3280346 | -0.702789558 | 0.1118502 | -6.283311 | 3.31E-10 | 7.12E-08 |
| kti12 | 121.3057199 | 0.035787824 | 0.182001 | 0.1966353 | 0.844113 | 0.985174 |
| ehd4 | 117.3831822 | 0.253560044 | 0.1977725 | 1.2820795 | 0.199815 | 0.765237 |
| homeza | 504.5035456 | -0.141038223 | 0.1099455 | -1.282801 | 0.199562 | 0.764903 |
| zgc:77151 | 442.4620021 | 0.153005438 | 0.1114591 | 1.3727499 | 0.16983 | 0.726965 |
| slc38a6 | 139.6739251 | -0.060906566 | 0.172745 | -0.352581 | 0.724403 | 0.970402 |
| zp3f.2 | 2.103902422 | -0.656949399 | 1.354709 | -0.484938 | 0.627721 | NA |
| stk33 | 12.99557385 | 0.22577704 | 0.5348326 | 0.4221452 | 0.672919 | 0.965257 |
| oxctlb | 624.5411262 | 0.346693492 | 0.1048079 | 3.3078956 | 0.00094 | 0.029552 |
| ap2a1 | 4844.774968 | 0.061373036 | 0.0655782 | 0.9358755 | 0.349337 | 0.880195 |
| ngs | 1682.537943 | 0.115198268 | 0.2777926 | 0.4146916 | 0.678368 | 0.965257 |
| pparab | 2.795153415 | 0.504690138 | 1.1403369 | 0.4425799 | 0.65807 | NA |
| rerqlb | 63.94856886 | 0.215284618 | 0.2472943 | 0.8705602 | 0.383994 | 0.895192 |
| ccn4a | 6.142744744 | 0.235571285 | 0.7773595 | 0.3030403 | 0.761859 | NA |
| trim66 | 147.2415686 | -0.054119035 | 0.1699476 | -0.318445 | 0.750147 | 0.97419 |
| dctpp1 | | 0 NA | NA | NA | NA | NA |
| aplg2 | 761.942651 | -0.077679265 | 0.0941672 | -0.824908 | 0.409424 | 0.901955 |
| slala | 5.217945923 | 0.541303091 | 0.8470004 | 0.6390824 | 0.522769 | NA |
| slc7a8b | 26.08712731 | 0.214489167 | 0.3935641 | 0.5449917 | 0.585759 | 0.952847 |
| gabpb2b | 52.71016253 | -0.21917495 | 0.2779651 | -0.788498 | 0.430405 | 0.912006 |
| lrre9 | 13.52582996 | 0.060678551 | 0.531042 | 0.1142632 | 0.909029 | 0.990702 |
| dcaf7 | 3069.577728 | 0.025647478 | 0.0728185 | 0.3522111 | 0.72468 | 0.970402 |
| ccdc47 | 1804.236872 | 0.158159481 | 0.0767648 | 2.0603137 | 0.039369 | 0.389822 |
| si:zfos-464b6.2 | 66.24804376 | 0.146580135 | 0.2414445 | 0.6070965 | 0.543787 | 0.945438 |
| b3gnt3.2 | 5.180212511 | 0.30019736 | 0.8741576 | 0.3434133 | 0.731288 | NA |
| alg13 | 3.564428728 | 0.756334518 | 1.040583 | 0.7268373 | 0.467326 | NA |
| pcbp3 | 87.33823343 | 0.031692263 | 0.2219459 | 0.1427927 | 0.886454 | 0.988936 |
| rhof | 37.36464535 | -0.193229528 | 0.3267406 | -0.591385 | 0.554262 | 0.947449 |
| si:ch211-198n5.11 | 220.824765 | -0.107417587 | 0.1439098 | -0.746423 | 0.455412 | 0.921215 |
| spata17 | 6.207080973 | 0.292385364 | 0.7770112 | 0.3762949 | 0.706698 | NA |
| ssuh2.2 | 10.58036393 | -0.004486668 | 0.6107945 | -0.007346 | 0.994139 | NA |
| rpe65c | 60.01173692 | -0.079956822 | 0.2531919 | -0.315795 | 0.752158 | 0.974577 |
| slc7a6 | 360.3869653 | 0.278360458 | 0.1211249 | 2.2981279 | 0.021555 | 0.278029 |
| yipf6 | 515.7049084 | -0.219007734 | 0.1052954 | -2.079936 | 0.037531 | 0.379013 |
| fzd2 | 1172.721976 | 0.179369575 | 0.0830346 | 2.1601792 | 0.030759 | 0.339614 |
| cbx1b | 1349.867022 | 0.086479697 | 0.0798898 | 1.0824879 | 0.279036 | 0.842806 |
| ccdc43 | 247.511572 | -0.029086447 | 0.1365414 | -0.213023 | 0.831309 | 0.983152 |
| slc29a1b | 91.5443483 | -0.184513516 | 0.2210078 | -0.834873 | 0.403789 | 0.900979 |
| kif1c | 5.441514265 | -0.102225447 | 0.8264866 | -0.123687 | 0.901563 | NA |
| lox11 | 678.5695245 | 0.227863713 | 0.0984055 | 2.3155586 | 0.020582 | 0.270609 |
| epha4a | 1340.828675 | -0.003392418 | 0.0799923 | -0.042409 | 0.966172 | 0.996315 |
| clip3 | 327.9573876 | 0.049161714 | 0.1398933 | 0.351423 | 0.725271 | 0.970402 |
| slmapa | 672.2767438 | 0.187798548 | 0.1181929 | 1.5889154 | 0.11208 | 0.627454 |
| tinf2 | 121.2295764 | -0.078424859 | 0.1818774 | -0.431196 | 0.666326 | 0.964736 |
| stampa | 361.671132 | -0.187419964 | 0.122531 | -1.529572 | 0.126123 | 0.654806 |
| adrb2b | 40.51453565 | 0.275949974 | 0.3329055 | 0.8289139 | 0.407153 | 0.901305 |
| rars | 969.7988317 | -0.048139976 | 0.0878665 | -0.547876 | 0.583777 | 0.952214 |

| | | | | | | |
|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| araf | 779.4185067 | 0.091832804 | 0.0936322 | 0.9807822 | 0.3267 | 0.872642 |
| ACOT12 | 39.46050931 | -0.23835838 | 0.3331167 | -0.71554 | 0.474275 | 0.925066 |
| nhs11a | 960.9791123 | 0.028658797 | 0.0871141 | 0.32898 | 0.742171 | 0.973154 |
| lrp10 | 789.0578139 | -0.089728686 | 0.104969 | -0.854811 | 0.392656 | 0.897688 |
| imp4 | 226.0332772 | -0.245129952 | 0.1385342 | -1.769455 | 0.076818 | 0.539801 |
| ill2bb | 10.24873411 | -0.175475095 | 0.5888979 | -0.297972 | 0.765725 | NA |
| samsn1a | 679.1061845 | -0.098740336 | 0.1009637 | -0.977979 | 0.328085 | 0.872701 |
| si:ch73-285p12.4 | 0 | NA | NA | NA | NA | NA |
| her15.2 | 160.5483387 | -0.364665373 | 0.1623218 | -2.246559 | 0.024668 | 0.302262 |
| her15.1 | 530.9125006 | -0.240900774 | 0.1096797 | -2.196402 | 0.028063 | 0.324895 |
| smg1 | 2981.381532 | -0.000667112 | 0.0835206 | -0.007987 | 0.993627 | 0.998672 |
| wdr95 | 15.68106243 | -0.089895282 | 0.4992368 | -0.180065 | 0.857101 | 0.985597 |
| znhit1 | 176.0314532 | -0.190230164 | 0.1629614 | -1.167332 | 0.243076 | 0.812061 |
| waif2 | 15.69597533 | 0.176247483 | 0.4971787 | 0.3544952 | 0.722968 | 0.970375 |
| arl6ipl | 2894.210132 | 0.024148085 | 0.0801439 | 0.3013089 | 0.763179 | 0.975374 |
| mfsd6b | 165.8864193 | 0.009703116 | 0.1793802 | 0.0540924 | 0.956862 | 0.994543 |
| F0681288.1 | 76.77646053 | -0.157376005 | 0.2299456 | -0.684405 | 0.493719 | 0.931926 |
| cox6a2 | 62.31127329 | -0.19825491 | 0.2584658 | -0.767045 | 0.443055 | 0.916336 |
| cnot6l | 371.2537808 | 0.200436348 | 0.1178502 | 1.7007721 | 0.088986 | 0.5713 |
| mrpl1 | 215.0919298 | 0.086158542 | 0.1415702 | 0.6085923 | 0.542795 | 0.944974 |
| slco2b1 | 303.1217503 | 0.116503027 | 0.1276625 | 0.9125864 | 0.36146 | 0.885719 |
| corola | 84.83847928 | 0.062201527 | 0.2462325 | 0.2526129 | 0.800567 | 0.979377 |
| cldni | 2609.404541 | 0.15770302 | 0.0775593 | 2.0333213 | 0.04202 | 0.402375 |
| fras1 | 1280.085136 | 0.186993212 | 0.0850246 | 2.1992836 | 0.027858 | 0.323464 |
| flila | 567.0279364 | -0.094064098 | 0.1161545 | -0.809819 | 0.418044 | 0.906305 |
| tent5ab | 451.8506635 | 0.544555277 | 0.1263173 | 4.3110096 | 1.63E-05 | 0.001061 |
| si:ch211-51c14.1 | 266.6165994 | -0.116134233 | 0.1414046 | -0.821291 | 0.411481 | 0.903483 |
| rac1l | 2.159222975 | 0.25875996 | 1.3309414 | 0.1944187 | 0.845848 | NA |
| si:ch211-1f22.5 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| slc34a1b | 8.213551875 | 0.344756064 | 0.6634678 | 0.5196274 | 0.603323 | NA |
| pgpepl | 122.870269 | -0.068878702 | 0.1895743 | -0.363334 | 0.716356 | 0.96909 |
| adra2db | 9.291545155 | 0.099136476 | 0.6166034 | 0.1607784 | 0.872268 | NA |
| chrna9 | 34.49018729 | -0.112887473 | 0.326134 | -0.346138 | 0.729239 | 0.970822 |
| prdm8b | 964.1104278 | -0.006131867 | 0.0921368 | -0.066552 | 0.946939 | 0.99381 |
| si:dkey-166k12.1 | 12.73504446 | 0.173782907 | 0.539289 | 0.3222445 | 0.747268 | 0.97419 |
| psmb4 | 2496.531917 | -0.086917542 | 0.0953012 | -0.91203 | 0.361753 | 0.885944 |
| prlh2r | 1.313649662 | -2.692304005 | 1.8571878 | -1.449667 | 0.147151 | NA |
| dhx8 | 1137.067194 | 0.0182758 | 0.0893315 | 0.2045841 | 0.837897 | 0.984701 |
| or118-2 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| or118-3 | 0 | NA | NA | NA | NA | NA |
| or118-1 | 0 | NA | NA | NA | NA | NA |
| si:ch211-242b18.1 | 2537.583192 | 0.045821326 | 0.081164 | 0.5645524 | 0.572378 | 0.949494 |
| or116-1 | 3.708839591 | 0.869803025 | 1.0954538 | 0.7940116 | 0.427189 | NA |
| prkg2 | 14.77179693 | -0.089559025 | 0.488896 | -0.183186 | 0.854652 | 0.985174 |
| si:ch211-244e12.7 | 24.92795943 | 0.372988934 | 0.4009565 | 0.9302479 | 0.352243 | 0.880896 |
| uggt1 | 453.9891993 | 0.133977164 | 0.1108592 | 1.2085341 | 0.226842 | 0.794528 |
| cuedc1b | 35.11341597 | -0.197472617 | 0.324151 | -0.609199 | 0.542392 | 0.944974 |
| lmo4b | 1253.979472 | -0.053178292 | 0.0836823 | -0.635479 | 0.525116 | 0.940066 |
| coll0a1a | 4271.665557 | 0.004941488 | 0.0878566 | 0.0562449 | 0.955147 | 0.994543 |
| hs6st1a | 86.10101097 | -0.295546355 | 0.218317 | -1.353749 | 0.175817 | 0.736411 |
| alox5ap | 8.736636662 | 1.235165363 | 0.7199249 | 1.7156863 | 0.086219 | NA |
| ghra | 25.78832183 | 0.071068208 | 0.3991225 | 0.1780611 | 0.858675 | 0.985773 |
| si:dkey-46a10.3 | 436.367303 | -0.069991626 | 0.1075031 | -0.651066 | 0.515004 | 0.937646 |
| pogza | 207.4807902 | -0.066087981 | 0.1549578 | -0.42649 | 0.669751 | 0.965223 |

| | | | | | | |
|------------|-------------|--------------|-----------|-----------|----------|----------|
| faah2b | 61.11367097 | -1.191526618 | 0.2771238 | -4.299618 | 1.71E-05 | 0.001098 |
| lysmdl | 66.00316027 | -0.048985296 | 0.2429792 | -0.201603 | 0.840227 | 0.985029 |
| emc10 | 900.388917 | -0.10575604 | 0.0945467 | -1.118559 | 0.263328 | 0.830245 |
| plcxd3 | 467.4603754 | 0.046026271 | 0.1098203 | 0.4191051 | 0.675139 | 0.965257 |
| zgc:153441 | 195.1303708 | -0.204716422 | 0.1578129 | -1.29721 | 0.194559 | 0.758506 |
| rfc1 | 496.611336 | -0.007702866 | 0.1065923 | -0.072265 | 0.942391 | 0.993276 |
| anp32e | 11714.14971 | 0.052963372 | 0.0683933 | 0.7743938 | 0.438698 | 0.915997 |
| btr09 | 3.819234752 | -0.377846935 | 0.9737702 | -0.388025 | 0.697998 | NA |
| sec13 | 1260.207503 | 0.014081995 | 0.0962576 | 0.1462949 | 0.883689 | 0.988706 |
| ptp4a3b | 1257.440809 | 0.135674325 | 0.0799655 | 1.69666 | 0.089761 | 0.573763 |
| rpl32 | 12077.77838 | -0.411683198 | 0.0729312 | -5.644813 | 1.65E-08 | 2.70E-06 |
| nubpl | 115.6562968 | -0.040179208 | 0.1898189 | -0.211671 | 0.832364 | 0.983557 |
| id3 | 674.5753494 | -0.004551443 | 0.0980045 | -0.046441 | 0.962959 | 0.995927 |
| ssuh2.4 | 30.16572974 | -0.093854817 | 0.3836043 | -0.244666 | 0.806715 | 0.980254 |
| pik3c3 | 598.3565176 | -0.006460861 | 0.0993309 | -0.065044 | 0.948139 | 0.99381 |
| nucbl | 965.3029038 | 0.215574657 | 0.0887594 | 2.4287526 | 0.015151 | 0.225353 |
| ugt5f1 | 63.29746171 | -0.076501954 | 0.2490974 | -0.307117 | 0.758755 | 0.975374 |
| zgc:136870 | 18.09131017 | -0.457300017 | 0.4762954 | -0.960119 | 0.336996 | 0.876088 |
| hsd17b14 | 156.8255723 | -0.267728712 | 0.172518 | -1.551889 | 0.120689 | 0.645578 |
| CU657980.1 | 5.241171884 | 0.681075426 | 0.8615153 | 0.7905552 | 0.429204 | NA |
| xcrla.1 | | 0 NA | NA | NA | NA | NA |
| pdk4 | 294.993929 | -0.024397471 | 0.134356 | -0.181588 | 0.855906 | 0.985174 |
| bcat2 | 1131.202143 | 0.183036332 | 0.0880233 | 2.079408 | 0.03758 | 0.379013 |
| CSKMT | 60.36433709 | -0.289136714 | 0.2500624 | -1.156258 | 0.247576 | 0.817092 |
| tp53bp2b | 711.9996299 | 0.0097057 | 0.0993061 | 0.0977352 | 0.922143 | 0.992292 |
| aplp2 | 5178.496192 | 0.158687047 | 0.0703692 | 2.2550628 | 0.024129 | 0.299742 |
| hibch | 450.9967788 | 0.166258847 | 0.110007 | 1.511348 | 0.1307 | 0.662797 |
| gpsmlb | 158.0300518 | 0.101564445 | 0.176676 | 0.5748628 | 0.565384 | 0.948739 |
| six2b | 56.89334053 | 0.192455629 | 0.2714168 | 0.7090779 | 0.478276 | 0.926927 |
| six3b | 901.7827672 | 0.016057401 | 0.0976187 | 0.164491 | 0.869345 | 0.987274 |
| FP015808.1 | 1.641419359 | -1.960714519 | 1.6347667 | -1.199385 | 0.230378 | NA |
| rgra | 542.3220687 | 0.172582768 | 0.2834503 | 0.6088643 | 0.542614 | 0.944974 |
| ms4a17a.16 | 17.60092595 | -2.20261706 | 0.5164464 | -4.264948 | 2.00E-05 | 0.001256 |
| mta3 | 499.4134737 | -0.01774389 | 0.10405 | -0.170532 | 0.864592 | 0.98601 |
| ier5l | 1438.917874 | 0.02044 | 0.0902069 | 0.2265903 | 0.820742 | 0.981594 |
| cox7a2l | 1012.820337 | 0.036360466 | 0.0996038 | 0.365051 | 0.715073 | 0.96909 |
| tmsb | 342.5247912 | -0.099337382 | 0.1733393 | -0.573081 | 0.56659 | 0.948739 |
| dgatl1b | 260.0255046 | -0.090731351 | 0.1408364 | -0.644232 | 0.519425 | 0.938945 |
| eif4ebp3 | 348.8651494 | -0.350242554 | 0.1357947 | -2.579207 | 0.009903 | 0.169473 |
| zgc:110540 | 258.1828985 | -0.023435382 | 0.1449659 | -0.161661 | 0.871573 | 0.987762 |
| tpral | 94.68294 | -0.149078976 | 0.2070087 | -0.720158 | 0.471428 | 0.924838 |
| ppp2r5b | 772.463883 | 0.039566614 | 0.0899544 | 0.4398517 | 0.660045 | 0.963432 |
| zgc:101765 | 32.41725604 | 0.014546751 | 0.3762203 | 0.0386655 | 0.969157 | 0.996315 |
| badb | 110.3680242 | -0.097026332 | 0.1878185 | -0.516596 | 0.605438 | 0.95651 |
| ldlrad4b | 5.290058233 | -0.38956333 | 0.8333003 | -0.467495 | 0.640146 | NA |
| lgals2a | 410.7118723 | 0.160744976 | 0.1211358 | 1.3269812 | 0.184515 | 0.747376 |
| mc5rb | 4.50601267 | 0.340803361 | 0.8782391 | 0.388053 | 0.697977 | NA |
| mc2r | 0.341486697 | 1.892317624 | 3.2124068 | 0.5890654 | 0.555817 | NA |
| eef2kmt | 48.30574209 | -0.208368581 | 0.3043992 | -0.684524 | 0.493644 | 0.931926 |
| znf1015 | 61.5262955 | -0.226125206 | 0.2485897 | -0.909632 | 0.363017 | 0.885944 |
| alg1 | 193.7832736 | -0.048286764 | 0.1677111 | -0.287916 | 0.773411 | 0.975687 |
| cd40 | 20.90681656 | -0.996837493 | 0.4472058 | -2.229035 | 0.025812 | 0.31065 |
| itsn2b | 1040.961738 | -0.032524843 | 0.1009521 | -0.322181 | 0.747316 | 0.97419 |
| cxcr2 | 0.499972362 | -2.44370697 | 3.0013188 | -0.814211 | 0.415524 | NA |

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|------------------|-------------|--------------|-----------|-----------|----------|----------|
| kifc3 | 1845.232529 | -0.032216579 | 0.0761126 | -0.423275 | 0.672094 | 0.965257 |
| ebnalbp2 | 444.7033304 | 0.15436129 | 0.1126523 | 1.3702454 | 0.17061 | 0.728116 |
| zbtb41 | 216.8331008 | -0.159795022 | 0.1427261 | -1.119592 | 0.262888 | 0.830166 |
| col4a1 | 376.226011 | 0.236028748 | 0.1228306 | 1.9215786 | 0.054659 | 0.457793 |
| si:dkey-33m11.7 | 1.487688759 | -0.324299566 | 1.5016004 | -0.215969 | 0.829012 | NA |
| si:dkey-33m11.8 | 75.39647327 | 0.007979211 | 0.2271275 | 0.035131 | 0.971975 | 0.996315 |
| pds5a | 1552.48747 | -0.065817229 | 0.0799459 | -0.823272 | 0.410353 | 0.902997 |
| ptch2 | 1167.694579 | -0.003570421 | 0.0893606 | -0.039955 | 0.968129 | 0.996315 |
| potm2 | 310.0191996 | -0.013213942 | 0.1267555 | -0.104248 | 0.916973 | 0.991572 |
| itih3a | 298.8567122 | 0.442741475 | 0.1636064 | 2.7061377 | 0.006807 | 0.127586 |
| depdc7a | 118.9707521 | -0.132798813 | 0.1810705 | -0.733409 | 0.463309 | 0.922698 |
| casp3b | 224.280163 | 0.243536472 | 0.1443945 | 1.6866052 | 0.091679 | 0.57849 |
| ponzr5 | 241.8504464 | -0.717275595 | 0.1488333 | -4.819321 | 1.44E-06 | 0.000136 |
| map2 | 1288.365804 | 0.018152926 | 0.0865505 | 0.2097379 | 0.833872 | 0.983583 |
| itih1 | 370.6104838 | -0.178366691 | 0.11984 | -1.488374 | 0.136652 | 0.673303 |
| bcl9l | 826.6122958 | 0.01743174 | 0.1041002 | 0.1674516 | 0.867015 | 0.986978 |
| prdx5 | 1165.54759 | 0.146147349 | 0.1066742 | 1.3700351 | 0.170676 | 0.728116 |
| zdhhc20a | 22.8437361 | 0.517195703 | 0.4291161 | 1.2052583 | 0.228104 | 0.795505 |
| borcs7 | 104.1884266 | -0.049227803 | 0.1968538 | -0.250073 | 0.802531 | 0.979583 |
| svila | 1134.590951 | -0.004641383 | 0.0827575 | -0.056084 | 0.955275 | 0.994543 |
| nxf1 | 1192.48519 | 0.014592991 | 0.0888409 | 0.1642598 | 0.869527 | 0.987282 |
| chac2 | 93.56843633 | 0.555532143 | 0.202679 | 2.7409456 | 0.006126 | 0.118579 |
| rbm4.2 | 1059.111328 | -0.032491795 | 0.097816 | -0.332173 | 0.739759 | 0.972943 |
| ggnbp2 | 777.111034 | -0.01198424 | 0.0929686 | -0.128906 | 0.897432 | 0.990121 |
| pora | 1527.006703 | -0.013918823 | 0.0757222 | -0.183814 | 0.854159 | 0.985174 |
| cdh27 | 237.3558716 | 0.070722265 | 0.1578837 | 0.4479391 | 0.654197 | 0.961305 |
| fam184b | 506.9405662 | -0.107025288 | 0.1200871 | -0.89123 | 0.372806 | 0.892868 |
| cxcl12b | 418.8665571 | 0.072193685 | 0.1152222 | 0.6265605 | 0.530947 | 0.942209 |
| znf148 | 413.2490057 | 0.084742749 | 0.1147244 | 0.7386638 | 0.460111 | 0.921978 |
| gdel | 357.6280897 | 0.03007802 | 0.115851 | 0.2596269 | 0.795152 | 0.978466 |
| pom12l | 301.7513219 | 0.120452077 | 0.1424118 | 0.8458015 | 0.397664 | 0.899672 |
| dtmbpla | 484.9816954 | -0.156682765 | 0.1072937 | -1.460317 | 0.144203 | 0.688428 |
| mylipb | 195.1070732 | 0.352471802 | 0.1578141 | 2.2334622 | 0.025518 | 0.309193 |
| ctsba | 2961.128394 | -0.077699466 | 0.0954225 | -0.814268 | 0.415492 | 0.906237 |
| kenk2a | 39.4243415 | 0.132698294 | 0.3187515 | 0.4163064 | 0.677186 | 0.965257 |
| ccn1la | 1533.97165 | -0.092549763 | 0.0793481 | -1.166377 | 0.243462 | 0.81239 |
| armac4 | 71.74998426 | -0.107178108 | 0.2295355 | -0.466935 | 0.640547 | 0.959994 |
| pim3 | 1020.296889 | 0.021392173 | 0.0943809 | 0.2266578 | 0.82069 | 0.981594 |
| lrfn4a | 294.4300733 | -0.010204215 | 0.1279263 | -0.079766 | 0.936423 | 0.992702 |
| cenpf | 461.8376939 | 0.044564041 | 0.11088 | 0.4019124 | 0.687748 | 0.966442 |
| si:dkey-101k6.5 | 49.98039304 | 0.137769201 | 0.2866721 | 0.4805811 | 0.630814 | 0.957354 |
| zgc:110410 | 51.90162308 | -0.895882245 | 0.2756547 | -3.250016 | 0.001154 | 0.034522 |
| smyd2a | 721.4382265 | 0.069147838 | 0.0959039 | 0.721012 | 0.470902 | 0.924838 |
| slc8a4a | 27.17683888 | -0.055361059 | 0.4495347 | -0.123152 | 0.901987 | 0.990121 |
| prox1a | 515.9919828 | -0.17985473 | 0.1037981 | -1.732736 | 0.083143 | 0.55599 |
| cyp27a1.4 | 14.89562056 | -0.12150684 | 0.488167 | -0.248904 | 0.803435 | 0.979643 |
| chadla | 13.16766745 | -0.099098382 | 0.5188233 | -0.191006 | 0.848521 | 0.985174 |
| zhx2a | 550.7430919 | -0.043840889 | 0.1068643 | -0.410248 | 0.681624 | 0.965476 |
| epoa | 36.50545148 | -0.482299542 | 0.3318382 | -1.453418 | 0.146108 | 0.691942 |
| si:ch211-256m1.8 | 505.0729259 | -0.611610159 | 0.1225307 | -4.991484 | 5.99E-07 | 6.51E-05 |
| clqtnf6a | 7.104730888 | 0.315382746 | 0.7376501 | 0.4275506 | 0.668978 | NA |
| pxdcl1a | 84.05292637 | 0.013686853 | 0.2353859 | 0.0581464 | 0.953632 | 0.994213 |
| tm4sf5 | 95.43144667 | -0.949000222 | 0.2087818 | -4.545417 | 5.48E-06 | 0.000429 |
| ccr9a | 36.02289088 | 0.135532974 | 0.324211 | 0.4180394 | 0.675918 | 0.965257 |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| slc17a5 | 672.6723712 | 0.193077981 | 0.1093223 | 1.766136 | 0.077373 | 0.541968 |
| zgc:136930 | 10729.9172 | 0.338943816 | 0.0924102 | 3.6678172 | 0.000245 | 0.010078 |
| dtncp1b | 153.9923378 | 0.086005979 | 0.2122355 | 0.4052384 | 0.685302 | 0.966146 |
| tubalc | 15988.5246 | 0.065540015 | 0.0961218 | 0.6818437 | 0.495338 | 0.931928 |
| ablim2 | 125.5381265 | -0.122075809 | 0.1843435 | -0.662219 | 0.507831 | 0.935734 |
| dock8 | 478.8376034 | 0.006398958 | 0.1066555 | 0.0599965 | 0.952158 | 0.993904 |
| slc7a7 | 263.1781351 | 0.030428557 | 0.1400986 | 0.2171938 | 0.828057 | 0.982721 |
| ncsla | 193.5643345 | 0.086309679 | 0.147432 | 0.5854204 | 0.558265 | 0.948478 |
| fance | 74.40933123 | -0.220279723 | 0.2287134 | -0.963126 | 0.335484 | 0.876088 |
| kif17 | 17.27616264 | 0.096585314 | 0.4711438 | 0.2050018 | 0.837571 | 0.984665 |
| xdh | 230.048328 | 0.123467121 | 0.1396247 | 0.8842786 | 0.376546 | 0.89493 |
| zmp:0000000650 | 5.59289123 | 0.182943211 | 0.8517598 | 0.2147826 | 0.829937 | NA |
| cntd2 | 6.24596968 | 1.086381684 | 0.7945179 | 1.3673471 | 0.171517 | NA |
| snap23.2 | 47.61858729 | 0.073782998 | 0.3134323 | 0.2354033 | 0.813896 | 0.981081 |
| slc12a10.3 | 51.10949224 | 0.409048681 | 0.2756193 | 1.4841078 | 0.13778 | 0.675209 |
| pitpnm3 | 127.3548648 | -0.149273181 | 0.1802289 | -0.828242 | 0.407533 | 0.901305 |
| si:ch1073-358c10.1 | 101.6020603 | -0.094408389 | 0.2107019 | -0.448066 | 0.654105 | 0.961305 |
| nkda | 47.95577329 | -0.043870599 | 0.2794836 | -0.15697 | 0.875268 | 0.987881 |
| rel | 208.4913199 | -0.407974835 | 0.1693077 | -2.409665 | 0.015967 | 0.233052 |
| cfb | 900.7574788 | 0.130201626 | 0.2636865 | 0.4937743 | 0.621466 | 0.957354 |
| b3gat1b | 160.087403 | 0.125421199 | 0.1754122 | 0.7150082 | 0.474604 | 0.925287 |
| id2a | 2829.160982 | -0.182569295 | 0.071036 | -2.570095 | 0.010167 | 0.172274 |
| afap1 | 237.7328675 | 0.128468231 | 0.1481873 | 0.8669315 | 0.38598 | 0.89551 |
| prelid3a | 204.865817 | 0.345796612 | 0.1617051 | 2.1384399 | 0.032481 | 0.35109 |
| mpegl.1 | 63.79177501 | 0.689237365 | 0.2634371 | 2.6163261 | 0.008888 | 0.156504 |
| rab18a | 680.2162872 | -0.020972566 | 0.0974446 | -0.215226 | 0.829591 | 0.982805 |
| atg9b | 693.3661088 | -0.131265599 | 0.112074 | -1.17124 | 0.241502 | 0.810471 |
| atoh1a | 45.30127122 | -0.55879122 | 0.2921142 | -1.91292 | 0.055758 | 0.462291 |
| cyb561d1 | 11.94988483 | -0.13904129 | 0.558383 | -0.249007 | 0.803355 | 0.979643 |
| atxn712a | 126.5896104 | -0.118017237 | 0.1835721 | -0.642893 | 0.520293 | 0.939056 |
| grid2 | 270.7951191 | -0.07436117 | 0.1440553 | -0.516199 | 0.605715 | 0.95651 |
| ret | 759.7424978 | 0.089391854 | 0.1005687 | 0.8888639 | 0.374076 | 0.893787 |
| sypl2a | 1572.556907 | 0.014222707 | 0.0762011 | 0.186647 | 0.851937 | 0.985174 |
| slc12a10.1 | 25.30549254 | -0.773462035 | 0.4183398 | -1.848885 | 0.064474 | 0.496874 |
| mcmcp | 841.0662697 | 0.090913974 | 0.0908522 | 1.0006794 | 0.316982 | 0.867335 |
| clql4b | 86.00854597 | 0.086651338 | 0.2082233 | 0.4161461 | 0.677303 | 0.965257 |
| aldh9a1a.2 | 32.75374734 | -0.518830121 | 0.350851 | -1.478776 | 0.1392 | 0.677963 |
| si:dkey-28d5.11 | | 0 NA | NA | NA | NA | NA |
| zmp:0000000652 | 1.33749424 | 0.038256826 | 1.6335383 | 0.0234196 | 0.981316 | NA |
| si:dkeyp-50d11.2 | 70.35577532 | 0.446050526 | 0.2421945 | 1.8417036 | 0.065519 | 0.500411 |
| si:ch73-1a9.4 | 766.7111972 | -0.088194111 | 0.0949863 | -0.928493 | 0.353152 | 0.881552 |
| slc16a13 | 170.217373 | -0.057376679 | 0.1671947 | -0.343173 | 0.731468 | 0.971557 |
| mipep | 262.2660767 | 0.094004841 | 0.1350084 | 0.6962888 | 0.486248 | 0.930833 |
| si:dkey-83f18.2 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| pknox2 | 511.8272466 | 0.004433601 | 0.1176503 | 0.0376846 | 0.969939 | 0.996315 |
| sun1 | 1128.966729 | 0.142385423 | 0.0904734 | 1.5737813 | 0.115538 | 0.637206 |
| leol | 705.7964351 | -0.080358755 | 0.0954795 | -0.841634 | 0.399993 | 0.90084 |
| sp100.1 | 7.150104519 | 1.226483222 | 0.7671403 | 1.598773 | 0.109871 | NA |
| llph | 490.0195959 | -0.064349019 | 0.1132109 | -0.568399 | 0.569764 | 0.948983 |
| si:dkey-25e12.3 | 50.2885796 | 0.584193752 | 0.319781 | 1.8268555 | 0.067721 | 0.50956 |
| zgc:163121 | 56.90054206 | -0.254403017 | 0.2550671 | -0.997397 | 0.318572 | 0.867746 |
| sema3fb | 582.1143994 | 0.13530437 | 0.1106779 | 1.2225056 | 0.221516 | 0.788243 |
| irf4b | 3.143405551 | 1.097834121 | 1.1545954 | 0.9508388 | 0.341686 | NA |
| gnb5b | 1282.537867 | 0.249679756 | 0.1017126 | 2.4547576 | 0.014098 | 0.214639 |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| bambia | 499.9974114 | -0.062539764 | 0.103577 | -0.6038 | 0.545977 | 0.945526 |
| zgc:66160 | 403.3079421 | 0.176649614 | 0.1137857 | 1.5524767 | 0.120548 | 0.645578 |
| vtna | 554.053063 | 0.257462524 | 0.1182878 | 2.1765777 | 0.029512 | 0.332709 |
| si:dkey-67c22.2 | 997.7494805 | -0.051440437 | 0.0897818 | -0.57295 | 0.566679 | 0.948739 |
| foxqlb | 192.6737347 | -0.073457904 | 0.1768101 | -0.415462 | 0.677804 | 0.965257 |
| foxclb | 526.8161975 | 0.015163131 | 0.1123591 | 0.1349524 | 0.89265 | 0.989291 |
| si:dkey-56f14.7 | 677.2661816 | 0.153362875 | 0.0965932 | 1.5877197 | 0.11235 | 0.627572 |
| mylk4b | 63.02907261 | 0.168626959 | 0.2503961 | 0.673441 | 0.500667 | 0.93428 |
| zp211 | 0.499182217 | -0.916838237 | 2.6774436 | -0.34243 | 0.732027 | NA |
| serpinb1 | 543.9037332 | -0.730525599 | 0.1023401 | -7.138213 | 9.46E-13 | 3.37E-10 |
| rwdd2b | 95.79137175 | 0.440253655 | 0.2081351 | 2.1152304 | 0.03441 | 0.360397 |
| kat6b | 898.9217791 | -0.046839961 | 0.0930655 | -0.503301 | 0.614753 | 0.95688 |
| BX248515.1 | 11.75086739 | 0.280190202 | 0.5501094 | 0.5093354 | 0.610517 | 0.95688 |
| vps26b1 | 45.3156318 | -0.113466528 | 0.2940111 | -0.385926 | 0.699551 | 0.967998 |
| ftr97 | 42.65403847 | -0.11611401 | 0.3057667 | -0.379747 | 0.704133 | 0.968134 |
| METTL21C | 3.492242897 | 0.151951359 | 0.9860217 | 0.1541055 | 0.877527 | NA |
| adamts17 | 65.42872511 | 0.288495889 | 0.2679973 | 1.076488 | 0.281709 | 0.84357 |
| zcchc7 | 178.8908076 | -0.22535031 | 0.1601044 | -1.407521 | 0.159273 | 0.710139 |
| slc22a15 | 235.1034757 | 0.050747274 | 0.1508423 | 0.3364259 | 0.73655 | 0.972535 |
| gpm6aa | 22410.5064 | 0.026302411 | 0.064151 | 0.4100078 | 0.6818 | 0.965476 |
| dlgap3 | 149.0761688 | -0.03879033 | 0.176832 | -0.219363 | 0.826368 | 0.982196 |
| lrit3a | 262.8087703 | 0.274671723 | 0.1421079 | 1.9328386 | 0.053256 | 0.452412 |
| si:dkeyp-3f10.14 | 6.815621801 | 0.660837381 | 0.7289493 | 0.9065616 | 0.364639 | NA |
| cdcl6 | 291.4910309 | -0.158049171 | 0.1243916 | -1.270578 | 0.203879 | 0.771579 |
| nubpl | 230.756188 | -0.239418375 | 0.1414448 | -1.692663 | 0.09052 | 0.576398 |
| dexi | | 0 NA | NA | NA | NA | NA |
| rps27.2 | 4369.08858 | -0.424231667 | 0.1088802 | -3.896314 | 9.77E-05 | 0.00478 |
| CR352329.1 | 5.052041705 | -1.002279979 | 1.0087353 | -0.993601 | 0.320417 | NA |
| pelo | 504.3350151 | 0.02266145 | 0.106221 | 0.2133424 | 0.83106 | 0.982994 |
| mmp20b | 2.57129993 | 0.015701013 | 1.2908427 | 0.0121634 | 0.990295 | NA |
| atf7b | 1032.360591 | 0.018125195 | 0.0854378 | 0.2121449 | 0.831994 | 0.98349 |
| galnt12 | 44.06611959 | -0.221086526 | 0.3050163 | -0.724835 | 0.468553 | 0.924328 |
| hic1 | 202.6795574 | 0.018721013 | 0.1443281 | 0.1297115 | 0.896795 | 0.989971 |
| si:ch1073-184j22.1 | 74.32866701 | -0.021416817 | 0.2424788 | -0.088324 | 0.929619 | 0.992702 |
| cicb | 1530.864308 | 0.003436938 | 0.0808984 | 0.0424846 | 0.966112 | 0.996315 |
| si:ch211-212k18.7 | 905.6002991 | -0.15804313 | 0.0977642 | -1.616574 | 0.10597 | 0.615567 |
| si:ch211-37e10.1 | 1.999598409 | 0.473439221 | 1.4046542 | 0.3370504 | 0.736079 | NA |
| ypel3 | 728.085916 | -0.284287335 | 0.1035709 | -2.744857 | 0.006054 | 0.117821 |
| icn2 | 636.2367831 | -0.22646998 | 0.2425284 | -0.933787 | 0.350414 | 0.880195 |
| pygma | 1604.074166 | 0.511171244 | 0.1063619 | 4.8059629 | 1.54E-06 | 0.000143 |
| ftr61 | 6.296258228 | -1.09238699 | 0.7712966 | -1.4163 | 0.156688 | NA |
| slc22a61 | 204.2977564 | -0.715584163 | 0.1714574 | -4.17354 | 3.00E-05 | 0.001755 |
| rnf7 | 1016.625 | -0.092820687 | 0.0877756 | -1.057477 | 0.290294 | 0.846262 |
| lgals1b | 8.120085531 | 0.685308937 | 0.7583604 | 0.9036719 | 0.366169 | NA |
| cmn | 1331.580751 | 0.256507177 | 0.2350645 | 1.0912203 | 0.275176 | 0.839541 |
| sertad2b | 432.2961016 | -0.00742446 | 0.1086253 | -0.068349 | 0.945508 | 0.993589 |
| grk7b | 75.42044248 | 0.458317431 | 0.231909 | 1.9762815 | 0.048123 | 0.432341 |
| otub1a | 750.3528673 | -0.075000834 | 0.0926083 | -0.809872 | 0.418014 | 0.906305 |
| av19 | 514.6407592 | 0.102949014 | 0.1052742 | 0.9779133 | 0.328117 | 0.872701 |
| epd12 | 466.0498 | -1.240293061 | 0.1502897 | -8.252679 | 1.55E-16 | 9.01E-14 |
| pfkfb4a | 263.2233401 | -0.054914822 | 0.1346569 | -0.407813 | 0.683411 | 0.965476 |
| appb | 6941.097904 | 0.10565125 | 0.074201 | 1.4238512 | 0.15449 | 0.704213 |
| npat | 430.5628574 | -0.064340634 | 0.1091017 | -0.589731 | 0.555371 | 0.947452 |
| F0834888.1 | 8.098377195 | -0.293205148 | 0.7185673 | -0.408041 | 0.683243 | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| dv11b | 103.2808422 | -0.008866023 | 0.1969676 | -0.045013 | 0.964097 | 0.995927 |
| wnt1 | 17.91032257 | -0.111392484 | 0.4471535 | -0.249115 | 0.803272 | 0.979643 |
| chrna6 | 334.1198741 | 0.24686363 | 0.1226147 | 2.0133289 | 0.04408 | 0.412803 |
| p2ry8 | 3.125210979 | -0.480644452 | 1.0717111 | -0.448483 | 0.653805 | NA |
| clgalt1b | 311.8158046 | 0.163811433 | 0.1252929 | 1.3074278 | 0.191067 | 0.755785 |
| droscha | 447.1993761 | 0.023881075 | 0.1116862 | 0.213823 | 0.830685 | 0.982994 |
| cacnb2b | 131.8959414 | 0.218629069 | 0.184879 | 1.1825523 | 0.236987 | 0.805854 |
| mast1 | 224.1948972 | -0.135263949 | 0.1381513 | -0.9791 | 0.327531 | 0.872701 |
| ghdc | 64.9313776 | 0.12206766 | 0.2453467 | 0.4975314 | 0.618814 | 0.957354 |
| gpr61 | 81.52699287 | -0.187683561 | 0.2216295 | -0.846835 | 0.397087 | 0.899672 |
| FOXN2 (1 of many) | 18.56916136 | 0.185466769 | 0.4728084 | 0.3922663 | 0.694861 | 0.96736 |
| pcolce2b | 359.5251215 | 0.037798717 | 0.1260736 | 0.2998147 | 0.764319 | 0.975374 |
| clgalt1a | 105.0473935 | 0.169638411 | 0.2010471 | 0.8437747 | 0.398795 | 0.900446 |
| stat5b | 132.3864508 | -0.111542176 | 0.184085 | -0.605928 | 0.544563 | 0.945438 |
| s100t | 375.4895264 | 0.279970791 | 0.1177529 | 2.377613 | 0.017425 | 0.244372 |
| pipox | 139.5160758 | -0.663437229 | 0.191564 | -3.463266 | 0.000534 | 0.018777 |
| capn2b | 417.1783972 | 0.009842448 | 0.1213893 | 0.0810817 | 0.935377 | 0.992702 |
| clull | 53.06102668 | 1.441756129 | 0.3042703 | 4.7384065 | 2.15E-06 | 0.000192 |
| cgna | 189.9264942 | -0.047581029 | 0.1698714 | -0.2801 | 0.779401 | 0.976146 |
| exoc2 | 978.9410978 | -0.249351298 | 0.0931304 | -2.677444 | 0.007419 | 0.136082 |
| zgc:123238 | 208.3444446 | 0.020540346 | 0.1517512 | 0.1353554 | 0.892331 | 0.989291 |
| actalb | 12239.05989 | 0.492039678 | 0.2205692 | 2.2307727 | 0.025696 | 0.310555 |
| acad9 | 337.9703699 | -0.102989274 | 0.1367497 | -0.753122 | 0.451376 | 0.918761 |
| zgc:153345 | 24.506176 | 0.064464512 | 0.3950284 | 0.1631896 | 0.870369 | 0.987421 |
| dipk2ab | 257.6725332 | 0.206949923 | 0.1381198 | 1.4983367 | 0.134046 | 0.669349 |
| foxh1 | 5.863347542 | 0.622815112 | 0.8200778 | 0.7594586 | 0.447578 | NA |
| smtnl | 213.8171766 | -0.096528381 | 0.1457443 | -0.662313 | 0.50777 | 0.935734 |
| crk | 1447.124585 | -0.024792731 | 0.080522 | -0.3079 | 0.758158 | 0.975374 |
| ankrd33aa | 112.9860758 | 0.229137434 | 0.2267362 | 1.0105905 | 0.312212 | 0.864401 |
| ruvb12 | 723.8763683 | 0.052541837 | 0.1010919 | 0.5197432 | 0.603243 | 0.956045 |
| si:ch211-217a12.1 | 132.3834361 | 0.368767062 | 0.1797312 | 2.0517699 | 0.040192 | 0.392132 |
| prss60.2 | 203.1004685 | -0.335922519 | 0.1493409 | -2.249368 | 0.024489 | 0.3019 |
| ftr82 | 443.5247677 | -0.297370417 | 0.1075605 | -2.76468 | 0.005698 | 0.113266 |
| cpda | 664.5129648 | 0.158503294 | 0.094019 | 1.6858645 | 0.091822 | 0.57849 |
| aclyb | 65.48751337 | 0.57400944 | 0.2832134 | 2.0267734 | 0.042686 | 0.406074 |
| nubp2 | 68.23780325 | -0.504105961 | 0.2391815 | -2.107629 | 0.035063 | 0.364435 |
| birc5b | 3.263608517 | 0.264125569 | 1.0571213 | 0.2498536 | 0.802701 | NA |
| pdzd3b | 42.6854123 | -0.266755135 | 0.3096151 | -0.86157 | 0.388924 | 0.896295 |
| gpr161 | 80.79777517 | 0.371964748 | 0.2303043 | 1.6151013 | 0.106289 | 0.615567 |
| map3k10 | 9.857809783 | -0.366430541 | 0.6371881 | -0.575074 | 0.565241 | NA |
| arntl | 211.6130709 | -0.177269342 | 0.1474277 | -1.202415 | 0.229203 | 0.796702 |
| akap12b | 2434.976083 | 0.004245971 | 0.0702423 | 0.0604475 | 0.951799 | 0.993864 |
| mtol | 259.5395052 | -0.189661707 | 0.1334633 | -1.421078 | 0.155294 | 0.705118 |
| pimr191 | 9.020079067 | -0.664005148 | 0.6619874 | -1.003048 | 0.315838 | NA |
| CU655961.1 | 42.82928233 | -0.124995044 | 0.2934545 | -0.425943 | 0.670149 | 0.965223 |
| pcnx2 | 756.0780764 | 0.133887781 | 0.0969977 | 1.3803185 | 0.167489 | 0.72455 |
| f5 | 356.1368591 | 0.115072772 | 0.1411619 | 0.815183 | 0.414968 | 0.906237 |
| timm8b | 405.87089 | -0.043770965 | 0.1162275 | -0.376597 | 0.706473 | 0.968459 |
| sdhda | 30.58204029 | 0.510012029 | 0.3576064 | 1.4261824 | 0.153816 | 0.702599 |
| fmn11a | 638.1495047 | 0.149626188 | 0.1005331 | 1.4883274 | 0.136665 | 0.673303 |
| capn8 | 472.9954929 | 0.04530216 | 0.1063773 | 0.4258631 | 0.670208 | 0.965236 |
| ino80c | 274.585549 | -0.007481949 | 0.1353287 | -0.055287 | 0.95591 | 0.994543 |
| bco2a | 140.3514424 | -0.434202789 | 0.1725174 | -2.516863 | 0.01184 | 0.191129 |
| hsp701 | 2059.851604 | 0.081258653 | 0.2681716 | 0.30301 | 0.761882 | 0.975374 |

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| trim35-29 | 10.67185418 | -0.400459885 | 0.6557485 | -0.610691 | 0.541404 | NA |
| si:dkeyp-69e1.8 | 70.85314636 | 0.059738297 | 0.2305956 | 0.2590609 | 0.795588 | 0.978498 |
| ube3a | 1435.131401 | 0.059510397 | 0.0872168 | 0.6823273 | 0.495032 | 0.931926 |
| ribc1 | 18.6639712 | -0.055740786 | 0.4583086 | -0.121623 | 0.903198 | 0.990121 |
| 9-Mar | 314.7877637 | 0.117096908 | 0.1361183 | 0.8602581 | 0.389647 | 0.896421 |
| ankrd54 | 421.4171714 | -0.034930432 | 0.1076271 | -0.32455 | 0.745521 | 0.974094 |
| si:ch211-238g23.1 | 1.623378393 | -0.611067996 | 1.5115622 | -0.404263 | 0.68602 | NA |
| foxp3a | 5.346760651 | 0.361013354 | 0.8247349 | 0.4377326 | 0.66158 | NA |
| fosb | 75.73878446 | 0.868875414 | 0.2894778 | 3.0015265 | 0.002686 | 0.066466 |
| npas4a | 75.29106254 | 1.344490079 | 0.5908917 | 2.275358 | 0.022884 | 0.289518 |
| suv39h1b | 304.6307306 | 0.122915608 | 0.1322696 | 0.9292808 | 0.352744 | 0.881552 |
| smc1a | 23.3686461 | 0.298198463 | 0.4313677 | 0.691286 | 0.489386 | 0.931926 |
| tmem9 | 283.2834499 | 0.25688912 | 0.1337252 | 1.9210226 | 0.054729 | 0.458175 |
| efhd2 | 1121.365455 | 0.161320235 | 0.0862228 | 1.8709705 | 0.061349 | 0.482931 |
| srm | 525.5919018 | 0.119391678 | 0.1136293 | 1.0507124 | 0.293391 | 0.849291 |
| tmem115 | 767.7154575 | -0.036298684 | 0.0979978 | -0.370403 | 0.711082 | 0.968985 |
| dfffa | 165.0720697 | -0.131703925 | 0.1624812 | -0.81058 | 0.417607 | 0.906237 |
| ptger3 | 3.528313542 | -0.108814872 | 1.0291318 | -0.105735 | 0.915793 | NA |
| ptpn3 | 422.8462281 | -0.291759294 | 0.1128842 | -2.584588 | 0.00975 | 0.167496 |
| prss23 | 371.1017169 | 0.152974354 | 0.1174639 | 1.3023092 | 0.192811 | 0.756795 |
| dzank1 | 41.86655041 | 0.294673226 | 0.3391937 | 0.8687462 | 0.384986 | 0.89551 |
| zgc:158423 | 453.3336154 | -0.023824565 | 0.120405 | -0.19787 | 0.843147 | 0.985174 |
| foxo4 | 1535.685842 | -0.078923513 | 0.0766545 | -1.0296 | 0.303198 | 0.85729 |
| cnpy4 | 219.9703432 | -0.06036285 | 0.1396593 | -0.432215 | 0.665585 | 0.964736 |
| heyl | 35.07906468 | 0.393471999 | 0.3335454 | 1.1796653 | 0.238133 | 0.807277 |
| vtg2 | 0.854974378 | 0.638273715 | 2.0970274 | 0.3043707 | 0.760845 | NA |
| si:dkey-225f5.5 | 40.67400494 | 0.20312138 | 0.3057873 | 0.664257 | 0.506526 | 0.935729 |
| celsr3 | 219.5326034 | -0.037624059 | 0.1439171 | -0.261429 | 0.793762 | 0.977937 |
| si:dkey-182g1.6 | 4.925230562 | 0.802106568 | 0.8898173 | 0.9014283 | 0.367361 | NA |
| lectin | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| slc26a6 | 90.16517121 | 0.049597195 | 0.2105651 | 0.2355433 | 0.813787 | 0.981081 |
| arhgef1b | 1039.296182 | 0.046151715 | 0.0852256 | 0.5415239 | 0.588146 | 0.953319 |
| mettl16 | 132.0149595 | -0.013823127 | 0.181767 | -0.076049 | 0.93938 | 0.992857 |
| march4l | 78.17806472 | -0.032748019 | 0.2240618 | -0.146156 | 0.883798 | 0.988706 |
| CABZ01046427.1 | 0 | NA | NA | NA | NA | NA |
| cdh10a | 169.0071454 | 0.109797328 | 0.1754721 | 0.6257254 | 0.531495 | 0.942358 |
| mtnrlab | 75.47531103 | 0.209852554 | 0.2522112 | 0.8320509 | 0.40538 | 0.901305 |
| nr4a3 | 373.6888589 | 0.229433792 | 0.1262734 | 1.8169603 | 0.069223 | 0.514556 |
| kcnc3a | 130.2224673 | 0.064736239 | 0.202467 | 0.3197373 | 0.749167 | 0.97419 |
| tor11l | 0.499182217 | -0.916838237 | 2.6774436 | -0.34243 | 0.732027 | NA |
| doplb | 1062.576975 | 0.016221699 | 0.0900506 | 0.1801398 | 0.857043 | 0.985597 |
| rs1ld1 | 528.0309662 | -0.271680497 | 0.11069 | -2.454426 | 0.014111 | 0.214639 |
| cpe | 9999.014269 | 0.127691525 | 0.0734414 | 1.7386854 | 0.08209 | 0.553066 |
| pag1 | 823.0690215 | 0.101101845 | 0.0980926 | 1.0306777 | 0.302692 | 0.85729 |
| msmol | 320.9619958 | -0.217744553 | 0.1241131 | -1.754405 | 0.079361 | 0.547489 |
| dmcl | 1.950601905 | 2.338222269 | 1.59317 | 1.467654 | 0.142198 | NA |
| tex10 | 528.6928444 | -0.004024128 | 0.1091007 | -0.036885 | 0.970577 | 0.996315 |
| zgc:153215 | 32.72775041 | 0.106964637 | 0.3440011 | 0.3109428 | 0.755844 | 0.975374 |
| nmnat1-rbp7a | 0 | NA | NA | NA | NA | NA |
| zgc:154093 | 396.3535517 | 0.304432107 | 0.123422 | 2.4665959 | 0.01364 | 0.20974 |
| lzic | 162.1884628 | 0.097611454 | 0.1621839 | 0.6018566 | 0.54727 | 0.945526 |
| zswim5 | 2236.789151 | -0.0439054 | 0.0740414 | -0.592984 | 0.553192 | 0.947265 |
| steap4 | 353.7308101 | -0.677011752 | 0.1407113 | -4.811355 | 1.50E-06 | 0.00014 |
| luc7l | 1844.711144 | -0.042914236 | 0.0822136 | -0.521985 | 0.601681 | 0.956045 |

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| nipa2 | 470.2075046 | -0.074511797 | 0.1097755 | -0.678765 | 0.497286 | 0.93322 |
| nipal | 69.36525198 | -0.647795304 | 0.2403738 | -2.694949 | 0.00704 | 0.13096 |
| si:dkey-47k20.9 | 0 NA | NA | NA | NA | NA | NA |
| foxi3a | 154.5464246 | 0.017251421 | 0.1846855 | 0.0934097 | 0.925578 | 0.992676 |
| zc3h7bb | 859.3655559 | 0.029783308 | 0.0993433 | 0.2998019 | 0.764328 | 0.975374 |
| si:ch1073-416j23.1 | 11.10284253 | 0.321662393 | 0.5718706 | 0.562474 | 0.573793 | 0.949988 |
| tspan14 | 496.8087737 | 0.058663301 | 0.1047574 | 0.5599917 | 0.575485 | 0.950373 |
| asph | 2628.612567 | 0.125150948 | 0.0682427 | 1.8339085 | 0.066668 | 0.504944 |
| v2rc2 | 2.852923473 | 0.160116477 | 1.1096438 | 0.1442954 | 0.885267 | NA |
| lcp2a | 12.63289941 | 0.336827062 | 0.5550085 | 0.6068863 | 0.543926 | 0.945438 |
| k1c3 | 68.63373917 | 0.025893903 | 0.2443363 | 0.1059765 | 0.915601 | 0.9913 |
| cflara | 153.8589899 | -0.088203408 | 0.1720092 | -0.512783 | 0.608103 | 0.956718 |
| rfc3 | 205.8896864 | -0.088418185 | 0.1547591 | -0.571328 | 0.567777 | 0.948739 |
| zgc:136971 | 119.7160274 | -0.077896152 | 0.1935633 | -0.402432 | 0.687366 | 0.966376 |
| zar11 | 1.767051434 | 0.777420258 | 1.5123228 | 0.5140571 | 0.607212 | NA |
| tpmt.1 | 154.6709278 | -0.327143242 | 0.1633379 | -2.002862 | 0.045192 | 0.417766 |
| pecr | 205.7126839 | -0.058002264 | 0.1526879 | -0.379875 | 0.704039 | 0.968134 |
| gzm3.2 | 0.789393591 | -0.56601807 | 2.4000363 | -0.235837 | 0.813559 | NA |
| tmem161b | 509.9856197 | 0.188411375 | 0.1045139 | 1.802739 | 0.071429 | 0.522931 |
| hmbsb | 203.0894444 | 0.091891509 | 0.1465534 | 0.6270174 | 0.530648 | 0.942209 |
| v2rh1 | 0.341366344 | 1.891903201 | 3.2128156 | 0.5888614 | 0.555954 | NA |
| rps8a | 8866.399604 | -0.235851521 | 0.0800854 | -2.944999 | 0.00323 | 0.07565 |
| si:ch211-59d17.3 | 230.490866 | -0.046364774 | 0.1541446 | -0.300787 | 0.763577 | 0.975374 |
| v2rh7 | 0.325573202 | 0.005883621 | 3.3172783 | 0.0017736 | 0.998585 | NA |
| fryb | 2032.280776 | -1.03E-06 | 0.0862956 | -1.20E-05 | 0.99999 | 0.99999 |
| sprn | 320.1894139 | 0.128434262 | 0.135904 | 0.9450369 | 0.34464 | 0.878434 |
| dnajc18 | 834.2544336 | 0.167592312 | 0.0905944 | 1.8499189 | 0.064325 | 0.496087 |
| si:dkey-47k20.2 | 4.27066418 | -0.454803258 | 0.9342506 | -0.486811 | 0.626392 | NA |
| cyb5d1 | 17.457542 | -0.243533341 | 0.4987693 | -0.488268 | 0.62536 | 0.957354 |
| atp5mc1 | 4290.901061 | 0.03580436 | 0.0741252 | 0.4830257 | 0.629077 | 0.957354 |
| v2rh9 | 0 NA | NA | NA | NA | NA | NA |
| evel | 7.834511232 | -0.686723042 | 0.6778856 | -1.013037 | 0.311043 | NA |
| si:dkey-47k20.7 | 0 NA | NA | NA | NA | NA | NA |
| hoxb13a | 12.88093216 | -0.69267732 | 0.5817707 | -1.190636 | 0.233796 | 0.802571 |
| itga6l | 40.52039986 | 0.09304739 | 0.3071696 | 0.3029186 | 0.761952 | 0.975374 |
| ttbkla | 573.481055 | -0.155128101 | 0.1046315 | -1.482614 | 0.138177 | 0.675945 |
| sostdc1b | 13.90731468 | -0.11965891 | 0.5113782 | -0.233993 | 0.81499 | 0.981081 |
| hoxb9a | 294.5524834 | 0.097949411 | 0.1257558 | 0.7788857 | 0.436047 | 0.914408 |
| evalc | 7.802018947 | -0.288219985 | 0.6880965 | -0.418866 | 0.675314 | NA |
| tprgl | 307.9535322 | -0.505889616 | 0.1259015 | -4.018139 | 5.87E-05 | 0.003169 |
| hoxb8a | 488.6582387 | 0.072327063 | 0.1172218 | 0.6170106 | 0.537228 | 0.943336 |
| slc22a7a | 254.7461049 | -0.1836535 | 0.140033 | -1.311501 | 0.189689 | 0.754269 |
| cyp26c1 | 235.8018843 | -0.061256492 | 0.1413172 | -0.433468 | 0.664675 | 0.964736 |
| hoxb7a | 109.4568952 | 0.098105252 | 0.2004241 | 0.4894882 | 0.624496 | 0.957354 |
| pip4p2 | 104.2666316 | -0.408631622 | 0.1938797 | -2.107655 | 0.035061 | 0.364435 |
| stxbp1b | 1849.940168 | 0.118250681 | 0.0829096 | 1.4262608 | 0.153793 | 0.702599 |
| itih6 | 155.2625268 | -0.211003244 | 0.1707149 | -1.235998 | 0.216459 | 0.783724 |
| si:ch73-139e5.4 | 101.2024557 | -0.975035849 | 0.2222534 | -4.387047 | 1.15E-05 | 0.000811 |
| noxal | 19.61276633 | -0.41644755 | 0.4574685 | -0.91033 | 0.362648 | 0.885944 |
| kctd17 | 533.85963 | 0.170176479 | 0.0995753 | 1.7090231 | 0.087447 | 0.566637 |
| grem2a | 10.13649138 | 0.18356281 | 0.6135379 | 0.2991874 | 0.764797 | NA |
| rangap1b | 452.6714864 | 0.105323215 | 0.1178835 | 0.8934517 | 0.371615 | 0.892003 |
| adgre14 | 2.293146196 | 1.316308218 | 1.3179731 | 0.9987368 | 0.317922 | NA |
| mov10b.2 | 4.254053154 | -1.176451322 | 0.9419986 | -1.248889 | 0.211706 | NA |

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| rca2.1 | 922.4343826 | -0.05000418 | 0.0942872 | -0.530339 | 0.595877 | 0.954434 |
| dcst1 | 4.229962077 | 0.685820229 | 0.9566703 | 0.7168825 | 0.473447 | NA |
| rftn2 | 522.3897114 | 0.079062333 | 0.1073208 | 0.7366917 | 0.46131 | 0.922161 |
| l3mbt12 | 454.4134199 | 0.098105484 | 0.1305642 | 0.7513963 | 0.452414 | 0.919104 |
| si:dkey-191g9.5 | 103.4867232 | 0.219317798 | 0.2304891 | 0.9515322 | 0.341334 | 0.878134 |
| igsf21b | 482.7079199 | 0.039119018 | 0.1114926 | 0.3508664 | 0.725689 | 0.970402 |
| mob4 | 1871.736632 | -0.084950397 | 0.0907226 | -0.936376 | 0.34908 | 0.880195 |
| ecrg4a | 403.8296567 | 0.164928604 | 0.120935 | 1.363779 | 0.172637 | 0.731348 |
| nrbp1 | 1019.079848 | 0.303725121 | 0.0929611 | 3.2672294 | 0.001086 | 0.032938 |
| capza1b | 3996.334553 | 0.110371938 | 0.0803924 | 1.3729154 | 0.169779 | 0.726965 |
| cttnbp2nlb | 146.2476527 | 0.127332144 | 0.1702098 | 0.7480893 | 0.454406 | 0.920544 |
| si:dkey-12h9.6 | 584.6052076 | 0.058275052 | 0.1011809 | 0.575949 | 0.56465 | 0.948739 |
| gtf2h5 | 313.0344714 | 0.4300464 | 0.1307141 | 3.2899766 | 0.001002 | 0.031006 |
| kcnd3 | 153.4079351 | -0.081513387 | 0.1834886 | -0.444242 | 0.656867 | 0.96205 |
| uxsl | 619.9626124 | -0.011443425 | 0.0982788 | -0.116438 | 0.907305 | 0.990702 |
| sytl1b | 258.848093 | 0.045318784 | 0.1386468 | 0.3268649 | 0.74377 | 0.974094 |
| ndufa4 | 4187.118385 | -0.033332659 | 0.069561 | -0.479186 | 0.631806 | 0.957356 |
| lmod1a | 39.17115398 | 0.566789151 | 0.3428788 | 1.6530306 | 0.098325 | 0.597502 |
| pikfyve | 866.82247 | -0.018895816 | 0.0954195 | -0.198029 | 0.843023 | 0.985174 |
| eef1g | 16625.92837 | -0.280845724 | 0.083098 | -3.379691 | 0.000726 | 0.023836 |
| serac1 | 248.524456 | 0.104470645 | 0.1395474 | 0.748639 | 0.454075 | 0.920295 |
| gdil | 4211.154489 | 0.10056835 | 0.0832182 | 1.2084905 | 0.226859 | 0.794528 |
| myct1a | 8.354064181 | 1.082291194 | 0.6871472 | 1.57505 | 0.115245 | NA |
| polr2g1 | 569.3223016 | -0.059331715 | 0.1035358 | -0.573055 | 0.566608 | 0.948739 |
| fastkd1 | 268.6815847 | -0.015442674 | 0.1343923 | -0.114907 | 0.908518 | 0.990702 |
| neurog1 | 155.0063421 | -0.197558316 | 0.1688905 | -1.169742 | 0.242105 | 0.810733 |
| kitb | 23.73387075 | -0.101851944 | 0.3866967 | -0.26339 | 0.79225 | 0.977937 |
| clqtnf5 | 34.38846033 | 0.665613564 | 0.3349874 | 1.986981 | 0.046925 | 0.425245 |
| sf3b1 | 6744.403036 | -0.039866764 | 0.0618134 | -0.644953 | 0.518957 | 0.938945 |
| coq10b | 1001.660701 | 0.457585014 | 0.0935999 | 4.8887329 | 1.01E-06 | 0.000102 |
| zgc:123244 | 25.6132229 | -0.105474258 | 0.3759825 | -0.28053 | 0.779071 | 0.976146 |
| si:dkey-159a18.1 | 42.76423097 | 0.561697617 | 0.3082806 | 1.8220334 | 0.06845 | 0.512635 |
| rbms2b | 409.4128675 | -0.057633773 | 0.1421342 | -0.405488 | 0.685119 | 0.966146 |
| tyrplb | 4510.923555 | -0.097333622 | 0.0792764 | -1.227775 | 0.219531 | 0.786189 |
| fam3c | 295.3306618 | 0.161330187 | 0.1280134 | 1.26026 | 0.207576 | 0.775175 |
| si:ch211-229c8.4 | 0.499182217 | -0.916838237 | 2.6774436 | -0.34243 | 0.732027 | NA |
| npdc1b | 1124.920845 | 0.218842909 | 0.0870657 | 2.5135369 | 0.011953 | 0.192313 |
| hspd1 | 4572.514081 | -0.057298607 | 0.0646344 | -0.886504 | 0.375346 | 0.894316 |
| nr2c2ap | 38.25434898 | -0.368643511 | 0.3132166 | -1.17696 | 0.239211 | 0.807768 |
| slc25a51a | 8.799780374 | -0.401242308 | 0.653565 | -0.613929 | 0.539262 | NA |
| si:ch211-215a10.4 | 304.4665335 | 0.238144129 | 0.1356823 | 1.7551593 | 0.079232 | 0.547489 |
| jac2 | 0.339758314 | 0.005883863 | 3.2682461 | 0.0018003 | 0.998564 | NA |
| hsp1 | 1413.976588 | -0.176030864 | 0.089678 | -1.962921 | 0.049655 | 0.436976 |
| scrt2 | 353.7114863 | -0.04503875 | 0.1209874 | -0.37226 | 0.709699 | 0.968928 |
| dpt | 9.393896533 | 0.338808835 | 0.6297985 | 0.5379639 | 0.590602 | NA |
| v2ral7 | 0.856462055 | 1.928072848 | 2.2076658 | 0.8733536 | 0.38247 | NA |
| ncam1a | 806.938123 | 0.130421381 | 0.096306 | 1.3542393 | 0.17566 | 0.736411 |
| dvl2 | 539.2095275 | -0.109769491 | 0.1026774 | -1.069072 | 0.285037 | 0.845094 |
| eif5a2 | 7567.077113 | -0.092807579 | 0.0728881 | -1.273289 | 0.202916 | 0.769849 |
| si:ch211-168k14.2 | 25.60527089 | 0.033195938 | 0.3926609 | 0.084541 | 0.932626 | 0.992702 |
| nme7 | 121.1893489 | -0.197268728 | 0.1889407 | -1.044077 | 0.29645 | 0.853523 |
| slc2a2 | 261.1848001 | 0.449685525 | 0.1357466 | 3.3126837 | 0.000924 | 0.029189 |
| abcb9 | 141.2096878 | -0.244073293 | 0.1689353 | -1.444774 | 0.148521 | 0.696298 |
| si:ch211-201h21.5 | 143.2212253 | -0.43325384 | 0.1841112 | -2.353219 | 0.018612 | 0.254199 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| zgc:113436 | 168.5514936 | 0.013568524 | 0.1643375 | 0.082565 | 0.934197 | 0.992702 |
| camk2g2 | 3486.537678 | 0.075672188 | 0.0704093 | 1.0747473 | 0.282488 | 0.843666 |
| myoz1a | 803.7048698 | 0.236091701 | 0.1005784 | 2.3473392 | 0.018908 | 0.256439 |
| si:ch211-199o1.2 | 39.37016892 | 0.345809202 | 0.3133966 | 1.1034235 | 0.269843 | 0.834705 |
| ogfod2 | 33.75640049 | 0.184529202 | 0.3296408 | 0.5597888 | 0.575624 | 0.950373 |
| si:ch73-130a3.4 | 42.07489348 | 0.409259137 | 0.3021428 | 1.3545223 | 0.17557 | 0.736411 |
| gnrh3 | 40.80475969 | -0.320274632 | 0.3222267 | -0.993942 | 0.320251 | 0.868202 |
| tnika | 1058.061201 | -0.076921377 | 0.0836726 | -0.919314 | 0.357931 | 0.884398 |
| creb3l3a | 31.15106309 | -0.522349511 | 0.408503 | -1.278692 | 0.201006 | 0.766855 |
| pld1a | 279.6039178 | -0.104155926 | 0.1347987 | -0.772678 | 0.439713 | 0.916082 |
| ghsra | 2.945908661 | -0.971398854 | 1.1481508 | -0.846055 | 0.397522 | NA |
| zgc:110591 | 275.7037668 | -0.279884193 | 0.1275988 | -2.193471 | 0.028273 | 0.325989 |
| smndc1 | 1298.431387 | -0.004368271 | 0.0795252 | -0.054929 | 0.956195 | 0.994543 |
| tmem45b | 351.9134746 | -0.212325527 | 0.1189172 | -1.785491 | 0.074182 | 0.530917 |
| zgc:171740 | 46.08209492 | 0.064024116 | 0.3085802 | 0.2074797 | 0.835635 | 0.984089 |
| zgc:162952 | 125.7059571 | -0.171678574 | 0.1765125 | -0.972614 | 0.330745 | 0.87417 |
| bricd5 | 104.5141906 | 0.147386735 | 0.2134421 | 0.6905231 | 0.489865 | 0.931926 |
| si:dkey-183i3.5 | 12842.72584 | 0.421356635 | 0.0824284 | 5.111791 | 3.19E-07 | 3.76E-05 |
| add3b | 123.9102569 | 0.144770806 | 0.1793917 | 0.8070095 | 0.419661 | 0.90651 |
| sort1b | 771.759863 | 0.099642729 | 0.1002118 | 0.9943217 | 0.320066 | 0.868153 |
| cdc27 | 975.7244287 | 0.028592502 | 0.0871979 | 0.3279037 | 0.742984 | 0.973486 |
| tmem131 | 1364.715144 | -0.028031381 | 0.0806764 | -0.347455 | 0.72825 | 0.970402 |
| slc35g2a | 388.4747779 | 0.238438806 | 0.1171013 | 2.0361764 | 0.041733 | 0.400593 |
| dixdc1b | 263.4211987 | -0.171450643 | 0.1395167 | -1.22889 | 0.219113 | 0.785734 |
| atxn712b | 241.3276535 | -0.141460188 | 0.144793 | -0.976982 | 0.328578 | 0.872945 |
| atpaf2 | 232.496421 | 0.07957826 | 0.1434335 | 0.5548095 | 0.579025 | 0.951052 |
| or132-5 | 6.689329977 | -0.268341122 | 0.7258 | -0.369718 | 0.711593 | NA |
| ccdc157 | 18.98372592 | -0.184255313 | 0.4395669 | -0.419175 | 0.675088 | 0.965257 |
| cyb561a3a | 67.15077893 | -0.169052903 | 0.2574251 | -0.656707 | 0.511369 | 0.936253 |
| drd7 | 10.93648011 | 0.511413543 | 0.5924927 | 0.8631558 | 0.388052 | NA |
| vsx1 | 1849.583134 | 0.06818684 | 0.0802042 | 0.850166 | 0.395233 | 0.899244 |
| si:ch211-183d21.3 | 62.09344987 | -0.041144038 | 0.2559141 | -0.160773 | 0.872272 | 0.987846 |
| znf706 | 1254.804855 | -0.173677254 | 0.0861704 | -2.015509 | 0.043851 | 0.411346 |
| a2ml | 1802.766892 | 0.107646363 | 0.112418 | 0.9575547 | 0.338287 | 0.876778 |
| kans12 | 3.324203577 | -0.308248442 | 1.0461689 | -0.294645 | 0.768265 | NA |
| ldb3a | 1394.752968 | 0.281718944 | 0.0906016 | 3.1094243 | 0.001875 | 0.050962 |
| zgc:123295 | 52.53071184 | 0.075430924 | 0.277746 | 0.2715824 | 0.785943 | 0.97627 |
| rhot2 | 149.166271 | 0.165972453 | 0.1793597 | 0.9253611 | 0.354778 | 0.882105 |
| mhc2dbb | 9.930974889 | 0.400720408 | 0.5975986 | 0.6705512 | 0.502507 | NA |
| ahcyll | 1807.37677 | 0.170726482 | 0.0769717 | 2.2180409 | 0.026552 | 0.313644 |
| mlh3 | 62.34444043 | 0.042316675 | 0.2465155 | 0.1716593 | 0.863705 | 0.985952 |
| szrd1 | 688.0010356 | 0.079589394 | 0.1031611 | 0.7715056 | 0.440407 | 0.916336 |
| stk31 | 5.287512961 | -0.196423064 | 0.8987257 | -0.218557 | 0.826995 | NA |
| acapl | 89.68552703 | -0.201805145 | 0.230433 | -0.875765 | 0.381158 | 0.895192 |
| rab3aa | 787.1409055 | 0.108354553 | 0.0898265 | 1.2062644 | 0.227716 | 0.794934 |
| mpv1712 | 134.64804 | -0.114596838 | 0.1743096 | -0.657433 | 0.510903 | 0.936253 |
| ufsp2 | 400.2927234 | -0.207754135 | 0.1102259 | -1.884804 | 0.059456 | 0.476934 |
| noxolb | 21.04401606 | -0.468314138 | 0.4743565 | -0.987262 | 0.323514 | 0.870837 |
| ankrd37 | 486.3318336 | -0.319229031 | 0.1299252 | -2.457021 | 0.014009 | 0.214075 |
| ifi30 | 420.3703417 | 0.103731198 | 0.1297449 | 0.7995014 | 0.424 | 0.908025 |
| si:ch73-86n18.1 | 257.9773748 | -0.287153956 | 0.3069305 | -0.935567 | 0.349496 | 0.880195 |
| cfap97 | 137.1332237 | -0.178011854 | 0.1712207 | -1.039663 | 0.298496 | 0.85439 |
| TMC1 | 11.43014001 | -0.245242925 | 0.5982055 | -0.409964 | 0.681832 | 0.965476 |
| rnf17 | 31.96732058 | 0.105272054 | 0.37126 | 0.2835535 | 0.776753 | 0.975826 |

| | | | | | | | |
|-------------------|-------|-------------|--------------|-----------|-----------|----------|----------|
| TOM1L2 | | 477.0091991 | -0.075834914 | 0.1064473 | -0.712418 | 0.476206 | 0.926403 |
| onecut3a | | 5.579558776 | -0.865121708 | 0.8377554 | -1.032666 | 0.30176 | NA |
| dusp22a | | 162.8609277 | -0.242261948 | 0.1740042 | -1.392276 | 0.163839 | 0.71945 |
| helt | | 103.4019996 | -0.255632714 | 0.1965917 | -1.300323 | 0.19349 | 0.757219 |
| irf8 | | 29.58740534 | 0.096973641 | 0.3649867 | 0.2656909 | 0.790477 | 0.977359 |
| fdx1 | | 743.8424986 | -0.085138838 | 0.0931573 | -0.913926 | 0.360756 | 0.885686 |
| uspl | | 633.0425901 | 0.089672451 | 0.0986429 | 0.9090614 | 0.363318 | 0.885944 |
| auts2a | | 1974.595577 | -0.050205904 | 0.0876535 | -0.572777 | 0.566796 | 0.948739 |
| her9 | | 783.8770749 | -0.296543593 | 0.1003069 | -2.956362 | 0.003113 | 0.073687 |
| | 4-Mar | 8.298626656 | -0.524882547 | 0.7216724 | -0.727314 | 0.467034 | NA |
| zgc:152753 | | 0.341366344 | 1.891903201 | 3.2128156 | 0.5888614 | 0.555954 | NA |
| MANEAL | | 418.2899274 | 0.128409676 | 0.112634 | 1.1400613 | 0.254261 | 0.823394 |
| afap111b | | 102.7179215 | 0.097507936 | 0.194258 | 0.5019508 | 0.615702 | 0.95688 |
| lhfp15b | | 51.51961394 | -0.270842997 | 0.2750572 | -0.984679 | 0.324782 | 0.871284 |
| crp2 | | 7.881532855 | 0.193501185 | 0.6808742 | 0.2841952 | 0.776261 | NA |
| fitml1 | | 207.6464274 | 0.50431412 | 0.1446499 | 3.4864472 | 0.000489 | 0.017534 |
| tmub2 | | 187.1067222 | -0.016456458 | 0.1525995 | -0.107841 | 0.914122 | 0.991119 |
| asb16 | | 37.63347924 | 0.092197058 | 0.3251673 | 0.2835373 | 0.776765 | 0.975826 |
| chaf1b | | 350.8512265 | -0.080157127 | 0.1327778 | -0.603694 | 0.546047 | 0.945526 |
| trnaulapb | | 1577.844581 | -0.165745197 | 0.0882339 | -1.878475 | 0.060316 | 0.479378 |
| ccdc125 | | 75.87095024 | -0.252733695 | 0.2465148 | -1.025227 | 0.305256 | 0.85982 |
| si:ch211-168b3.1 | | 291.3892163 | 0.110883425 | 0.136801 | 0.8105455 | 0.417627 | 0.906237 |
| rab1bb | | 740.5912783 | -0.056863906 | 0.1007152 | -0.564601 | 0.572345 | 0.949494 |
| cpvl | | 656.0260453 | -0.10216421 | 0.0997049 | -1.024666 | 0.305521 | 0.859981 |
| vat1 | | 3666.353502 | 0.03190087 | 0.0768025 | 0.4153626 | 0.677877 | 0.965257 |
| ssbp4 | | 2891.013321 | -0.140069564 | 0.0704229 | -1.988978 | 0.046704 | 0.424613 |
| zgc:110158 | | 1682.285419 | -0.057114457 | 0.0807703 | -0.707122 | 0.479491 | 0.927091 |
| ikzf5 | | 430.1802901 | -0.155450598 | 0.1106425 | -1.404981 | 0.160027 | 0.712495 |
| crp2 | | 79.68417496 | 1.427670042 | 0.2689124 | 5.3090516 | 1.10E-07 | 1.51E-05 |
| ca6 | | 1186.684956 | 0.16291155 | 0.0912437 | 1.7854547 | 0.074188 | 0.530917 |
| si:ch211-208g24.8 | | 0.476747244 | 2.393381959 | 3.0525537 | 0.7840589 | 0.433006 | NA |
| si:ch73-334d15.4 | | 8.933434133 | -0.423004344 | 0.6323016 | -0.668991 | 0.503501 | NA |
| frgl | | 317.5365308 | -0.189786255 | 0.1267659 | -1.497139 | 0.134357 | 0.670529 |
| si:ch73-113g13.2 | | 0.513487682 | -0.887846295 | 2.6557956 | -0.334305 | 0.738149 | NA |
| pdik11 | | 192.625308 | -0.19342276 | 0.1570365 | -1.231706 | 0.218059 | 0.785379 |
| gstkl | | 376.0384994 | 0.003114496 | 0.1169897 | 0.026622 | 0.978761 | 0.996762 |
| arr3a | | 15587.04961 | 0.383634103 | 0.0730848 | 5.2491616 | 1.53E-07 | 2.00E-05 |
| spsbl | | 511.8464057 | -0.130586313 | 0.1132395 | -1.153187 | 0.248834 | 0.81797 |
| thoc3 | | 337.362161 | -0.075640048 | 0.1299641 | -0.582007 | 0.560562 | 0.948728 |
| si:dkey-280e21.3 | | 496.137089 | 0.081208419 | 0.1094627 | 0.7418819 | 0.458159 | 0.921978 |
| bcar1 | | 753.8530587 | -0.05123838 | 0.0949516 | -0.539626 | 0.589455 | 0.953498 |
| cpamd8 | | 676.1616141 | 0.135094847 | 0.095214 | 1.4188546 | 0.155941 | 0.705963 |
| nutf2 | | 1044.401055 | 0.099853999 | 0.0901106 | 1.1081269 | 0.267807 | 0.833349 |
| serinc2 | | 477.7138105 | 0.047762309 | 0.1058072 | 0.4514089 | 0.651695 | 0.960708 |
| pla2g4f.1 | | 101.6291812 | -0.107751268 | 0.2046581 | -0.526494 | 0.598545 | 0.955488 |
| nr0b1 | | 70.92565592 | 0.046247549 | 0.2440069 | 0.1895338 | 0.849674 | 0.985174 |
| vps26a | | 780.2505918 | 0.035909389 | 0.0916422 | 0.3918433 | 0.695174 | 0.96736 |
| tango2 | | 384.9327658 | 0.066066896 | 0.1174656 | 0.5624362 | 0.573819 | 0.949988 |
| slc22a13a | | 1.861362508 | -0.749752561 | 1.4509934 | -0.516717 | 0.605354 | NA |
| raplgap | | 36.95426841 | 0.279980937 | 0.3416822 | 0.8194191 | 0.412547 | 0.904974 |
| copbl | | 3634.257854 | 0.026949623 | 0.0686688 | 0.392458 | 0.69472 | 0.96736 |
| ccz1 | | 606.4549397 | 0.056076447 | 0.1021716 | 0.5488455 | 0.583111 | 0.952214 |
| asb11 | | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| necab1 | | 181.5270834 | -0.065561679 | 0.1667311 | -0.393218 | 0.694158 | 0.96736 |

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|---------------------|-------------|--------------|-----------|-----------|----------|----------|
| nrsn11 | 135.5279174 | -0.34253437 | 0.1962337 | -1.745543 | 0.08089 | 0.550801 |
| arf2b | 106.5063583 | 0.382929837 | 0.2009491 | 1.9056061 | 0.056701 | 0.467172 |
| ndufs6 | 887.1029798 | 0.007635702 | 0.1081692 | 0.0705904 | 0.943724 | 0.993364 |
| cyp2r1 | 41.74588363 | 0.589769107 | 0.3231287 | 1.8251835 | 0.067973 | 0.510097 |
| calca | 205.2302723 | 0.323563867 | 0.1641264 | 1.9714313 | 0.048675 | 0.433734 |
| gucylb2 | 2.445347834 | -0.19730206 | 1.1940522 | -0.165237 | 0.868757 | NA |
| irx1b | 264.0109528 | -0.277209726 | 0.1358706 | -2.040248 | 0.041326 | 0.398192 |
| pimr47 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| papss2b | 1176.043529 | 0.119088091 | 0.0839898 | 1.4178871 | 0.156224 | 0.70658 |
| plekha3 | 210.8193609 | -0.17308894 | 0.151897 | -1.139515 | 0.254488 | 0.823475 |
| mcf2b | 12.1927588 | -0.012511484 | 0.5646502 | -0.022158 | 0.982322 | 0.996944 |
| wbp2 | 605.9586807 | 0.184497868 | 0.1036163 | 1.780587 | 0.07498 | 0.533634 |
| atad1b | 251.4868018 | -0.047609279 | 0.1352976 | -0.351886 | 0.724924 | 0.970402 |
| cybb | 77.56610246 | 0.042883862 | 0.2237778 | 0.1916359 | 0.848027 | 0.985174 |
| pimr48 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| rpgra | 32.24737276 | -0.385310222 | 0.3400353 | -1.133148 | 0.257152 | 0.825314 |
| xk | 102.6360424 | 0.062889286 | 0.1985196 | 0.3167913 | 0.751402 | 0.97419 |
| arhgap42a | 451.8706516 | -0.141883589 | 0.1073204 | -1.322056 | 0.18615 | 0.750443 |
| grpr | 16.24583418 | 0.673837426 | 0.4794081 | 1.4055613 | 0.159854 | 0.712089 |
| ctcf | 2855.843725 | 0.052413897 | 0.071899 | 0.7289929 | 0.466006 | 0.923865 |
| ptenb | 1206.417755 | 0.157417346 | 0.0830292 | 1.895928 | 0.05797 | 0.47228 |
| vegfd | 30.11668242 | 0.22294948 | 0.3492969 | 0.6382807 | 0.523291 | 0.939336 |
| trpc6a | 69.71362252 | -0.185500771 | 0.2448485 | -0.757614 | 0.448682 | 0.917876 |
| cxcl14 | 607.3396979 | 0.084919635 | 0.1058087 | 0.8025773 | 0.422219 | 0.90651 |
| tmem170a | 171.0408518 | -0.14885498 | 0.1662141 | -0.895562 | 0.370487 | 0.890489 |
| angpt15 | 157.0027538 | 0.025374592 | 0.1683403 | 0.1507339 | 0.880186 | 0.987881 |
| fgf13b | 783.8117497 | 0.020743167 | 0.0942962 | 0.2199788 | 0.825888 | 0.982196 |
| pir | 311.4424541 | -0.062548234 | 0.1351195 | -0.46291 | 0.643429 | 0.959994 |
| carmil2 | 700.1283268 | -0.079439912 | 0.1024365 | -0.775504 | 0.438042 | 0.915284 |
| rpia | 815.0596752 | -0.099383561 | 0.1063802 | -0.93423 | 0.350185 | 0.880195 |
| hdac9b | 485.5409344 | 0.137774466 | 0.1054068 | 1.3070734 | 0.191188 | 0.755886 |
| slc22a7b.1 | 52.51806908 | 0.534817206 | 0.2781537 | 1.9227402 | 0.054513 | 0.457793 |
| klhl3 | 424.0388488 | 0.08037235 | 0.1094095 | 0.7346015 | 0.462582 | 0.922698 |
| ext2 | 1193.817494 | 0.056566096 | 0.0841687 | 0.672056 | 0.501548 | 0.934648 |
| htatsf1 | 525.3284156 | 0.042406798 | 0.1102639 | 0.3845936 | 0.700539 | 0.967998 |
| zgc:113276 | 70.98194811 | 0.339124132 | 0.2324944 | 1.4586336 | 0.144666 | 0.688975 |
| gfra4a | 135.5822932 | 0.147194862 | 0.1908449 | 0.77128 | 0.440541 | 0.916336 |
| SLC22A7 (1 of many) | 28.33447636 | 0.398014483 | 0.3624661 | 1.0980738 | 0.272172 | 0.837242 |
| fh11b | 138.609074 | -0.01571961 | 0.1774462 | -0.088588 | 0.929409 | 0.992702 |
| gna15.3 | 9.431709949 | 0.427921693 | 0.6366695 | 0.6721253 | 0.501504 | NA |
| tspan18a | 347.5603106 | 0.010816004 | 0.115618 | 0.0935495 | 0.925467 | 0.992676 |
| ttbklb | 217.0910136 | 0.243867899 | 0.1420798 | 1.7164154 | 0.086086 | 0.563109 |
| arfip2b | 0.998646424 | -0.967051882 | 1.9878844 | -0.486473 | 0.626632 | NA |
| nsun2 | 480.210967 | -0.196490071 | 0.1048921 | -1.87326 | 0.061033 | 0.482482 |
| sp8b | 10.67293407 | 0.267840565 | 0.5910701 | 0.4531452 | 0.650444 | NA |
| abcb8 | 424.2774774 | 0.134733498 | 0.1227644 | 1.0974962 | 0.272425 | 0.837519 |
| BX530018.2 | 78.62307148 | 0.012335229 | 0.2219627 | 0.0555734 | 0.955682 | 0.994543 |
| trim47 | 360.3240906 | -0.024191269 | 0.1193445 | -0.202701 | 0.839369 | 0.984979 |
| morc3a | 207.7377351 | -0.011275531 | 0.1597577 | -0.070579 | 0.943733 | 0.993364 |
| stc2a | 339.1608957 | -0.064697994 | 0.130199 | -0.496916 | 0.619248 | 0.957354 |
| cdk5 | 131.2878898 | -0.006746356 | 0.1921099 | -0.035117 | 0.971986 | 0.996315 |
| mtmrla | 895.7064867 | 0.030090692 | 0.087194 | 0.3451006 | 0.730019 | 0.971177 |
| cpeb4a | 704.1437214 | 0.167786175 | 0.1030591 | 1.6280583 | 0.103513 | 0.609625 |
| phc2a | 839.3334747 | -0.186686428 | 0.0897212 | -2.080738 | 0.037458 | 0.378871 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| RAMP1 | 306.625716 | 0.1820505 | 0.1475669 | 1.2336815 | 0.217322 | 0.784755 |
| pskh1 | 141.6682671 | 0.167166431 | 0.1714409 | 0.9750671 | 0.329527 | 0.873467 |
| vars2 | 251.3047728 | 0.047620762 | 0.1434678 | 0.3319265 | 0.739945 | 0.972943 |
| slc6a19b | 54.09782653 | 0.394229341 | 0.2833723 | 1.3912063 | 0.164163 | 0.71945 |
| utp3 | 157.3610336 | -0.122740912 | 0.172906 | -0.709871 | 0.477784 | 0.926857 |
| cd9912 | 5217.57253 | 0.079417166 | 0.0773884 | 1.026215 | 0.30479 | 0.859515 |
| fhad1 | 27.09351209 | 0.139056747 | 0.3694349 | 0.3764039 | 0.706617 | 0.968573 |
| hmgb3a | 14116.931 | -0.010943241 | 0.0623651 | -0.175471 | 0.86071 | 0.985773 |
| mettl7a | 100.7454559 | 0.310826073 | 0.2019905 | 1.5388155 | 0.123849 | 0.652372 |
| her4.2 | 168.8217659 | -0.203169524 | 0.1592096 | -1.276113 | 0.201915 | 0.76786 |
| her4.1 | 101.2926009 | -0.052273766 | 0.2047317 | -0.255328 | 0.79847 | 0.978884 |
| tas1r1 | 4.518619751 | 0.785731542 | 0.909626 | 0.8637963 | 0.3877 | NA |
| tmef1b | 2899.583833 | -0.038878473 | 0.0863598 | -0.450192 | 0.652572 | 0.960708 |
| senp3b | 428.4428237 | -0.081220531 | 0.1078999 | -0.752739 | 0.451607 | 0.918761 |
| crmp1 | 980.0491877 | 0.138844872 | 0.1019477 | 1.3619226 | 0.173222 | 0.732435 |
| cavin4b | 1119.789281 | 0.311535679 | 0.1021966 | 3.0483952 | 0.002301 | 0.059236 |
| ela2 | 269.8774877 | -0.448941498 | 0.1795863 | -2.499865 | 0.012424 | 0.197293 |
| necab2 | 2007.873402 | 0.082061237 | 0.0728951 | 1.1257449 | 0.260273 | 0.828368 |
| si:ch211-254p10.2 | 75.23282335 | 0.074988942 | 0.2385285 | 0.3143814 | 0.753231 | 0.974828 |
| dctn1b | 873.2246322 | -0.082122467 | 0.0891055 | -0.921632 | 0.356721 | 0.883422 |
| slc39a8 | 60.96389318 | -1.17021733 | 0.2821241 | -4.147881 | 3.36E-05 | 0.001935 |
| zgc:172079 | 4.847388063 | -0.917460447 | 0.8805877 | -1.041873 | 0.297471 | NA |
| hyd1n | 65.23250169 | -0.686945075 | 0.2544347 | -2.699887 | 0.006936 | 0.129517 |
| ela2l | 326.293963 | -0.589941135 | 0.1576169 | -3.742881 | 0.000182 | 0.007911 |
| itgb3a | 121.3473493 | 0.36024837 | 0.19411 | 1.8558977 | 0.063468 | 0.492164 |
| rprml | 79.41991842 | 0.380067672 | 0.2364674 | 1.6072729 | 0.107995 | 0.619371 |
| zgc:163079 | 0.63357355 | 1.435201493 | 2.6108194 | 0.5497131 | 0.582516 | NA |
| gpr3711b | 57.29183853 | -0.066528499 | 0.2529445 | -0.263016 | 0.792538 | 0.977937 |
| ssh1a | 8.742577554 | 0.162778524 | 0.6633914 | 0.2453733 | 0.806167 | NA |
| zan1 | 396.0132232 | -0.649184496 | 0.1344703 | -4.827717 | 1.38E-06 | 0.000131 |
| raraa | 543.1851169 | 0.050593421 | 0.1100511 | 0.4597268 | 0.645712 | 0.96029 |
| aire | 2.732878889 | -0.315671489 | 1.2060257 | -0.261745 | 0.793518 | NA |
| pde6ga | 23.0691388 | 0.198890382 | 0.4370847 | 0.4550386 | 0.649082 | 0.960708 |
| jaz1b | 102.9644275 | 0.153856849 | 0.2186429 | 0.7036901 | 0.481626 | 0.928386 |
| arl3a | 22.19529572 | -0.163325357 | 0.4072075 | -0.401086 | 0.688357 | 0.966672 |
| serpine1 | 354.2471033 | 0.451788192 | 0.149475 | 3.0224999 | 0.002507 | 0.063006 |
| ppp2r2ca | 283.031027 | 0.281891553 | 0.1273882 | 2.212854 | 0.026908 | 0.316334 |
| zgc:123297 | 0.513487682 | -0.887846295 | 2.6557956 | -0.334305 | 0.738149 | NA |
| sufu | 577.8065001 | -0.044383136 | 0.1036504 | -0.4282 | 0.668505 | 0.96478 |
| ap1s1 | 887.939782 | 0.031589324 | 0.0902468 | 0.3500327 | 0.726314 | 0.970402 |
| si:dkey-40g16.6 | 6.041875551 | -1.394248442 | 0.8663289 | -1.609375 | 0.107534 | NA |
| plch2b | 45.93531848 | 0.34619219 | 0.2948226 | 1.1742388 | 0.240299 | 0.808437 |
| pde5aa | 36.84268341 | 0.815690548 | 0.3400849 | 2.3984907 | 0.016463 | 0.236409 |
| hoxa9b | 154.6575696 | -0.119544743 | 0.1645305 | -0.726581 | 0.467483 | 0.924328 |
| zmp:0000000662 | 291.6287614 | 0.028243752 | 0.133303 | 0.2118764 | 0.832203 | 0.983557 |
| si:ch211-107m4.1 | 25.99022642 | 0.2082337 | 0.3743675 | 0.5562281 | 0.578055 | 0.951024 |
| gng2 | 1688.28929 | -0.061852324 | 0.0866189 | -0.714075 | 0.475181 | 0.925737 |
| exo1 | 76.15186191 | 0.056569979 | 0.2296717 | 0.246308 | 0.805444 | 0.979883 |
| svopa | 22.44588403 | 0.765074956 | 0.4270765 | 1.7914236 | 0.073225 | 0.527933 |
| laynb | 23.43152816 | 0.112716043 | 0.3899232 | 0.2890724 | 0.772526 | 0.975687 |
| si:ch211-125o16.4 | 737.0027598 | -0.045778598 | 0.1036136 | -0.441821 | 0.658619 | 0.962545 |
| pimr93 | 1.685032042 | -0.618937429 | 1.5371164 | -0.402661 | 0.687197 | NA |
| otud5b | 926.2515907 | 0.052565724 | 0.0894405 | 0.5877174 | 0.556722 | 0.94812 |
| usp30 | 65.86760081 | -0.076579428 | 0.2574566 | -0.297446 | 0.766126 | 0.975374 |

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| si:dkey-27c15.3 | 84.62582498 | 0.222859311 | 0.2126846 | 1.0478392 | 0.294713 | 0.851 |
| gatc | 203.7472572 | -0.092960298 | 0.1446091 | -0.642838 | 0.520329 | 0.939056 |
| tax1bplb | 2441.566397 | -0.014533583 | 0.073077 | -0.19888 | 0.842356 | 0.985174 |
| spx | 35.54836225 | 0.372600106 | 0.3221298 | 1.1566769 | 0.247404 | 0.81686 |
| cep63 | 150.7171987 | -0.129354648 | 0.1685167 | -0.767608 | 0.44272 | 0.916336 |
| ap4ml | 148.562918 | 0.21462295 | 0.1691544 | 1.2687989 | 0.204513 | 0.772352 |
| and3 | 946.2520266 | 0.395411084 | 0.099934 | 3.9567212 | 7.60E-05 | 0.003883 |
| lygl1 | 89.32596527 | 0.165017585 | 0.2105648 | 0.7836904 | 0.433222 | 0.913654 |
| vamp2 | 1215.68652 | 0.217744106 | 0.0921427 | 2.3631177 | 0.018122 | 0.250046 |
| per1a | 464.3684737 | -0.017628461 | 0.1154739 | -0.152662 | 0.878665 | 0.987881 |
| tbccd1 | 152.1987906 | 0.104389142 | 0.1614041 | 0.6467565 | 0.51779 | 0.938592 |
| dnah51 | 117.5871438 | 0.197792464 | 0.2036403 | 0.9712835 | 0.331407 | 0.874362 |
| mpp6a | 465.9562221 | 0.199905714 | 0.1086967 | 1.8391144 | 0.065898 | 0.501955 |
| ttc12 | 25.91236059 | 0.093051008 | 0.3715189 | 0.250461 | 0.802231 | 0.979492 |
| mrpl13 | 618.2812184 | 0.030496897 | 0.1078323 | 0.2828179 | 0.777316 | 0.975826 |
| si:rp71-45g20.10 | 4.100628876 | -0.960013326 | 1.0337181 | -0.928699 | 0.353045 | NA |
| L0018309.1 | 12.53461784 | -0.149705686 | 0.5743862 | -0.260636 | 0.794373 | 0.977937 |
| CU234171.1 | 12.58420373 | -0.158231086 | 0.5320979 | -0.297372 | 0.766182 | 0.975374 |
| or133-1 | 2.826952666 | 0.205963614 | 1.1178571 | 0.1842486 | 0.853818 | NA |
| pcolcea | 483.3139323 | 0.335001292 | 0.1264435 | 2.6494147 | 0.008063 | 0.144946 |
| emg1 | 182.3519068 | 0.112384044 | 0.1563319 | 0.7188809 | 0.472214 | 0.924838 |
| si:ch211-23714.6 | 85.63703137 | 0.449385266 | 0.2181432 | 2.0600471 | 0.039394 | 0.389879 |
| si:rp71-45g20.4 | 9.130570961 | 0.685234516 | 0.6304808 | 1.0868443 | 0.277106 | NA |
| tmem88a | 34.38755191 | -0.196582719 | 0.3456674 | -0.568705 | 0.569556 | 0.948983 |
| ankk1 | 29.70464176 | -0.156119803 | 0.3490996 | -0.447207 | 0.654726 | 0.961305 |
| ltbpl | 861.9900613 | 0.108831603 | 0.0897069 | 1.2131907 | 0.225057 | 0.792185 |
| dbr1 | 540.5727824 | 0.031230517 | 0.1043817 | 0.2991952 | 0.764791 | 0.975374 |
| sap130a | 483.7702058 | -0.071070679 | 0.1142081 | -0.622291 | 0.53375 | 0.943276 |
| drd2a | 24.37426564 | -0.095204409 | 0.4351265 | -0.218797 | 0.826808 | 0.982473 |
| kdm6bb | 391.5546833 | -0.072336513 | 0.133945 | -0.540046 | 0.589165 | 0.953345 |
| tfip11 | 801.0782323 | -0.106873017 | 0.0960625 | -1.112537 | 0.265907 | 0.831945 |
| hepacama | 510.5517364 | 0.212972609 | 0.1170263 | 1.8198695 | 0.068779 | 0.513259 |
| kera | 988.2157865 | 0.422502757 | 0.0862086 | 4.9009373 | 9.54E-07 | 9.67E-05 |
| or125-8 | 1.314938914 | 1.626939831 | 1.7740828 | 0.9170597 | 0.359111 | NA |
| htr7a | 7.267901752 | -0.948659861 | 0.7198822 | -1.317799 | 0.187571 | NA |
| epyc | 4860.883653 | 0.049147912 | 0.078567 | 0.6255541 | 0.531607 | 0.942358 |
| si:dkeyp-38g8.5 | 23.23757045 | -0.07390351 | 0.4166781 | -0.177364 | 0.859223 | 0.985773 |
| ccdc30 | 86.0647421 | -0.119522122 | 0.2225686 | -0.537012 | 0.591259 | 0.954193 |
| ilk | 1002.883298 | 0.041883462 | 0.0876587 | 0.4778016 | 0.632791 | 0.957356 |
| nek7 | 481.056121 | 0.033667655 | 0.1051006 | 0.3203374 | 0.748713 | 0.97419 |
| ifit16 | 37.12782251 | 0.116161582 | 0.3197853 | 0.3632487 | 0.716419 | 0.96909 |
| letml | 142.0358082 | 0.293851239 | 0.1753397 | 1.6758971 | 0.093758 | 0.582645 |
| lhx9 | 977.8676289 | -0.129761208 | 0.0915569 | -1.417274 | 0.156403 | 0.706639 |
| rad9a | 60.27642884 | 0.023090785 | 0.257487 | 0.0896775 | 0.928544 | 0.992702 |
| tpte | 263.9494811 | -0.170260451 | 0.1376993 | -1.236466 | 0.216285 | 0.783589 |
| dact2 | 173.788248 | -0.052474283 | 0.166696 | -0.31479 | 0.752921 | 0.97481 |
| snaila | 332.3748407 | -0.170032086 | 0.1215309 | -1.399085 | 0.161788 | 0.716022 |
| kirrellb | 490.1432194 | 0.067229249 | 0.1043192 | 0.6444571 | 0.519279 | 0.938945 |
| camkv1 | 463.8405378 | 0.11478375 | 0.1153004 | 0.9955187 | 0.319484 | 0.867905 |
| si:ch211-287a12.9 | 51.80666135 | 0.01560632 | 0.2687118 | 0.0580783 | 0.953686 | 0.994213 |
| fam241a | 245.6803327 | 0.017027782 | 0.1482615 | 0.1148497 | 0.908564 | 0.990702 |
| ctbpl | 4645.848239 | -0.05629722 | 0.0772311 | -0.728945 | 0.466035 | 0.923865 |
| si:dkey-154b15.1 | 24.2599469 | -0.429429644 | 0.4257206 | -1.008712 | 0.313113 | 0.865039 |
| dpml | 322.0636288 | -0.205967036 | 0.1269142 | -1.622884 | 0.104614 | 0.612567 |

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| cadm3 | 442.6154104 | 0.071134309 | 0.1164722 | 0.6107406 | 0.541371 | 0.944954 |
| cdc14ab | 489.3424362 | 0.016122406 | 0.1089652 | 0.1479592 | 0.882375 | 0.988344 |
| slc6a4b | 14.91817564 | -0.010341181 | 0.4964378 | -0.020831 | 0.983381 | 0.996944 |
| vps36 | 278.4869369 | -0.057529592 | 0.1292687 | -0.445039 | 0.656292 | 0.961833 |
| chrna2b | 165.556833 | 0.053554651 | 0.1588705 | 0.3370964 | 0.736044 | 0.972535 |
| ran | 9276.779342 | -0.158066028 | 0.0797089 | -1.98304 | 0.047363 | 0.427455 |
| rtn2b | 368.9794088 | 0.642766763 | 0.1353292 | 4.7496542 | 2.04E-06 | 0.000185 |
| htr2aa | 28.33698247 | 0.106320237 | 0.3605981 | 0.2948441 | 0.768113 | 0.975687 |
| ppmlnb | 578.3765462 | 0.157596276 | 0.1035665 | 1.5216918 | 0.128086 | 0.658954 |
| stoml3b | 455.2166979 | -1.107596299 | 0.1269156 | -8.727032 | 2.61E-18 | 1.78E-15 |
| kcnk12l | 2.021294566 | -1.600702766 | 1.5254152 | -1.049355 | 0.294015 | NA |
| si:ch211-191j22.8 | 11.95018327 | 0.330417685 | 0.5535305 | 0.5969277 | 0.550556 | 0.946549 |
| tm2d1 | 167.6827292 | -0.030199178 | 0.1645222 | -0.183557 | 0.854361 | 0.985174 |
| kcnk18 | 27.5355069 | 0.070696146 | 0.3664624 | 0.1929151 | 0.847025 | 0.985174 |
| zgc:91976 | 526.2716819 | -0.037765789 | 0.1051594 | -0.359129 | 0.719499 | 0.969299 |
| lrit3b | 8.707771954 | -0.724943862 | 0.6581652 | -1.101462 | 0.270696 | NA |
| ndufs8b | 11.52322382 | 0.247487647 | 0.55668 | 0.4445779 | 0.656625 | 0.961928 |
| minppla | 247.5716634 | -0.087720543 | 0.1456547 | -0.60225 | 0.547008 | 0.945526 |
| tvp23b | 291.3542797 | -0.23602545 | 0.1299111 | -1.816823 | 0.069244 | 0.514556 |
| si:dkey-157g16.6 | 149.4930394 | -0.24321713 | 0.1734251 | -1.402433 | 0.160786 | 0.713963 |
| enpep | 298.1841821 | -0.905392678 | 0.1298235 | -6.974026 | 3.08E-12 | 1.02E-09 |
| rpgrb | 221.2800227 | -0.182007681 | 0.1487928 | -1.223229 | 0.221243 | 0.787842 |
| lamtor3 | 224.4526359 | -0.221911598 | 0.1672694 | -1.326672 | 0.184617 | 0.747376 |
| ftsjl | 161.8664678 | 0.048674478 | 0.168496 | 0.2888761 | 0.772676 | 0.975687 |
| zmp:0000001103 | 2.73055215 | 0.876411384 | 1.2575846 | 0.6969006 | 0.485865 | NA |
| kdm5ba | 2568.283657 | -0.251631894 | 0.0781522 | -3.219765 | 0.001283 | 0.03764 |
| ndr1 | 1.705233733 | 0.592496448 | 1.5482586 | 0.3826857 | 0.701953 | NA |
| htrlab | 41.96837498 | 0.098156308 | 0.3155674 | 0.311047 | 0.755765 | 0.975374 |
| papssl | 424.5610449 | 0.250590947 | 0.1149888 | 2.1792647 | 0.029312 | 0.331778 |
| zwilch | 76.25113592 | 0.285446111 | 0.2288795 | 1.2471456 | 0.212344 | 0.780251 |
| rnf180 | 72.89026228 | -0.192894032 | 0.2291949 | -0.841616 | 0.400003 | 0.90084 |
| nlel | 221.0290632 | 0.090098869 | 0.1432423 | 0.6289963 | 0.529351 | 0.942209 |
| si:ch73-383g2.1 | 7.100483977 | 0.183982003 | 0.7525841 | 0.244467 | 0.806869 | NA |
| serpine3 | 94.46800489 | -0.564473611 | 0.2256027 | -2.502069 | 0.012347 | 0.196577 |
| slc25a1a | 391.9072866 | -0.11635301 | 0.1201922 | -0.968058 | 0.333015 | 0.874926 |
| gpr25 | 0.649418021 | -1.460710349 | 2.4263694 | -0.602015 | 0.547164 | NA |
| c6 | 330.3582866 | 0.159613511 | 0.1399368 | 1.1406116 | 0.254032 | 0.823394 |
| hpf1 | 397.5804049 | -0.118449869 | 0.124054 | -0.954825 | 0.339666 | 0.87805 |
| ghsrb | 6.206610695 | -0.197663374 | 0.7732343 | -0.255632 | 0.798235 | NA |
| c7b | 246.3980369 | -0.535637167 | 0.1905365 | -2.811206 | 0.004936 | 0.102322 |
| pldb | 252.9865578 | -0.214237036 | 0.1415387 | -1.513629 | 0.13012 | 0.662797 |
| hadhaa | 832.3438786 | 0.374045794 | 0.0878283 | 4.2588297 | 2.05E-05 | 0.001286 |
| zgc:174164 | 97.34593262 | -0.05271299 | 0.2051364 | -0.256966 | 0.797205 | 0.978577 |
| zgc:110045 | 377.6162427 | -0.114503545 | 0.1161444 | -0.985872 | 0.324196 | 0.870928 |
| zgc:194252 | 6.37585911 | 0.851291968 | 0.7816695 | 1.0890689 | 0.276124 | NA |
| nradd | 88.1004335 | 0.294504996 | 0.2064431 | 1.4265676 | 0.153705 | 0.702578 |
| mocos | 65.04652071 | 0.208662307 | 0.24998 | 0.8347161 | 0.403878 | 0.900979 |
| prep | 248.4442373 | -0.366679354 | 0.1367245 | -2.681886 | 0.007321 | 0.135037 |
| ankrd29 | 109.5100942 | 0.002601929 | 0.1913618 | 0.0135969 | 0.989152 | 0.997589 |
| lrmda | 16.10789511 | -0.554596813 | 0.4787041 | -1.158538 | 0.246645 | 0.816669 |
| eif4g2b | 5592.432273 | 0.01425746 | 0.0659066 | 0.2163283 | 0.828732 | 0.982721 |
| abca4a | 210.5091331 | 0.17688176 | 0.1584753 | 1.1161471 | 0.264359 | 0.830245 |
| ifit8 | 0.48448895 | 0.85344211 | 2.878836 | 0.2964539 | 0.766883 | NA |
| il17c | 2.937845939 | -0.686529056 | 1.1522742 | -0.595804 | 0.551306 | NA |

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| zgc:55781 | 176.20794 | 0.16368116 | 0.1560804 | 1.0486976 | 0.294317 | 0.850231 |
| nmt1b | 44.92271122 | 0.230543619 | 0.3242009 | 0.7111134 | 0.477014 | 0.926857 |
| plppr5a | 59.8723466 | -0.033483054 | 0.2594036 | -0.129077 | 0.897297 | 0.990121 |
| has3 | 12.94258345 | 0.148344374 | 0.5212269 | 0.2846061 | 0.775946 | 0.975826 |
| tbc1d15 | 431.1229134 | -0.210299784 | 0.1216447 | -1.728803 | 0.083844 | 0.557501 |
| si:dkey-222b8.4 | 77.75401802 | -0.002447436 | 0.229201 | -0.010678 | 0.99148 | 0.997679 |
| rorca | 238.9190623 | 0.193454257 | 0.1346256 | 1.4369798 | 0.150724 | 0.698912 |
| chtopa | 2176.380571 | -0.080728334 | 0.0723126 | -1.11638 | 0.264259 | 0.830245 |
| si:dkey-30k6.5 | 100.7545891 | 0.104838997 | 0.2030457 | 0.5163321 | 0.605622 | 0.95651 |
| tph2 | 112.5187252 | -0.125105193 | 0.2190038 | -0.571247 | 0.567833 | 0.948739 |
| tnfsf10 | 377.1663575 | -0.20790353 | 0.1338504 | -1.553253 | 0.120363 | 0.645215 |
| im:7138535 | 96.65316117 | -0.223618359 | 0.208451 | -1.072762 | 0.283378 | 0.84466 |
| sclt1 | 258.7068525 | -0.129362183 | 0.1357621 | -0.95286 | 0.340661 | 0.878134 |
| zmynd11 | 1958.984459 | -0.08810445 | 0.0738484 | -1.193044 | 0.232852 | 0.801255 |
| pimr141 | 0 NA | NA | NA | NA | NA | NA |
| emc1 | 1917.869888 | 0.15877183 | 0.0871747 | 1.8213073 | 0.06856 | 0.513124 |
| si:dkey-91i10.3 | 199.3987395 | -0.667673545 | 0.1529977 | -4.363946 | 1.28E-05 | 0.00088 |
| zgc:173729 | 13.05624299 | -0.866305138 | 0.5262792 | -1.646094 | 0.099744 | 0.600955 |
| pimr52 | 0 NA | NA | NA | NA | NA | NA |
| slc30a9 | 933.5774141 | 0.053282069 | 0.0880307 | 0.6052671 | 0.545002 | 0.945463 |
| alox5a | 13.53087551 | 1.005639394 | 0.5284148 | 1.9031251 | 0.057024 | 0.46866 |
| iqcal | 21.87011327 | -0.065714301 | 0.4681246 | -0.140378 | 0.888361 | 0.989291 |
| pimr54 | 0 NA | NA | NA | NA | NA | NA |
| swap70b | 316.0309609 | -0.094412421 | 0.1303539 | -0.724278 | 0.468895 | 0.924328 |
| slc25a16 | 362.794798 | -0.068569523 | 0.1160235 | -0.590997 | 0.554523 | 0.947449 |
| cb1n1 | 780.3209396 | 0.134240949 | 0.0900345 | 1.490994 | 0.135963 | 0.672424 |
| pbdc1 | 616.4502545 | 0.009070612 | 0.0957633 | 0.0947191 | 0.924538 | 0.992676 |
| galnt7 | 1306.517008 | -0.113465751 | 0.0831983 | -1.363799 | 0.172631 | 0.731348 |
| rwdd3 | 60.15098747 | 0.041438914 | 0.2676177 | 0.1548437 | 0.876945 | 0.987881 |
| nexn | 887.8825802 | 0.238853022 | 0.0980803 | 2.4352806 | 0.01488 | 0.223418 |
| tut1 | 258.8136243 | -0.237336033 | 0.1317511 | -1.801397 | 0.07164 | 0.523122 |
| tmem47 | 1164.136032 | 0.141015807 | 0.0886761 | 1.5902352 | 0.111782 | 0.627242 |
| e2f8 | 355.6811269 | -0.025471382 | 0.1167048 | -0.218255 | 0.827231 | 0.982682 |
| cth1 | 0.473290478 | -0.833892061 | 2.901156 | -0.287434 | 0.77378 | NA |
| kenk7 | 3.708846379 | -1.049014492 | 1.0561306 | -0.993262 | 0.320582 | NA |
| cmasa | 781.3370441 | -0.053812285 | 0.0964796 | -0.557758 | 0.57701 | 0.950762 |
| slc25a29 | 9.083767543 | 0.55724257 | 0.6633713 | 0.8400161 | 0.400899 | NA |
| ehbp111a | 170.2795226 | 0.129342664 | 0.1774788 | 0.728778 | 0.466138 | 0.923865 |
| elov18b | 79.77145825 | -0.065334559 | 0.2529535 | -0.258287 | 0.796186 | 0.978498 |
| rps8b | 109.7154651 | 0.025860019 | 0.1892637 | 0.1366348 | 0.891319 | 0.989291 |
| sfxn3 | 118.5954207 | -0.048878508 | 0.1915838 | -0.255129 | 0.798624 | 0.978884 |
| selenoula | 1148.62533 | 0.122131282 | 0.0905213 | 1.3491991 | 0.177273 | 0.738201 |
| lrrc31 | 47.27186634 | -0.611324967 | 0.2976026 | -2.054165 | 0.03996 | 0.391511 |
| rab33a | 215.6327541 | -0.087290371 | 0.1506828 | -0.579299 | 0.562387 | 0.948728 |
| si:ch211-130m23.3 | 44.2206408 | -0.615456601 | 0.3134096 | -1.963745 | 0.04956 | 0.436328 |
| CR847953.1 | 344.2904241 | 0.068895672 | 0.1204104 | 0.572174 | 0.567204 | 0.948739 |
| CABZ01067232.1 | 173.60225 | 0.084566574 | 0.1712145 | 0.4939217 | 0.621361 | 0.957354 |
| rxfp3 | 28.35198815 | 0.021904817 | 0.3969926 | 0.0551769 | 0.955998 | 0.994543 |
| phb | 3414.040487 | -0.035935201 | 0.0836999 | -0.429334 | 0.66768 | 0.964736 |
| nudt13 | 30.05471445 | -0.376239529 | 0.3924681 | -0.95865 | 0.337735 | 0.876395 |
| slc44a5b | 197.2410941 | -0.112512647 | 0.148757 | -0.756352 | 0.449438 | 0.918383 |
| oard1 | 46.47875679 | -0.283289995 | 0.3041444 | -0.931432 | 0.35163 | 0.880769 |
| sv2ba | 2071.184389 | 0.347862885 | 0.1009227 | 3.4468259 | 0.000567 | 0.019439 |
| arg1 | 19.53210259 | 0.430671086 | 0.4469502 | 0.9635773 | 0.335258 | 0.876088 |

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| st6galnac5b | 62.82062466 | 0.344782833 | 0.250163 | 1.3782328 | 0.168131 | 0.725902 |
| amacr | 104.9097561 | 0.074433908 | 0.1963235 | 0.379139 | 0.704585 | 0.968134 |
| apodb | 701.4482144 | -0.294260462 | 0.0982739 | -2.99429 | 0.002751 | 0.06774 |
| phf1 | 4.944206532 | -0.81969037 | 0.9344343 | -0.877205 | 0.380375 | NA |
| si:dkey-228d14.5 | 51.42474976 | 0.102398381 | 0.2741171 | 0.373557 | 0.708734 | 0.968664 |
| ston2 | 573.0091692 | 0.071974122 | 0.0992327 | 0.7253062 | 0.468264 | 0.924328 |
| ppp3ccb | 573.0901665 | 0.187988603 | 0.1023026 | 1.8375737 | 0.066125 | 0.502802 |
| crygm2d13 | 15961.4855 | 0.050531939 | 0.0671707 | 0.7522916 | 0.451876 | 0.918761 |
| gfpt1 | 459.2094383 | 0.04626012 | 0.1069928 | 0.4323668 | 0.665475 | 0.964736 |
| kenc2 | 71.99969745 | -0.026111637 | 0.2317637 | -0.112665 | 0.910296 | 0.990702 |
| lrrc28 | 51.84261169 | -0.29056942 | 0.2702022 | -1.075378 | 0.282206 | 0.843666 |
| hrh2b | 2.795754184 | -0.88380829 | 1.145882 | -0.771291 | 0.440535 | NA |
| RNF157 | 474.8797118 | 0.049619697 | 0.1072835 | 0.4625101 | 0.643716 | 0.960014 |
| srsf2a | 3503.501402 | 0.026551661 | 0.0707192 | 0.3754522 | 0.707324 | 0.968664 |
| n4bpl | 380.4209411 | 0.090495298 | 0.1287234 | 0.7030211 | 0.482043 | 0.928561 |
| stk351 | 550.0504286 | 0.073896278 | 0.1032224 | 0.7158938 | 0.474057 | 0.924993 |
| happ2 | 126.4149605 | 0.427278725 | 0.1821968 | 2.3451498 | 0.019019 | 0.257244 |
| si:dkey-202g17.3 | 137.5419662 | -0.203450162 | 0.2083474 | -0.976495 | 0.328819 | 0.873113 |
| mdm4 | 1258.860361 | -0.042109372 | 0.0834708 | -0.50448 | 0.613924 | 0.95688 |
| pcdh1g9 | 272.86081 | 0.00789079 | 0.1392788 | 0.0566546 | 0.95482 | 0.994543 |
| mef2ab | 89.51857151 | -0.027961596 | 0.2112512 | -0.132362 | 0.894698 | 0.989716 |
| itpa | 194.2175903 | 0.218691225 | 0.1524922 | 1.4341146 | 0.15154 | 0.700127 |
| pgap3 | 9.798531314 | 0.966462855 | 0.6105219 | 1.5830109 | 0.113419 | NA |
| crygm2a | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| rpl17 | 12542.42306 | -0.278909807 | 0.0813165 | -3.429927 | 0.000604 | 0.020478 |
| polr3c | 92.79196606 | -0.113253756 | 0.2056167 | -0.5508 | 0.581771 | 0.95187 |
| nefla | 267.5442499 | 0.014249334 | 0.1295529 | 0.1099886 | 0.912418 | 0.991119 |
| pgam2 | 1610.191728 | 0.230065264 | 0.0892161 | 2.5787422 | 0.009916 | 0.169473 |
| pnp4a | 307.4819134 | -0.707915678 | 0.1255989 | -5.636321 | 1.74E-08 | 2.82E-06 |
| mbtps2 | 342.7894436 | 0.15310392 | 0.1240587 | 1.2341248 | 0.217156 | 0.784302 |
| prrc2c | 1841.890424 | 0.050706813 | 0.1050861 | 0.4825263 | 0.629432 | 0.957354 |
| sall3b | 348.2371456 | 0.046011225 | 0.1176091 | 0.3912217 | 0.695633 | 0.96736 |
| si:ch1073-396h14.1 | 291.2978406 | 0.225062153 | 0.1279164 | 1.7594467 | 0.078502 | 0.545813 |
| s100b | 272.0243241 | -0.003531184 | 0.1470268 | -0.024017 | 0.980839 | 0.996944 |
| arl4ca | 296.0027646 | 0.141497888 | 0.1331261 | 1.0628863 | 0.287834 | 0.845979 |
| cdkn2c | 67.46063185 | 0.319473577 | 0.2511674 | 1.2719547 | 0.203389 | 0.770611 |
| nitr3c | 4.777460962 | 0.720588887 | 0.9107214 | 0.7912287 | 0.428811 | NA |
| cops5 | 624.3545505 | 0.19774167 | 0.1005905 | 1.9658083 | 0.049321 | 0.435504 |
| duspl4 | 167.8216746 | 0.009305503 | 0.1609773 | 0.0578063 | 0.953903 | 0.994255 |
| josd2 | 411.6241106 | -0.159035129 | 0.1213216 | -1.310856 | 0.189907 | 0.754269 |
| galm | 221.3381961 | -0.532277574 | 0.1725726 | -3.084369 | 0.00204 | 0.054215 |
| ppplr42 | 8.885086934 | 0.856694258 | 0.6440546 | 1.3301579 | 0.183466 | NA |
| cxcr4a | 98.22553326 | 0.002330211 | 0.203466 | 0.0114526 | 0.990862 | 0.997679 |
| wdr34 | 38.29932702 | -0.020249919 | 0.3305635 | -0.061259 | 0.951153 | 0.99381 |
| adam8b | 66.29085817 | -0.029404554 | 0.2578822 | -0.114023 | 0.909219 | 0.990702 |
| dnttip2 | 455.8697026 | -0.057402807 | 0.1110856 | -0.516744 | 0.605335 | 0.95651 |
| satbla | 150.978095 | 0.0810679 | 0.1936182 | 0.4186998 | 0.675436 | 0.965257 |
| dbpb | 612.7782526 | -0.010777665 | 0.1092679 | -0.098635 | 0.921428 | 0.992138 |
| dhx57 | 354.5223006 | -0.114307016 | 0.1217146 | -0.93914 | 0.347659 | 0.880195 |
| aldoca | 226.2135346 | -0.632996665 | 0.1410474 | -4.487828 | 7.20E-06 | 0.000541 |
| sprn2 | 146.7073512 | 0.231067552 | 0.167324 | 1.3809592 | 0.167292 | 0.724173 |
| epas1b | 419.2899966 | 0.255178722 | 0.1181293 | 2.160164 | 0.03076 | 0.339614 |
| plpp5 | 490.4031477 | 0.132422327 | 0.1161625 | 1.1399746 | 0.254297 | 0.823394 |
| golga7 | 1355.045849 | 0.032720757 | 0.0782344 | 0.41824 | 0.675772 | 0.965257 |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| neu4 | 11.05849294 | 0.383888707 | 0.5763584 | 0.666059 | 0.505373 | NA |
| sfrplb | 72.41419816 | 0.466966181 | 0.2457343 | 1.900289 | 0.057395 | 0.470146 |
| sh2b1 | 785.986261 | -0.002793313 | 0.1148639 | -0.024318 | 0.980599 | 0.996944 |
| foxj2 | 128.2428436 | -0.08781852 | 0.1784438 | -0.492135 | 0.622624 | 0.957354 |
| si:ch211-266o15.1 | 853.9432475 | -0.148813882 | 0.089592 | -1.661018 | 0.09671 | 0.592423 |
| mcm6 | 1160.219254 | 0.065793992 | 0.0901872 | 0.7295267 | 0.46568 | 0.923865 |
| sbk3 | 56.7318761 | 0.250057129 | 0.2657591 | 0.9409165 | 0.346748 | 0.8794 |
| icall | 360.7344206 | -0.119655381 | 0.1228275 | -0.974174 | 0.32997 | 0.874009 |
| srsfla | 4453.567111 | -0.051906875 | 0.0645713 | -0.803869 | 0.421472 | 0.90651 |
| ctsd | 3494.370969 | -0.040386127 | 0.0888687 | -0.454447 | 0.649507 | 0.960708 |
| styx | 199.4709035 | -0.205222783 | 0.1575976 | -1.302195 | 0.19285 | 0.756795 |
| si:ch211-137i24.10 | 394.1960322 | -0.626033561 | 0.1187551 | -5.271637 | 1.35E-07 | 1.82E-05 |
| zgc:66443 | 158.8333968 | -0.023881811 | 0.1705102 | -0.140061 | 0.888612 | 0.989291 |
| zgc:175264 | 553.6928496 | -0.088920309 | 0.1018786 | -0.872807 | 0.382768 | 0.895192 |
| cmah | 307.9743781 | -0.396753218 | 0.131065 | -3.027148 | 0.002469 | 0.062293 |
| at12 | 497.7110578 | 0.170169863 | 0.104204 | 1.6330456 | 0.102459 | 0.608235 |
| slc17a8 | 28.37701771 | -0.307058338 | 0.3711614 | -0.827291 | 0.408072 | 0.90171 |
| ephb6 | 162.7942741 | -0.04173061 | 0.1755827 | -0.237669 | 0.812138 | 0.981081 |
| anol0a | 618.4084308 | 0.004076097 | 0.0977178 | 0.041713 | 0.966728 | 0.996315 |
| rxraa | 172.037626 | -0.090289283 | 0.1569845 | -0.575148 | 0.565191 | 0.948739 |
| hells | 560.9246823 | 0.171566755 | 0.1076653 | 1.5935199 | 0.111044 | 0.626294 |
| nrlh4 | 96.79105008 | -0.395592528 | 0.2163158 | -1.828774 | 0.067434 | 0.508361 |
| si:dkey-10f21.4 | 118.247474 | 0.020399277 | 0.1850933 | 0.1102108 | 0.912242 | 0.991119 |
| zbtb47a | 67.55045599 | 0.264442013 | 0.2631637 | 1.0048575 | 0.314965 | 0.866054 |
| nudt4a | 335.9317703 | 0.183814007 | 0.1317904 | 1.3947447 | 0.163093 | 0.717943 |
| pimr55 | 5.795488932 | 0.451157181 | 0.8084433 | 0.5580567 | 0.576806 | NA |
| 7-Mar | 259.3178548 | -0.251232437 | 0.1477995 | -1.699819 | 0.089165 | 0.571894 |
| baz2ba | 2373.48534 | -0.227630578 | 0.0907545 | -2.5082 | 0.012135 | 0.194451 |
| itgae.2 | 12.54988257 | 0.78730634 | 0.5816745 | 1.353517 | 0.175891 | 0.736505 |
| lyz | 4.628387648 | 0.042308788 | 0.9006947 | 0.0469735 | 0.962534 | NA |
| ankrd6a | 130.4533526 | -0.098440318 | 0.1916059 | -0.513764 | 0.607417 | 0.956718 |
| cx52.7 | 27.12642126 | 0.071374707 | 0.3613023 | 0.1975484 | 0.843398 | 0.985174 |
| mrpl28 | 693.0783398 | -0.04962378 | 0.095899 | -0.517459 | 0.604836 | 0.95651 |
| si:ch73-61d6.3 | 168.784246 | -0.453352828 | 0.1623487 | -2.792464 | 0.005231 | 0.106854 |
| dnmt3bb.2 | 181.6568468 | -0.025201854 | 0.1605476 | -0.156974 | 0.875265 | 0.987881 |
| gulplb | 55.13704948 | 0.182059488 | 0.2761865 | 0.6591903 | 0.509774 | 0.936253 |
| zgc:171470 | 2.585752491 | -0.352319945 | 1.1984029 | -0.293991 | 0.768765 | NA |
| atp6v0ca | 4997.289063 | -0.032263341 | 0.0668665 | -0.482504 | 0.629448 | 0.957354 |
| sap18 | | 0 NA | NA | NA | NA | NA |
| mrps31 | 500.711951 | 0.072509661 | 0.1034291 | 0.7010569 | 0.483267 | 0.92946 |
| arfrpl | 298.6820901 | 0.296810123 | 0.1285945 | 2.3081092 | 0.020993 | 0.273449 |
| hoxd10a | 93.53442598 | 0.172331012 | 0.2183588 | 0.7892102 | 0.429989 | 0.911615 |
| dnmt3bb.3 | 125.1942027 | -0.099272149 | 0.1872502 | -0.530158 | 0.596003 | 0.954434 |
| laspl | 2485.896711 | 0.005706086 | 0.0700827 | 0.0814193 | 0.935109 | 0.992702 |
| cdc4212 | 37.75234999 | -0.204500066 | 0.3337319 | -0.612768 | 0.54003 | 0.944206 |
| p3h3 | 278.0683969 | 0.278532724 | 0.1378164 | 2.0210424 | 0.043275 | 0.40826 |
| si:dkey-33c12.3 | 1176.370371 | 0.243389277 | 0.0897917 | 2.7105989 | 0.006716 | 0.126361 |
| arpc3 | 1616.696032 | 0.033118599 | 0.0925262 | 0.3579374 | 0.72039 | 0.969318 |
| zgc:114174 | 47.11702908 | -0.110412686 | 0.2798097 | -0.394599 | 0.693139 | 0.96736 |
| BX901922.1 | 0.853874503 | -1.902668424 | 2.1134959 | -0.900247 | 0.367989 | NA |
| nts | 26.56943658 | 0.010187934 | 0.3708491 | 0.0274719 | 0.978083 | 0.996762 |
| si:dkey-33c12.4 | 403.6770216 | -0.140314987 | 0.1212066 | -1.157652 | 0.247006 | 0.816669 |
| zgc:114081 | 65.76570843 | -0.270279598 | 0.2524106 | -1.070793 | 0.284262 | 0.844697 |
| si:ch211-266g18.10 | 178.4059677 | 0.339471009 | 0.1573843 | 2.1569554 | 0.031009 | 0.340842 |

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|-----------------|-------------|--------------|-----------|-----------|----------|----------|
| si:ch73-181d5.4 | 351.1152195 | -0.115828848 | 0.1236688 | -0.936606 | 0.348961 | 0.880195 |
| mrps34 | 719.1020797 | 0.059453868 | 0.0980661 | 0.6062634 | 0.54434 | 0.945438 |
| zgc:86709 | 984.000127 | 0.182220932 | 0.1184114 | 1.5388798 | 0.123834 | 0.652372 |
| eif1axb | 2548.670241 | -0.006284121 | 0.077604 | -0.080977 | 0.93546 | 0.992702 |
| sytl1a | 2445.249252 | 0.154233229 | 0.0811435 | 1.9007464 | 0.057335 | 0.469987 |
| tsc1b | 661.0815725 | -0.26411209 | 0.0957661 | -2.757888 | 0.005818 | 0.114852 |
| ccdc136b | 178.2193217 | 0.062633517 | 0.1598271 | 0.3918829 | 0.695145 | 0.96736 |
| rps6ka3b | 82.03168871 | -0.189251859 | 0.2264239 | -0.83583 | 0.403251 | 0.900901 |
| mzt2b | 390.5833292 | 0.039060317 | 0.1114621 | 0.3504359 | 0.726012 | 0.970402 |
| nafl | 192.5899647 | -0.056392529 | 0.1477732 | -0.381616 | 0.702747 | 0.968134 |
| lhx5 | 713.1619133 | -0.127819082 | 0.1049307 | -1.218128 | 0.223175 | 0.789115 |
| ythdf3 | 264.4293247 | 0.251282319 | 0.1366937 | 1.8382879 | 0.06602 | 0.502687 |
| didol | 1493.064287 | -0.040384264 | 0.1002834 | -0.402701 | 0.687168 | 0.966376 |
| glt8d2 | 22.33028603 | 0.720408347 | 0.420798 | 1.7120052 | 0.086896 | 0.565027 |
| slc43a3b | 274.3577121 | 0.121410887 | 0.1288921 | 0.9419576 | 0.346214 | 0.87905 |
| dph1 | 185.7674532 | -0.14691605 | 0.1532436 | -0.958709 | 0.337705 | 0.876395 |
| parp12b | 206.8750874 | -0.03770802 | 0.1418361 | -0.265856 | 0.79035 | 0.977338 |
| plcd4a | 71.13619778 | 0.14467644 | 0.2467028 | 0.5864402 | 0.55758 | 0.948478 |
| svopl | 193.3215312 | -0.319522612 | 0.1576891 | -2.026282 | 0.042736 | 0.406083 |
| eps811a | 147.8622388 | -0.024836682 | 0.1663227 | -0.149328 | 0.881295 | 0.988245 |
| ints8 | 484.7925391 | 0.010017927 | 0.1134574 | 0.0882968 | 0.929641 | 0.992702 |
| uba3 | 742.1777012 | 0.068705558 | 0.0930494 | 0.738377 | 0.460285 | 0.921978 |
| fstb | 296.3314835 | 0.344801843 | 0.1419078 | 2.4297598 | 0.015109 | 0.225333 |
| arl15b | 292.1049833 | -0.021561471 | 0.1288332 | -0.16736 | 0.867087 | 0.986978 |
| tmf1 | 757.9202867 | -0.086940108 | 0.0932448 | -0.932385 | 0.351137 | 0.880473 |
| cep350 | 730.8372819 | 0.022695272 | 0.1016967 | 0.2231662 | 0.823406 | 0.982196 |
| wfdcl | 534.6610717 | 0.23287097 | 0.1221102 | 1.9070553 | 0.056513 | 0.46635 |
| six2a | 281.3709443 | -0.107226089 | 0.1311819 | -0.817385 | 0.413708 | 0.905864 |
| hgd | 430.9018604 | -0.015952631 | 0.1239274 | -0.128726 | 0.897575 | 0.990121 |
| six3a | 915.7324056 | 0.049681212 | 0.0928946 | 0.5348128 | 0.592779 | 0.954434 |
| arxa | 264.2030229 | 0.021202044 | 0.1399618 | 0.1514845 | 0.879594 | 0.987881 |
| ano3 | 35.6723296 | -0.092571675 | 0.3291724 | -0.281225 | 0.778537 | 0.975942 |
| fbxw9 | 41.83424917 | -0.354748454 | 0.3063332 | -1.158048 | 0.246845 | 0.816669 |
| ormdl2 | 237.6102068 | -0.045066284 | 0.149771 | -0.300901 | 0.76349 | 0.975374 |
| si:dkey-11o15.7 | 18.8559827 | 0.837241261 | 0.4422515 | 1.8931336 | 0.05834 | 0.473924 |
| hspal4 | 486.3888486 | 0.030984416 | 0.1045254 | 0.2964294 | 0.766902 | 0.975687 |
| si:dkey-6n6.2 | 158.7050154 | -0.155934495 | 0.1679209 | -0.928619 | 0.353087 | 0.881552 |
| eml3 | 141.8337368 | 0.065426613 | 0.1772637 | 0.369092 | 0.712059 | 0.969006 |
| bhlhe22 | 942.7793893 | -0.006953122 | 0.0871953 | -0.079742 | 0.936442 | 0.992702 |
| ndufa8 | 1510.868202 | -0.082837967 | 0.0757054 | -1.094214 | 0.273861 | 0.838546 |
| kitlgb | 7.762814812 | -0.385711156 | 0.7718078 | -0.49975 | 0.617251 | NA |
| rablba | 4544.206522 | 0.037008873 | 0.0707702 | 0.5229446 | 0.601013 | 0.956045 |
| tlr21 | 4.756920385 | -0.170260487 | 0.9029324 | -0.188564 | 0.850435 | NA |
| pafahlb3 | 805.8361719 | 0.026912425 | 0.1005609 | 0.2676232 | 0.788989 | 0.976924 |
| ugt5e1 | | 0 NA | NA | NA | NA | NA |
| smyd3 | 58.57172326 | -0.04545798 | 0.2587827 | -0.175661 | 0.86056 | 0.985773 |
| serping1 | 213.3139956 | 0.107420116 | 0.1409102 | 0.7623303 | 0.445863 | 0.917154 |
| igf3 | 0.482640214 | -0.866525639 | 2.7061322 | -0.320208 | 0.748811 | NA |
| magt1 | 543.2403604 | -0.071487046 | 0.1058647 | -0.675268 | 0.499505 | 0.934006 |
| cx31.7 | 2.204457235 | 0.257115366 | 1.2965921 | 0.1983009 | 0.84281 | NA |
| tnfsf1014 | 19.45649937 | 0.005960957 | 0.4306905 | 0.0138405 | 0.988957 | 0.997589 |
| snf8 | 230.5396161 | 0.035255921 | 0.1641454 | 0.2147847 | 0.829935 | 0.982821 |
| txndc17 | 239.2304828 | -0.174331464 | 0.1369529 | -1.27293 | 0.203043 | 0.770037 |
| birc7 | 196.3411407 | 0.33177337 | 0.1515467 | 2.1892491 | 0.028579 | 0.328246 |

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| aifml | 1532.396842 | -0.044265952 | 0.0801997 | -0.551947 | 0.580985 | 0.951731 |
| rprd2a | 601.0547182 | -0.052897543 | 0.1157405 | -0.457036 | 0.647645 | 0.960645 |
| cfap57 | 15.65381499 | 0.165485078 | 0.5360497 | 0.3087122 | 0.75754 | 0.975374 |
| ciarta | 1683.060826 | -0.165514363 | 0.0933765 | -1.772549 | 0.076303 | 0.538373 |
| b3gnt3.4 | 67.00660724 | -0.276988799 | 0.2389743 | -1.159073 | 0.246426 | 0.816419 |
| sardh | 699.7266024 | -0.025808146 | 0.1127037 | -0.228991 | 0.818876 | 0.981594 |
| glra4b | 117.4825637 | 0.051473602 | 0.2088946 | 0.2464095 | 0.805365 | 0.979883 |
| rpl36a | 11368.00085 | -0.374565051 | 0.1911052 | -1.959994 | 0.049996 | 0.437835 |
| eps812 | 195.3871213 | -0.392427323 | 0.145779 | -2.691933 | 0.007104 | 0.1319 |
| impad1 | 276.4684109 | 0.112635848 | 0.1429351 | 0.788021 | 0.430684 | 0.912304 |
| fgfr2 | 3005.322996 | 0.047641396 | 0.0697497 | 0.6830341 | 0.494585 | 0.931926 |
| snap25b | 4517.933563 | 0.028283973 | 0.0677763 | 0.4173136 | 0.676449 | 0.965257 |
| GPR83 | 3.663765726 | 0.820395966 | 1.0153666 | 0.8079801 | 0.419102 | NA |
| hcfc2 | 128.2664403 | -0.105331422 | 0.18015 | -0.584687 | 0.558758 | 0.948478 |
| msna | 2090.556874 | 0.07962586 | 0.0722414 | 1.1022185 | 0.270367 | 0.835161 |
| foxd2 | 300.246289 | -0.155828935 | 0.124138 | -1.255288 | 0.209374 | 0.77633 |
| ttc25 | 34.89450437 | 0.282156095 | 0.3501969 | 0.805707 | 0.420412 | 0.90651 |
| atp7b | 43.77321824 | -0.144672132 | 0.3252602 | -0.444789 | 0.656472 | 0.961833 |
| dnajc5b | 21.96996956 | 0.64547703 | 0.423145 | 1.5254275 | 0.127153 | 0.656588 |
| dnajc7 | 2228.736748 | 0.046674364 | 0.0759878 | 0.6142351 | 0.53906 | 0.943733 |
| znf385c | 215.305553 | 0.23156418 | 0.1480111 | 1.564506 | 0.117699 | 0.641446 |
| trim55b | 113.7900884 | -0.255000407 | 0.190241 | -1.340407 | 0.180113 | 0.74128 |
| ipo8 | 424.90834 | -0.039749997 | 0.1091115 | -0.364306 | 0.715629 | 0.96909 |
| tnfaip2b | 91.39199724 | -0.125654912 | 0.2356226 | -0.533289 | 0.593834 | 0.954434 |
| pcytlba | 81.20445097 | -0.026955124 | 0.2237878 | -0.120449 | 0.904127 | 0.990291 |
| htr2ab | 10.12096752 | 0.723570399 | 0.5934553 | 1.2192501 | 0.222749 | NA |
| zdhhc20b | 188.4649128 | 0.050606303 | 0.1533847 | 0.3299305 | 0.741452 | 0.973154 |
| ackr3b | 1023.316082 | 0.054137359 | 0.0892359 | 0.6066769 | 0.544065 | 0.945438 |
| exoc314 | 33.8384218 | -0.75179188 | 0.3327014 | -2.259659 | 0.023842 | 0.298015 |
| plcx2 | 32.74053473 | 0.230065098 | 0.3443157 | 0.6681807 | 0.504018 | 0.93532 |
| pex16 | 185.9252136 | 0.034562174 | 0.1586044 | 0.2179143 | 0.827496 | 0.982721 |
| smclal | 2023.487658 | -0.134662728 | 0.0816947 | -1.648366 | 0.099278 | 0.599058 |
| si:ch211-153b23.5 | 1459.351621 | -0.240756571 | 0.1203164 | -2.001029 | 0.045389 | 0.418148 |
| abi2a | 259.9813119 | -0.005118327 | 0.1407873 | -0.036355 | 0.970999 | 0.996315 |
| slc25a26 | 195.8978056 | -0.144475266 | 0.1530411 | -0.944029 | 0.345155 | 0.878434 |
| ndnl2 | 168.8183765 | 0.109714517 | 0.1716337 | 0.6392364 | 0.522669 | 0.939336 |
| fam151a | 33.13943083 | 0.130652321 | 0.3650624 | 0.3578904 | 0.720425 | 0.969318 |
| tubd1 | 63.88752354 | 0.101010372 | 0.2441369 | 0.4137449 | 0.679061 | 0.965257 |
| tada3l | 659.1662707 | 0.029281249 | 0.0929532 | 0.3150107 | 0.752754 | 0.97481 |
| ugcg | 240.6706634 | 0.003022457 | 0.1386263 | 0.0218029 | 0.982605 | 0.996944 |
| mpp4a | 63.09747857 | -0.143850522 | 0.2592079 | -0.554962 | 0.578921 | 0.951052 |
| arpc4l | 834.3334027 | -0.041913353 | 0.1033155 | -0.405683 | 0.684975 | 0.966146 |
| ak3 | 490.4962438 | -0.429715402 | 0.1050899 | -4.089027 | 4.33E-05 | 0.002406 |
| acot11a | 66.63045945 | -0.271015109 | 0.2527865 | -1.072111 | 0.28367 | 0.84466 |
| rps6kb1b | 936.9272939 | 0.071597428 | 0.0953591 | 0.7508194 | 0.452761 | 0.919551 |
| nt5c2b | 597.3814925 | 0.074279991 | 0.1153225 | 0.6441064 | 0.519506 | 0.938945 |
| fbrs1l | 1595.052931 | -0.051855213 | 0.0855584 | -0.60608 | 0.544462 | 0.945438 |
| ssbp3a | 182.844177 | 0.021910396 | 0.1628541 | 0.13454 | 0.892976 | 0.989291 |
| phactr3a | 427.6382498 | -0.054672818 | 0.1342503 | -0.407245 | 0.683828 | 0.965679 |
| il17rala | 105.8911268 | -0.274721794 | 0.2013802 | -1.364195 | 0.172506 | 0.731348 |
| cysltrl | 25.55203182 | 0.257236865 | 0.4021364 | 0.6396756 | 0.522384 | 0.939056 |
| si:dkeyp-77h1.4 | 48.9004028 | 0.259513642 | 0.3158164 | 0.8217232 | 0.411234 | 0.903427 |
| adamts15b | 8.861389452 | 0.389546944 | 0.656136 | 0.5936984 | 0.552714 | NA |
| si:ch211-213d14.1 | 10.31950354 | 0.216735753 | 0.6050382 | 0.3582183 | 0.72018 | NA |

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| draxin | 370.505414 | 0.032173795 | 0.1165294 | 0.2761003 | 0.782471 | 0.97627 |
| slc39a1 | 111.3771211 | -0.242657482 | 0.1984911 | -1.222511 | 0.221515 | 0.788243 |
| celsr1b | 587.6590464 | -0.043326154 | 0.1006675 | -0.430389 | 0.666913 | 0.964736 |
| cip2a | 145.3721503 | -0.125969628 | 0.1686507 | -0.746926 | 0.455108 | 0.921022 |
| glmna | 290.2936296 | 0.089683885 | 0.1349979 | 0.6643355 | 0.506476 | 0.935724 |
| COLGALT1 | 139.7859109 | 0.061178952 | 0.1817348 | 0.3366387 | 0.736389 | 0.972535 |
| si:dkey-208b23.5 | 7.322085643 | -0.372656425 | 0.6975823 | -0.534211 | 0.593195 | NA |
| CT990561.1 | 21.25793764 | -0.344133617 | 0.4286762 | -0.802782 | 0.422101 | 0.90651 |
| cpt1b | 483.8275326 | 0.227863632 | 0.1033339 | 2.2051206 | 0.027446 | 0.320231 |
| gpalppl | 311.382507 | -0.01684243 | 0.125058 | -0.134677 | 0.892867 | 0.989291 |
| sephs1 | 992.6185666 | 0.041674571 | 0.0900333 | 0.4628795 | 0.643451 | 0.959994 |
| timml3 | 1042.64779 | 0.06949571 | 0.0854842 | 0.8129658 | 0.416238 | 0.906237 |
| zgc:173737 | 4.429116314 | 0.791898059 | 0.9612827 | 0.8237931 | 0.410057 | NA |
| sh3bgr1 | 597.5529844 | 0.216434664 | 0.115053 | 1.8811732 | 0.059948 | 0.478654 |
| prpf18 | 467.7542343 | 0.076281557 | 0.1079529 | 0.7066187 | 0.479803 | 0.927094 |
| clqtnf9 | 252.1494611 | 0.34098641 | 0.1430758 | 2.3832563 | 0.01716 | 0.242176 |
| cep76 | 121.0282162 | -0.11714414 | 0.1860115 | -0.629768 | 0.528846 | 0.942109 |
| enc3 | 522.5236565 | 0.03304279 | 0.1084026 | 0.3048155 | 0.760507 | 0.975374 |
| tmbim1a | 187.1132361 | 0.002420954 | 0.1553769 | 0.0155812 | 0.987569 | 0.997201 |
| casps8 | 108.3603868 | -0.149983718 | 0.2016856 | -0.743651 | 0.457088 | 0.921539 |
| neu3.3 | 22.6630209 | -0.59321089 | 0.414655 | -1.430613 | 0.152541 | 0.701776 |
| lsm7 | 962.0711031 | 0.164891121 | 0.1209567 | 1.3632238 | 0.172812 | 0.731888 |
| btr21 | 4.095447136 | -0.583210865 | 0.9481378 | -0.615112 | 0.538481 | NA |
| krt18a.2 | 50.75931056 | -1.476162014 | 0.2877966 | -5.129186 | 2.91E-07 | 3.53E-05 |
| slc25a22b | 13.72076049 | 0.746376318 | 0.5149853 | 1.4493159 | 0.147249 | 0.69409 |
| grhl2a | 168.8316414 | -0.05613478 | 0.1699233 | -0.330354 | 0.741133 | 0.973154 |
| si:dkey-5i3.5 | 147.6427482 | 0.045355262 | 0.1824219 | 0.2486283 | 0.803648 | 0.979643 |
| sass6 | 70.82839942 | -0.071984052 | 0.2391662 | -0.300979 | 0.76343 | 0.975374 |
| scin1b | 700.3138939 | -0.104188919 | 0.1000239 | -1.04164 | 0.297579 | 0.85401 |
| polr21 | 445.6253424 | -0.224123152 | 0.1380786 | -1.623157 | 0.104556 | 0.612567 |
| tapbpl | 619.2261184 | 0.090272388 | 0.0991549 | 0.9104175 | 0.362602 | 0.885944 |
| acot9.1 | 284.7407602 | -0.037493616 | 0.1260516 | -0.297446 | 0.766126 | 0.975374 |
| selenot1a | 1430.833598 | -0.044792504 | 0.0857725 | -0.522224 | 0.601514 | 0.956045 |
| ankrd33ba | 79.11406295 | -0.043281087 | 0.2182165 | -0.19834 | 0.842779 | 0.985174 |
| krt8 | 8407.817685 | -0.092056242 | 0.0842448 | -1.092723 | 0.274516 | 0.839136 |
| hspb8 | 325.9944404 | 0.381744589 | 0.1256367 | 3.0384807 | 0.002378 | 0.060825 |
| si:dkey-222f8.3 | 377.7474559 | -0.186225412 | 0.1281881 | -1.452751 | 0.146293 | 0.692388 |
| abhd14a | 47.69132986 | 0.035528629 | 0.2987873 | 0.1189094 | 0.905347 | 0.990702 |
| mex3b | 1262.555511 | -0.046233944 | 0.0852128 | -0.542571 | 0.587425 | 0.953319 |
| ropn11 | 15.38754998 | 0.463465801 | 0.5163703 | 0.8975454 | 0.369428 | 0.889127 |
| krt5 | 29471.66177 | 0.299087062 | 0.0776564 | 3.8514154 | 0.000117 | 0.005608 |
| mcph1 | 26.02018599 | -0.119959892 | 0.3754586 | -0.319502 | 0.749346 | 0.97419 |
| otpb | 835.2088894 | -0.02428316 | 0.0933585 | -0.260106 | 0.794782 | 0.978206 |
| zgc:171775 | 565.0737055 | 0.112822643 | 0.1093102 | 1.0321327 | 0.30201 | 0.856944 |
| pimr57 | | 0 NA | NA | NA | NA | NA |
| ccl19a.1 | 10.1269726 | -1.071934415 | 0.636949 | -1.68292 | 0.092391 | NA |
| acot9.2 | 66.8469053 | 0.07411347 | 0.2431318 | 0.3048284 | 0.760497 | 0.975374 |
| adcy2a | 151.0630502 | 0.104594725 | 0.1784137 | 0.5862483 | 0.557709 | 0.948478 |
| tagln3b | 588.5460279 | 0.099444187 | 0.1038469 | 0.9576037 | 0.338263 | 0.876778 |
| hce211 | 7.667675308 | 0.648106188 | 0.704076 | 0.920506 | 0.357308 | NA |
| CR956623.1 | 39.32041214 | 0.151447413 | 0.3546738 | 0.4270048 | 0.669376 | 0.965092 |
| rnaset21 | 6.274189727 | 0.000853396 | 0.801417 | 0.0010649 | 0.99915 | NA |
| bglap | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:dkey-11m19.5 | 1.457700461 | 1.008854538 | 1.6187964 | 0.6232127 | 0.533145 | NA |

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| gcn1 | 2309.059319 | -0.189498029 | 0.0965724 | -1.962238 | 0.049735 | 0.437286 |
| lgilb | 137.8726884 | 0.208149736 | 0.1741731 | 1.1950737 | 0.232058 | 0.800126 |
| rab35b | 213.260896 | 0.013514412 | 0.1529624 | 0.0883512 | 0.929598 | 0.992702 |
| snx6 | 155.1939264 | -0.08274233 | 0.1645852 | -0.502732 | 0.615152 | 0.95688 |
| zgc:136472 | 107.1575975 | -0.892036045 | 0.1997843 | -4.464996 | 8.01E-06 | 0.000593 |
| zrsr2 | 173.2337307 | 0.181871166 | 0.1605284 | 1.1329531 | 0.257234 | 0.825314 |
| rpl6 | 32077.5143 | -0.33510426 | 0.0908532 | -3.688413 | 0.000226 | 0.009434 |
| abhd17c | 872.0899952 | -0.012532662 | 0.0908125 | -0.138006 | 0.890236 | 0.989291 |
| dyn111 | 2795.377147 | 0.056943154 | 0.1040065 | 0.5474962 | 0.584038 | 0.952214 |
| plekhg2 | 277.5187544 | -0.185331175 | 0.1313993 | -1.410443 | 0.158409 | 0.709224 |
| cacng3a | 3.435813421 | 1.031635984 | 1.1080511 | 0.9310365 | 0.351835 | NA |
| icel | 196.4853731 | -0.00227052 | 0.1478373 | -0.015358 | 0.987746 | 0.997329 |
| zgc:158846 | 3365.404171 | -1.002533176 | 0.0877118 | -11.42986 | 2.97E-30 | 7.33E-27 |
| ndufabla | 1006.850317 | 0.04198762 | 0.0882145 | 0.475972 | 0.634094 | 0.95776 |
| rasd3 | 15.29544145 | -0.083591209 | 0.4966203 | -0.16832 | 0.866331 | 0.986673 |
| prpf40a | 1197.690429 | -0.004004845 | 0.0839956 | -0.047679 | 0.961972 | 0.995907 |
| mapk13 | 88.20145482 | 0.080622529 | 0.2157845 | 0.3736252 | 0.708683 | 0.968664 |
| plk1 | 869.1772039 | -0.078475861 | 0.086602 | -0.906166 | 0.364848 | 0.886714 |
| st6galnac3 | 35.66647562 | 0.267561398 | 0.3290704 | 0.8130826 | 0.416171 | 0.906237 |
| ern2 | 46.33925964 | -0.193020593 | 0.2895373 | -0.666652 | 0.504995 | 0.935724 |
| stc11 | 130.4762997 | 0.676077921 | 0.1940754 | 3.4835836 | 0.000495 | 0.017691 |
| pimr72 | 0.356300316 | 0.005884122 | 3.214964 | 0.0018302 | 0.99854 | NA |
| zgc:110425 | 25.01136882 | 0.589104826 | 0.4462255 | 1.3201953 | 0.18677 | 0.750951 |
| chtf18 | 171.5089969 | -0.196167916 | 0.1612381 | -1.216635 | 0.223743 | 0.790335 |
| caps2 | 5.32051111 | 1.142112206 | 0.8395294 | 1.3604195 | 0.173697 | NA |
| adora2ab | 12.49453087 | 0.069743535 | 0.5487312 | 0.1270996 | 0.898862 | 0.990121 |
| si:dkey-30c15.17 | 28.79488821 | 0.088296261 | 0.3654892 | 0.2415838 | 0.809103 | 0.980642 |
| dnaja3a | 834.2042613 | -2.65E-05 | 0.1003 | -0.000265 | 0.999789 | 0.999839 |
| slc9a3.1 | 170.7558735 | 0.105832882 | 0.1550481 | 0.6825811 | 0.494872 | 0.931926 |
| olah | 83.81073175 | -0.405225663 | 0.2166623 | -1.87031 | 0.061441 | 0.483266 |
| flt3 | 3.025275472 | 0.676030926 | 1.0972996 | 0.616086 | 0.537838 | NA |
| apls2 | 1055.026056 | 0.110340746 | 0.0979943 | 1.1259912 | 0.260169 | 0.828288 |
| cfap70 | 29.99791577 | -0.070764809 | 0.3671155 | -0.192759 | 0.847148 | 0.985174 |
| shq1 | 91.8026722 | -0.17868206 | 0.2277513 | -0.784549 | 0.432718 | 0.91326 |
| cnot10 | 384.15987 | -0.055158769 | 0.1164352 | -0.473729 | 0.635693 | 0.958142 |
| pimr209 | 0.340386822 | -1.882368278 | 3.2159502 | -0.585323 | 0.558331 | NA |
| pole | 474.5332464 | -0.131233147 | 0.1057422 | -1.241067 | 0.214581 | 0.782493 |
| si:dkey-211g8.7 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:dkey-102c8.2 | 1.209546312 | -0.321199246 | 1.8955078 | -0.169453 | 0.86544 | NA |
| alcamb | 1664.413905 | -0.074535263 | 0.0811733 | -0.918224 | 0.358501 | 0.884398 |
| lama5 | 2895.844269 | 0.024186353 | 0.0715643 | 0.3379666 | 0.735388 | 0.972535 |
| si:dkey-30c15.12 | 6.138991796 | -1.0219059 | 0.8051476 | -1.269216 | 0.204364 | NA |
| si:ch73-160i9.3 | 2.299589602 | 1.892552949 | 1.3542231 | 1.3975194 | 0.162257 | NA |
| bves | 254.2866463 | 0.061079094 | 0.1408015 | 0.4337957 | 0.664437 | 0.964736 |
| popdc3 | 97.7676641 | 0.27982878 | 0.1994537 | 1.4029762 | 0.160624 | 0.713726 |
| sprb | 9.834634998 | -0.772781541 | 0.6484454 | -1.191745 | 0.233361 | NA |
| muc5.2 | 638.4118947 | 0.738814044 | 0.1142807 | 6.4649079 | 1.01E-10 | 2.41E-08 |
| il11b | 5.275865162 | 0.911663632 | 0.878431 | 1.0378318 | 0.299348 | NA |
| lzts3b | 33.28520311 | 0.246221517 | 0.3273738 | 0.7521113 | 0.451984 | 0.918761 |
| adrm1 | 1381.297579 | -0.064728348 | 0.0923422 | -0.700962 | 0.483327 | 0.92946 |
| fbxo30a | 39.34964939 | 0.386472371 | 0.3071941 | 1.2580723 | 0.208366 | 0.775404 |
| znf991 | 80.33880048 | -0.039075649 | 0.2243048 | -0.174208 | 0.861702 | 0.985841 |
| ubox5 | 116.1329784 | -0.2892752 | 0.1981811 | -1.459651 | 0.144386 | 0.688868 |
| si:ch73-368j24.17 | 2.38097032 | -0.410107889 | 1.3118331 | -0.312622 | 0.754568 | NA |

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| socs6a | 8. 643563483 | 0. 670497985 | 0. 6605725 | 1. 0150256 | 0. 310094 | NA |
| si:dkey-253d23. 5 | 35. 67207878 | 0. 072444959 | 0. 3279291 | 0. 2209166 | 0. 825157 | 0. 982196 |
| avp | 30. 42629721 | 0. 668134271 | 0. 3803583 | 1. 7565919 | 0. 078987 | 0. 547489 |
| ccl27a | 1. 641648778 | -0. 058871685 | 1. 5562357 | -0. 03783 | 0. 969824 | NA |
| pdp2 | 41. 55891671 | 0. 058510108 | 0. 2959341 | 0. 1977133 | 0. 843269 | 0. 985174 |
| abcg2c | 298. 9949794 | -0. 15881203 | 0. 1381389 | -1. 149654 | 0. 250286 | 0. 820164 |
| ccdc106b | 16. 79379445 | 0. 315338328 | 0. 4996036 | 0. 6311771 | 0. 527925 | 0. 941647 |
| si:ch211-274f20. 2 | 32. 4716028 | -1. 137254188 | 0. 3641768 | -3. 122808 | 0. 001791 | 0. 049451 |
| chst2b | 188. 449124 | 0. 097898372 | 0. 1530255 | 0. 6397521 | 0. 522334 | 0. 939056 |
| terbl | 0. 965400781 | -1. 006309521 | 1. 9906007 | -0. 505531 | 0. 613186 | NA |
| sri | 857. 5971645 | -0. 081675903 | 0. 0868152 | -0. 940802 | 0. 346806 | 0. 8794 |
| nt5c3a | 982. 0064659 | 0. 150840946 | 0. 0869409 | 1. 7349821 | 0. 082744 | 0. 554784 |
| sox18 | 192. 1804721 | -0. 262890353 | 0. 1614552 | -1. 628256 | 0. 103471 | 0. 609625 |
| gdapl | 272. 93326 | 0. 08302648 | 0. 1307242 | 0. 6351269 | 0. 525346 | 0. 94013 |
| jph1a | 53. 39723676 | -0. 275587867 | 0. 2638043 | -1. 044668 | 0. 296176 | 0. 853273 |
| vsig10 | 250. 6503129 | -0. 057712833 | 0. 1354039 | -0. 426227 | 0. 669942 | 0. 965223 |
| sik1 | 2438. 691469 | 0. 313129726 | 0. 0781367 | 4. 0074583 | 6. 14E-05 | 0. 003262 |
| wsb2 | 53. 230138 | 0. 142276921 | 0. 278423 | 0. 5110099 | 0. 609344 | 0. 956718 |
| zgc:162472 | 288. 2026794 | -0. 157785338 | 0. 1320439 | -1. 194946 | 0. 232108 | 0. 800157 |
| CABZ01030107. 1 | 52. 6998617 | -0. 143044916 | 0. 2783394 | -0. 513923 | 0. 607306 | 0. 956718 |
| si:ch211-71m22. 1 | 386. 393105 | -0. 702902393 | 0. 1144327 | -6. 142497 | 8. 12E-10 | 1. 73E-07 |
| dnajb2 | 89. 85402909 | 0. 023304257 | 0. 2059664 | 0. 1131459 | 0. 909915 | 0. 990702 |
| ptprna | 1421. 935304 | 0. 117138903 | 0. 0794374 | 1. 474606 | 0. 140318 | 0. 680564 |
| hck | 56. 27501301 | -0. 124421037 | 0. 2602485 | -0. 478085 | 0. 632589 | 0. 957356 |
| trim46b | 305. 9495885 | 0. 065003369 | 0. 1278439 | 0. 508459 | 0. 611131 | 0. 95688 |
| dpm3 | 210. 7634462 | 0. 028566164 | 0. 1418703 | 0. 2013541 | 0. 840422 | 0. 985042 |
| desma | 2802. 393891 | 0. 16542516 | 0. 1086094 | 1. 5231197 | 0. 127729 | 0. 658251 |
| si:dkey-178e17. 3 | 46. 63635404 | 0. 475904273 | 0. 2859113 | 1. 6645175 | 0. 096009 | 0. 590141 |
| ilf3a | 1690. 47161 | -0. 039376727 | 0. 0772703 | -0. 509597 | 0. 610334 | 0. 95688 |
| pimr94 | 0. 173729368 | -0. 955901296 | 4. 0804729 | -0. 234262 | 0. 814781 | NA |
| dennd2da | 264. 6152349 | -0. 061743444 | 0. 1359106 | -0. 454295 | 0. 649617 | 0. 960708 |
| nuggc. 3 | 14. 28507033 | 0. 653735584 | 0. 5341068 | 1. 2239792 | 0. 22096 | 0. 787641 |
| nkl. 2 | 0. 31759079 | 1. 807926197 | 3. 579045 | 0. 5051421 | 0. 613459 | NA |
| aqp10b | 21. 17716253 | 0. 252518528 | 0. 4180595 | 0. 6040254 | 0. 545827 | 0. 945526 |
| zgc:114104 | 55. 91138091 | -0. 422065927 | 0. 2752406 | -1. 533444 | 0. 125167 | 0. 654648 |
| cd8b | 0. 341366344 | 1. 891903201 | 3. 2128156 | 0. 5888614 | 0. 555954 | NA |
| pimr204 | 0. 944852573 | -2. 150786085 | 2. 3013054 | -0. 934594 | 0. 349998 | NA |
| si:dkey-204a24. 11 | 0. 332524763 | 0. 005883742 | 3. 292841 | 0. 0017868 | 0. 998574 | NA |
| cgnb | 220. 0642042 | 0. 004278987 | 0. 1411838 | 0. 0303079 | 0. 975821 | 0. 996762 |
| fzd3b | 98. 78007725 | -0. 053122944 | 0. 2052685 | -0. 258797 | 0. 795792 | 0. 978498 |
| cast | 2898. 487774 | 0. 078412891 | 0. 090811 | 0. 8634731 | 0. 387877 | 0. 896133 |
| ddr2b | 349. 175931 | -0. 103828349 | 0. 1222547 | -0. 849279 | 0. 395726 | 0. 899378 |
| tbl1xr1a | 795. 6435571 | -0. 269719517 | 0. 0896162 | -3. 009719 | 0. 002615 | 0. 065122 |
| tmef2b | 486. 0281623 | -0. 223132183 | 0. 1046918 | -2. 131325 | 0. 033062 | 0. 354192 |
| si:dkey-73p2. 2 | 1. 281503894 | -0. 740244924 | 1. 7458823 | -0. 423995 | 0. 67157 | NA |
| noslapb | 12. 15635685 | 0. 593719656 | 0. 5851871 | 1. 0145809 | 0. 310306 | 0. 862656 |
| vax2 | 6. 249455981 | -1. 299364645 | 0. 7809723 | -1. 663778 | 0. 096157 | NA |
| terfl | 96. 68005841 | -0. 11488319 | 0. 2145377 | -0. 535492 | 0. 59231 | 0. 954434 |
| ceptla | 18. 99940512 | 0. 316979167 | 0. 453668 | 0. 6987029 | 0. 484738 | 0. 93001 |
| si:dkey-119f1. 1 | 178. 3945537 | 0. 098324247 | 0. 1609642 | 0. 6108456 | 0. 541302 | 0. 944954 |
| or126-7 | | 0 NA | NA | NA | NA | NA |
| rfesd | 19. 94339909 | 1. 057270825 | 0. 4670479 | 2. 263731 | 0. 023591 | 0. 296275 |
| nudt2 | 208. 7767599 | 0. 197586274 | 0. 15167 | 1. 3027377 | 0. 192664 | 0. 756795 |
| akirin2 | 689. 977522 | -0. 071407084 | 0. 0943756 | -0. 756627 | 0. 449273 | 0. 918313 |

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| rdh10a | 1216.710747 | 0.151295717 | 0.0878739 | 1.7217367 | 0.085117 | 0.560519 |
| slc2a6 | 51.96615744 | 0.20798936 | 0.2786476 | 0.7464244 | 0.455411 | 0.921215 |
| scgn | 81.07346672 | -0.022655677 | 0.215425 | -0.105167 | 0.916243 | 0.991314 |
| ihha | 66.83595187 | -0.318288499 | 0.2607207 | -1.220803 | 0.222161 | 0.788551 |
| prdx1 | 1438.627749 | -0.235952869 | 0.2674704 | -0.882164 | 0.377688 | 0.895192 |
| gabra6b | 19.27390127 | 0.043294503 | 0.4682571 | 0.0924588 | 0.926333 | 0.992702 |
| si:ch211-117c9.2 | 29.05451211 | -0.233110433 | 0.4211444 | -0.553517 | 0.57991 | 0.951257 |
| ube2r2 | 238.2586509 | -0.010976687 | 0.1356854 | -0.080898 | 0.935523 | 0.992702 |
| ubap1 | 725.1326838 | -0.007039273 | 0.093371 | -0.07539 | 0.939904 | 0.992857 |
| si:ch73-213k20.5 | | 0 NA | NA | NA | NA | NA |
| or128-3 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| or128-2 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| nav1b | 45.28033946 | 0.369780148 | 0.3095356 | 1.1946288 | 0.232232 | 0.800306 |
| CABZ01053221.1 | | 0 NA | NA | NA | NA | NA |
| 2-Oct | 34.0778057 | 0.143160453 | 0.3418102 | 0.4188302 | 0.67534 | 0.965257 |
| slc9a2 | 89.82536275 | 0.006525879 | 0.2098165 | 0.0311028 | 0.975188 | 0.996762 |
| si:ch73-242m19.1 | 29.80821771 | 0.110783339 | 0.3556195 | 0.3115221 | 0.755404 | 0.975318 |
| zgc:171887 | 2.358063979 | -0.889056567 | 1.3159448 | -0.675603 | 0.499293 | NA |
| si:dkey-19a16.2 | 39.38711148 | -0.138820501 | 0.3036054 | -0.45724 | 0.647499 | 0.960585 |
| mybpha | 462.0998362 | 0.114938834 | 0.1127899 | 1.0190529 | 0.308178 | 0.861088 |
| rab25a | 125.8747469 | -0.128373557 | 0.1873184 | -0.685323 | 0.49314 | 0.931926 |
| rev3l | 731.5866921 | -0.148797203 | 0.0906585 | -1.641293 | 0.100737 | 0.603443 |
| grkla | 684.1455549 | 0.239575738 | 0.1138643 | 2.1040468 | 0.035374 | 0.365843 |
| naxe | 347.4587195 | -0.006248865 | 0.1216591 | -0.051364 | 0.959036 | 0.995095 |
| ihhb | 19.45778097 | -0.194071736 | 0.4592121 | -0.422619 | 0.672573 | 0.965257 |
| rbm38 | 324.0286795 | -0.175826049 | 0.1229512 | -1.430048 | 0.152703 | 0.701776 |
| nogl | 113.4930413 | 0.060507369 | 0.1859977 | 0.3253125 | 0.744945 | 0.974094 |
| bin1b | 122.4898146 | 0.277262655 | 0.1800321 | 1.5400735 | 0.123542 | 0.651905 |
| sema5a | 927.5475213 | -0.001885292 | 0.0943878 | -0.019974 | 0.984064 | 0.996944 |
| wnt3a | 1.832752574 | 1.384701176 | 1.5765857 | 0.8782911 | 0.379786 | NA |
| mrpl4 | 650.251783 | -0.062726184 | 0.0988406 | -0.63462 | 0.525676 | 0.940145 |
| ccdc5l | 178.9760327 | 0.051492365 | 0.1650272 | 0.3120235 | 0.755023 | 0.975231 |
| zgc:171424 | 0.325452849 | 0.005883619 | 3.3177086 | 0.0017734 | 0.998585 | NA |
| zdhhc3b | 260.6697381 | 0.000869479 | 0.1316924 | 0.0066023 | 0.994732 | 0.998694 |
| si:ch73-212j7.3 | 95.86233689 | 0.009661804 | 0.2145772 | 0.0450272 | 0.964086 | 0.995927 |
| susdl | 28.46490209 | -0.614492404 | 0.3772373 | -1.628928 | 0.103328 | 0.609625 |
| mcoln1b | 10.69437963 | 0.212333558 | 0.6098275 | 0.3481863 | 0.7277 | NA |
| sash1b | 305.5553706 | -0.047978334 | 0.1236765 | -0.387934 | 0.698065 | 0.967998 |
| zgc:112052 | 333.3546917 | -0.115988512 | 0.1286938 | -0.901275 | 0.367442 | 0.887458 |
| ncln | 902.1909196 | -0.029678989 | 0.103533 | -0.286662 | 0.774371 | 0.975687 |
| endog | 188.2598016 | 0.106001341 | 0.1559977 | 0.679506 | 0.496817 | 0.932829 |
| apc | 3639.316952 | 0.025278029 | 0.0692024 | 0.3652766 | 0.714905 | 0.96909 |
| CABZ01040556.1 | 46.0932975 | -0.254228565 | 0.2891892 | -0.879108 | 0.379343 | 0.895192 |
| zgc:171857 | 88.20129721 | -0.121132076 | 0.2092377 | -0.578921 | 0.562643 | 0.948728 |
| ptpdc1b | 235.7322084 | 0.413991484 | 0.1407473 | 2.941381 | 0.003268 | 0.076374 |
| zgc:113227 | 42.19362918 | 0.031328884 | 0.3012831 | 0.1039849 | 0.917181 | 0.991572 |
| mmp16b | 28.05066497 | -0.0947819 | 0.368946 | -0.256899 | 0.797257 | 0.978577 |
| cldnj | 54.15190297 | -0.086784564 | 0.2925367 | -0.296662 | 0.766724 | 0.975687 |
| ttc29 | 4.11563754 | 0.57185956 | 0.9477924 | 0.6033595 | 0.54627 | NA |
| cepl70ab | 110.7495935 | 0.086579836 | 0.1901881 | 0.4552326 | 0.648942 | 0.960708 |
| nhejl | 155.7903795 | -0.146048616 | 0.1767072 | -0.826501 | 0.40852 | 0.90171 |
| si:ch211-237c6.4 | 126.5327351 | 0.08650856 | 0.1861374 | 0.4647565 | 0.642106 | 0.959994 |
| si:ch211-18115.2 | 11.95059464 | 0.111076124 | 0.5851246 | 0.1898333 | 0.84944 | 0.985174 |
| nnr | | 0 NA | NA | NA | NA | NA |

| | | | | | | |
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| pou1f1 | 6.686965056 | 0.742541738 | 0.7755315 | 0.9574617 | 0.338334 | NA |
| si:busm1-52i16.2 | 2.125027809 | 0.652244066 | 1.4183524 | 0.4598604 | 0.645616 | NA |
| cldn10a | 7.457685948 | -1.042779094 | 0.7916971 | -1.317144 | 0.18779 | NA |
| b4galnt3b | 162.2291716 | 0.162157549 | 0.1593055 | 1.0179029 | 0.308724 | 0.861088 |
| si:ch211-248e11.2 | 45.58652876 | -0.237902093 | 0.2959675 | -0.803811 | 0.421506 | 0.90651 |
| cdcp1a | 121.5646155 | -0.583625212 | 0.1876106 | -3.110832 | 0.001866 | 0.050813 |
| si:dkey-8e10.3 | 18.83402022 | 0.502337635 | 0.449003 | 1.1187846 | 0.263232 | 0.830245 |
| acot22 | 0.341366344 | 1.891903201 | 3.2128156 | 0.5888614 | 0.555954 | NA |
| CU856539.2 | 500.5790745 | -0.338578287 | 0.1145663 | -2.955305 | 0.003124 | 0.073687 |
| spina | 28.09869571 | 0.039024252 | 0.3826287 | 0.1019899 | 0.918765 | 0.991623 |
| abcc4 | 671.0914418 | 0.271126536 | 0.0960649 | 2.8223265 | 0.004768 | 0.099657 |
| trim35-7 | 14.80477513 | -0.018709727 | 0.4998856 | -0.037428 | 0.970144 | 0.996315 |
| otol1b | 37.97359295 | 0.491170566 | 0.3301033 | 1.48793 | 0.136769 | 0.673303 |
| ngfa | 53.46552398 | 0.142872241 | 0.2870817 | 0.4976709 | 0.618716 | 0.957354 |
| txn14b | 145.4059116 | 0.047969867 | 0.1739158 | 0.2758224 | 0.782684 | 0.97627 |
| themis2 | 7.383380494 | -0.373659935 | 0.7448963 | -0.501627 | 0.61593 | NA |
| zgc:112332 | 113.8731111 | -0.104235629 | 0.2002609 | -0.520499 | 0.602716 | 0.956045 |
| haus1 | 88.29788855 | -0.101626675 | 0.2194411 | -0.463116 | 0.643281 | 0.959994 |
| cntnap2a | 724.6484247 | 0.012928305 | 0.1017977 | 0.127 | 0.89894 | 0.990121 |
| zgc:113423 | 115.7358674 | 0.068149231 | 0.1859606 | 0.3664714 | 0.714013 | 0.96909 |
| rad23ab | 212.4737371 | -0.012412518 | 0.1541901 | -0.080501 | 0.935839 | 0.992702 |
| KCNJ6 | 112.5084796 | 0.137490536 | 0.2080647 | 0.6608066 | 0.508736 | 0.935875 |
| KCNJ15 | 67.69064148 | 0.389069982 | 0.2447159 | 1.5898846 | 0.111861 | 0.627242 |
| slc35a2 | 143.8271964 | 0.168231298 | 0.1739032 | 0.9673849 | 0.333352 | 0.874926 |
| cers2b | 597.1719106 | 0.097832121 | 0.1068867 | 0.9152878 | 0.360041 | 0.885686 |
| rock1 | 755.6602511 | -0.0455117 | 0.0922331 | -0.493442 | 0.6217 | 0.957354 |
| stx1a | 12.60078377 | -0.460181923 | 0.5285335 | -0.870677 | 0.383931 | 0.895192 |
| jmjd4 | 73.13151163 | -0.044360886 | 0.2344338 | -0.189226 | 0.849916 | 0.985174 |
| jam2a | 170.2466576 | 0.03740903 | 0.1620571 | 0.2308386 | 0.81744 | 0.981594 |
| pim2 | 774.890215 | -0.297404428 | 0.1084923 | -2.74125 | 0.006121 | 0.118579 |
| strip2 | 392.3443185 | 0.03607004 | 0.1201677 | 0.3001642 | 0.764052 | 0.975374 |
| otud5a | 938.9460196 | -0.206080418 | 0.0934792 | -2.204559 | 0.027485 | 0.320429 |
| lim2.2 | 16.92672947 | -0.346924709 | 0.4657074 | -0.744941 | 0.456307 | 0.921215 |
| thap1 | 118.6577503 | -0.092469035 | 0.1845922 | -0.500937 | 0.616416 | 0.95688 |
| zgc:123217 | 10.21052003 | 0.426209715 | 0.6149815 | 0.6930448 | 0.488281 | NA |
| srrd | 40.29188914 | -0.096209322 | 0.3232686 | -0.297614 | 0.765998 | 0.975374 |
| mmp28 | 128.6775143 | 0.330381373 | 0.2063446 | 1.6011147 | 0.109352 | 0.623408 |
| porb | 1778.534017 | -0.150251275 | 0.0740151 | -2.030008 | 0.042356 | 0.404449 |
| F0904903.1 | | 0 NA | NA | NA | NA | NA |
| ntf3 | 14.01865158 | -0.290880101 | 0.514813 | -0.565021 | 0.57206 | 0.949494 |
| epm2a | 13.03910118 | 0.581790785 | 0.5679278 | 1.0244097 | 0.305642 | 0.860027 |
| psmd5 | 420.6461132 | -0.209473581 | 0.1270333 | -1.648966 | 0.099155 | 0.598682 |
| mpz111 | 245.1450234 | -0.055694262 | 0.1428465 | -0.389889 | 0.696619 | 0.96736 |
| zgc:174904 | 192.4223991 | 0.305641015 | 0.1546331 | 1.9765559 | 0.048092 | 0.432341 |
| slc13a4 | 439.1740166 | 0.368908478 | 0.1120746 | 3.2916341 | 0.000996 | 0.03092 |
| pdk2b | 867.7801708 | -0.086509607 | 0.2400354 | -0.360404 | 0.718545 | 0.96909 |
| ft1 | 7.542301735 | 0.768059168 | 0.7427994 | 1.0340062 | 0.301133 | NA |
| atpv0e2 | 837.2126018 | 0.022433365 | 0.0906899 | 0.2473634 | 0.804627 | 0.979705 |
| vipr1b | 13.31280396 | -0.885232089 | 0.5290632 | -1.673207 | 0.094287 | 0.583986 |
| emsy | 635.0971512 | -0.140994332 | 0.1038513 | -1.357656 | 0.174573 | 0.734625 |
| lgals1a | 94.1137937 | -0.003862204 | 0.2146651 | -0.017992 | 0.985645 | 0.996944 |
| rassf3 | 165.6260926 | 0.146488844 | 0.1627481 | 0.9000953 | 0.36807 | 0.887482 |
| jupb | 22.82749608 | 0.296146485 | 0.4197794 | 0.7054812 | 0.480511 | 0.927601 |
| gars | 3304.692103 | -0.123711992 | 0.0738507 | -1.675164 | 0.093902 | 0.582989 |

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| gsc | 214. 8028621 | -0. 339884068 | 0. 1457859 | -2. 331393 | 0. 019733 | 0. 264538 |
| nip7 | 169. 9122976 | -0. 020304901 | 0. 1563176 | -0. 129895 | 0. 896649 | 0. 989971 |
| vps25 | 1042. 278352 | 0. 058497043 | 0. 0849571 | 0. 688548 | 0. 491108 | 0. 931926 |
| L0018513. 1 | 16. 39087005 | 0. 61784788 | 0. 4754238 | 1. 2995729 | 0. 193747 | 0. 757596 |
| ppp2r5ca | 380. 4125029 | -0. 103358208 | 0. 1160079 | -0. 890959 | 0. 372951 | 0. 892934 |
| sstr2a | 40. 39813245 | 0. 683413184 | 0. 3299828 | 2. 071057 | 0. 038353 | 0. 384124 |
| ank1a | 184. 1139738 | 0. 141293724 | 0. 1642512 | 0. 8602297 | 0. 389662 | 0. 896421 |
| nktr | 789. 3496234 | -0. 204003931 | 0. 1108397 | -1. 840532 | 0. 06569 | 0. 500755 |
| si:ch73-126o18. 1 | 0 NA | NA | NA | NA | NA | NA |
| si:dkeyp-113d7. 1 | 726. 3495285 | -0. 09735696 | 0. 0936941 | -1. 039094 | 0. 298761 | 0. 85478 |
| heatr5b | 349. 6426933 | 0. 045808988 | 0. 143928 | 0. 3182772 | 0. 750275 | 0. 97419 |
| EFEMP1 | 10. 82878085 | 0. 04006098 | 0. 5740182 | 0. 0697904 | 0. 94436 | NA |
| plcd1a | 458. 00131 | 0. 013086931 | 0. 1070061 | 0. 1223008 | 0. 902661 | 0. 990121 |
| prkacbb | 1102. 974171 | 0. 067003723 | 0. 087966 | 0. 7616999 | 0. 446239 | 0. 917154 |
| uqcrh | 2658. 089189 | -0. 19063215 | 0. 0903994 | -2. 108776 | 0. 034964 | 0. 363882 |
| gatalb | 0. 523937293 | 2. 50362281 | 2. 7291625 | 0. 9173594 | 0. 358954 | NA |
| spdya | 4. 720609034 | 0. 023352169 | 0. 868723 | 0. 026881 | 0. 978555 | NA |
| wfikkn2b | 5. 911568596 | 0. 520605778 | 0. 8346852 | 0. 6237151 | 0. 532815 | NA |
| tmem107 | 175. 4491673 | -0. 285376124 | 0. 160559 | -1. 777391 | 0. 075504 | 0. 535131 |
| rbp3 | 3580. 869174 | 0. 409659448 | 0. 0839838 | 4. 8778408 | 1. 07E-06 | 0. 000106 |
| slc22a13b | 14. 4136096 | 0. 349024815 | 0. 5323415 | 0. 6556408 | 0. 512055 | 0. 936253 |
| gdf2 | 14. 78250204 | -0. 122942261 | 0. 5307727 | -0. 231629 | 0. 816826 | 0. 981594 |
| cep19 | 69. 85702506 | -0. 18656046 | 0. 2432273 | -0. 767021 | 0. 443069 | 0. 916336 |
| tax1bp3 | 484. 6117178 | 0. 05280111 | 0. 1104106 | 0. 4782249 | 0. 63249 | 0. 957356 |
| CU467633. 1 | 0. 997976631 | 0. 006464214 | 1. 862781 | 0. 0034702 | 0. 997231 | NA |
| tspan2b | 251. 6384855 | -0. 33396289 | 0. 1397448 | -2. 389806 | 0. 016857 | 0. 23981 |
| abhd13 | 15. 6423672 | 0. 266247541 | 0. 4829343 | 0. 5513121 | 0. 58142 | 0. 951731 |
| ciaol | 504. 125935 | -0. 061586604 | 0. 1134097 | -0. 543045 | 0. 587099 | 0. 953319 |
| zbtb8a | 80. 6724307 | 0. 084390853 | 0. 2167059 | 0. 3894257 | 0. 696961 | 0. 96736 |
| fabplb. 1 | 1602. 480668 | -0. 880392862 | 0. 100392 | -8. 769555 | 1. 79E-18 | 1. 27E-15 |
| heph11a | 116. 587872 | 0. 136340213 | 0. 1939935 | 0. 7028081 | 0. 482175 | 0. 928585 |
| runx2b | 14. 58718462 | -0. 659343061 | 0. 5057121 | -1. 303791 | 0. 192305 | 0. 756743 |
| mrps27 | 476. 7643283 | -0. 061564594 | 0. 117377 | -0. 524503 | 0. 599929 | 0. 956045 |
| zgc:113274 | 81. 45944034 | -0. 171785142 | 0. 2181667 | -0. 787403 | 0. 431046 | 0. 91234 |
| ptger4a | 5. 206943464 | -0. 453211532 | 0. 8347752 | -0. 542914 | 0. 587189 | NA |
| arfip2a | 812. 3654118 | 0. 065073686 | 0. 093504 | 0. 6959456 | 0. 486463 | 0. 930833 |
| hnrnpd | 1558. 660727 | -0. 006421472 | 0. 0913515 | -0. 070294 | 0. 94396 | 0. 993364 |
| tmem54a | 314. 8363573 | 0. 127517588 | 0. 1345696 | 0. 9475958 | 0. 343335 | 0. 878434 |
| zpcx | 0. 673073222 | -1. 460830855 | 2. 4012698 | -0. 608358 | 0. 54295 | NA |
| illrl | 0. 508023798 | 0. 926122713 | 2. 6636728 | 0. 3476864 | 0. 728076 | NA |
| evx2 | 255. 4488935 | 0. 200081771 | 0. 1302375 | 1. 536284 | 0. 124469 | 0. 653544 |
| hoxd13a | 7. 970273145 | 0. 115923529 | 0. 6606196 | 0. 175477 | 0. 860705 | NA |
| pabpc4 | 2935. 723578 | 0. 085913549 | 0. 0974227 | 0. 8818639 | 0. 37785 | 0. 895192 |
| hoxd12a | 23. 49585628 | 0. 407316735 | 0. 4273012 | 0. 953231 | 0. 340473 | 0. 87805 |
| hoxd11a | 50. 50160829 | 0. 022826425 | 0. 28724 | 0. 0794681 | 0. 93666 | 0. 992702 |
| hoxd9a | 125. 5558149 | 0. 023521425 | 0. 1847049 | 0. 1273459 | 0. 898667 | 0. 990121 |
| hoxd4a | 135. 4316014 | -0. 124436194 | 0. 1794421 | -0. 693461 | 0. 48802 | 0. 93189 |
| tfap2a | 3227. 789109 | 0. 02030305 | 0. 074584 | 0. 2722173 | 0. 785455 | 0. 97627 |
| hoxd3a | 477. 4242154 | 0. 128585127 | 0. 114401 | 1. 1239857 | 0. 261019 | 0. 829139 |
| mak | 480. 8023327 | 0. 004881018 | 0. 1074789 | 0. 0454137 | 0. 963778 | 0. 995927 |
| marco | 46. 20891908 | -0. 35707337 | 0. 2901592 | -1. 230612 | 0. 218468 | 0. 785734 |
| spcs1 | 330. 5733154 | -0. 064594772 | 0. 1426187 | -0. 452919 | 0. 650607 | 0. 960708 |
| hnrnp12 | 3075. 865118 | -0. 09009925 | 0. 0736209 | -1. 223827 | 0. 221017 | 0. 787641 |
| chchd2 | 1065. 85913 | 0. 162715832 | 0. 0994115 | 1. 6367907 | 0. 101674 | 0. 605756 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| tmem37 | 67.23125991 | 0.239059129 | 0.2418685 | 0.9883849 | 0.322964 | 0.870607 |
| golt1bb | 334.5998911 | -0.210081708 | 0.1220428 | -1.721378 | 0.085182 | 0.560519 |
| dpys15b | 3105.306619 | 0.086215267 | 0.0825859 | 1.0439461 | 0.29651 | 0.853573 |
| ora3 | 10.06646486 | 0.71787245 | 0.5991498 | 1.1981518 | 0.230858 | NA |
| topbpl | 304.2272602 | -0.189974526 | 0.1301889 | -1.459222 | 0.144504 | 0.688868 |
| rpn1 | 2562.246872 | -0.115723411 | 0.093442 | -1.238451 | 0.215549 | 0.783025 |
| gata2a | 442.0864419 | -0.155063606 | 0.1201569 | -1.29051 | 0.196874 | 0.761944 |
| si:ch211-285f17.1 | 428.2870008 | -0.027953884 | 0.1255606 | -0.222633 | 0.823821 | 0.982196 |
| tgif1 | 1056.895685 | -0.102540552 | 0.092694 | -1.106227 | 0.268628 | 0.833906 |
| dlgap2a | 25.7629538 | 0.065469202 | 0.3711161 | 0.1764117 | 0.859971 | 0.985773 |
| avil | 78.27459901 | -0.233396767 | 0.2236965 | -1.043364 | 0.29678 | 0.853798 |
| calml4b | 2.164486196 | -0.25998089 | 1.3544931 | -0.19194 | 0.847789 | NA |
| rxfp3.3b | 29.81050573 | 0.022103755 | 0.3549514 | 0.0622726 | 0.950346 | 0.99381 |
| homer2 | 196.6478162 | -0.032337567 | 0.1488064 | -0.217313 | 0.827964 | 0.982721 |
| hnrnpa3 | 410.7220989 | -0.125668611 | 0.1121863 | -1.120178 | 0.262638 | 0.830166 |
| glmp | 384.6432359 | -0.251846059 | 0.1173194 | -2.14667 | 0.03182 | 0.34636 |
| sarnp | 779.2304522 | -0.150017168 | 0.0988914 | -1.516989 | 0.129269 | 0.661022 |
| srsf3b | 3746.790216 | -0.140317835 | 0.0728532 | -1.926034 | 0.0541 | 0.455611 |
| slc39a4 | 10.75345366 | 0.323211739 | 0.6284353 | 0.5143119 | 0.607034 | NA |
| cavin1b | 443.0012615 | 0.039649068 | 0.111272 | 0.3563257 | 0.721597 | 0.969747 |
| tgfbr2a | 43.90153863 | -0.310094703 | 0.3023254 | -1.025699 | 0.305034 | 0.859636 |
| nipal4 | 182.8539499 | 0.145076225 | 0.155714 | 0.931684 | 0.3515 | 0.880769 |
| mfap2 | 1612.076215 | 0.079423015 | 0.0950742 | 0.8353792 | 0.403504 | 0.900979 |
| gria4b | 783.5288753 | 0.137992425 | 0.0943656 | 1.462317 | 0.143654 | 0.686804 |
| si:ch1073-15f12.3 | 4.999139283 | -0.201662175 | 0.8523507 | -0.236595 | 0.812971 | NA |
| nrld4b | 78.84362576 | -0.532912313 | 0.2225849 | -2.394198 | 0.016657 | 0.2379 |
| dnajc8 | 1317.347816 | -0.096313196 | 0.0925567 | -1.040586 | 0.298068 | 0.85401 |
| fgf7 | 11.40202804 | 0.218445126 | 0.5725412 | 0.3815361 | 0.702806 | 0.968134 |
| bdh1 | 185.7407343 | 0.043298644 | 0.1661462 | 0.2606056 | 0.794397 | 0.977937 |
| gyglb | 598.7577087 | 0.275093843 | 0.1064776 | 2.5835842 | 0.009778 | 0.167691 |
| taslr2.2 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| myef2 | 2363.068049 | -0.170077384 | 0.0717071 | -2.371834 | 0.0177 | 0.246724 |
| si:ch211-160o17.6 | 106.2216545 | 0.034849157 | 0.2228758 | 0.1563614 | 0.875748 | 0.987881 |
| tmem167b | 657.926961 | -0.008228338 | 0.0949643 | -0.086647 | 0.930952 | 0.992702 |
| rab43 | 245.7991371 | -0.005431381 | 0.1331553 | -0.04079 | 0.967463 | 0.996315 |
| raf1b | 446.580643 | -0.309542659 | 0.1082961 | -2.858298 | 0.004259 | 0.091545 |
| abcd2 | 9.832025715 | -0.148087016 | 0.6778401 | -0.218469 | 0.827064 | NA |
| ccr12b.1 | 0.488104098 | -2.415107183 | 2.7936704 | -0.864493 | 0.387317 | NA |
| impa2 | 86.31538544 | 0.218131096 | 0.222265 | 0.9814011 | 0.326395 | 0.87218 |
| zgc:111976 | 6.672265278 | -0.276178939 | 0.7546886 | -0.365951 | 0.714402 | NA |
| prune2 | 894.5172413 | 0.205956636 | 0.0937952 | 2.195812 | 0.028105 | 0.325071 |
| rnf215 | 20.25257608 | -0.154811078 | 0.4317564 | -0.358561 | 0.719923 | 0.969318 |
| fsd11 | 174.0309765 | 0.024479156 | 0.1620952 | 0.1510171 | 0.879962 | 0.987881 |
| fktn | 413.2839966 | 0.042560461 | 0.1119094 | 0.3803119 | 0.703714 | 0.968134 |
| galnt18b | 248.8726147 | 0.112942244 | 0.1331948 | 0.8479479 | 0.396467 | 0.899672 |
| smtnb | 1019.723848 | 0.14963287 | 0.0923188 | 1.6208279 | 0.105055 | 0.613317 |
| dqx1 | 74.0016092 | -0.015154069 | 0.2274064 | -0.066639 | 0.946869 | 0.99381 |
| si:ch211-283h6.4 | 112.1148941 | -0.082465638 | 0.1923716 | -0.428679 | 0.668157 | 0.964736 |
| sbf2 | 845.2767154 | -0.199645801 | 0.0926613 | -2.154575 | 0.031195 | 0.341959 |
| mepce | 577.0793902 | -0.087850239 | 0.0987213 | -0.889881 | 0.37353 | 0.893669 |
| wasf3a | 156.4805317 | 0.040417435 | 0.1775619 | 0.2276244 | 0.819938 | 0.981594 |
| arhgap31 | 38.96176881 | 0.079005066 | 0.3327193 | 0.2374526 | 0.812306 | 0.981081 |
| kank4 | 89.6308031 | 0.109467659 | 0.2217596 | 0.4936322 | 0.621566 | 0.957354 |
| mlxip | 176.8395504 | -0.00099629 | 0.1641978 | -0.006068 | 0.995159 | 0.998694 |

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| camsap3 | 473.7216612 | -0.163664707 | 0.1175083 | -1.392793 | 0.163683 | 0.71945 |
| tead1b | 473.2581529 | 0.004714322 | 0.1092976 | 0.0431329 | 0.965596 | 0.996315 |
| emb | 66.71432451 | 0.117637889 | 0.2438712 | 0.4823771 | 0.629538 | 0.957354 |
| cplx4b | 0.538871265 | 0.999144257 | 2.7784799 | 0.359601 | 0.719146 | NA |
| arl16 | 225.4336298 | -0.115234726 | 0.1382319 | -0.833634 | 0.404488 | 0.901305 |
| ACSF3 | 135.1822995 | -0.181033316 | 0.1744007 | -1.038031 | 0.299256 | 0.855386 |
| si:dkey-163m14.2 | 37.11180979 | 0.245324541 | 0.3339556 | 0.7346022 | 0.462582 | 0.922698 |
| coq2 | 251.1682388 | 0.019467432 | 0.1415816 | 0.1374998 | 0.890636 | 0.989291 |
| rims4 | 23.01633544 | 0.138579941 | 0.4440243 | 0.3120999 | 0.754965 | 0.97522 |
| KIAA0895L | 88.28496968 | 0.186340721 | 0.2116225 | 0.8805338 | 0.37857 | 0.895192 |
| si:ch211-146m13.3 | 600.6169054 | 0.076834537 | 0.0996876 | 0.7707533 | 0.440853 | 0.916336 |
| akap10 | 249.5676669 | 0.113764911 | 0.1477235 | 0.7701207 | 0.441228 | 0.916336 |
| sympk | 1089.791424 | -0.105766875 | 0.0924403 | -1.144164 | 0.252556 | 0.822063 |
| recql5 | 205.6787739 | -0.196411651 | 0.1549172 | -1.26785 | 0.204852 | 0.772822 |
| xylt2 | 21.93113506 | -0.018610105 | 0.4168417 | -0.044646 | 0.96439 | 0.995927 |
| tecta | 137.8402241 | 0.201052777 | 0.184934 | 1.0871594 | 0.276966 | 0.840247 |
| si:ch73-281f12.4 | 179.4771017 | -0.106169028 | 0.1588985 | -0.668156 | 0.504034 | 0.93532 |
| fscn2a | 97.3206327 | 0.357992611 | 0.2286226 | 1.5658674 | 0.11738 | 0.640853 |
| uhmk1 | 23.89196974 | -0.629463059 | 0.4019958 | -1.565845 | 0.117385 | 0.640853 |
| mbd5 | 219.1253844 | 0.256546432 | 0.1778767 | 1.4422713 | 0.149226 | 0.696454 |
| sowahcb | 145.6701022 | -0.044525864 | 0.1703832 | -0.261328 | 0.79384 | 0.977937 |
| rccl1 | 388.0882066 | -0.018150331 | 0.1192414 | -0.152215 | 0.879017 | 0.987881 |
| CU928117.1 | 473.1902874 | -0.057957861 | 0.1102225 | -0.525826 | 0.599009 | 0.955806 |
| clip2 | 233.2241591 | 0.0515787 | 0.142065 | 0.3630642 | 0.716557 | 0.96909 |
| rabep1 | 643.3449486 | 0.065364795 | 0.0939547 | 0.6957058 | 0.486613 | 0.930859 |
| maplaa | 1981.227719 | 0.000595466 | 0.0736442 | 0.0080857 | 0.993549 | 0.998672 |
| mtssl | 531.3836351 | -0.167466341 | 0.1064345 | -1.573421 | 0.115621 | 0.637206 |
| ccdc84 | 117.5217944 | 0.011715358 | 0.1970032 | 0.0594679 | 0.952579 | 0.99398 |
| gpr146 | 930.9363814 | -0.00208685 | 0.0878746 | -0.023748 | 0.981054 | 0.996944 |
| npr12 | 176.0890086 | 0.222601888 | 0.1577042 | 1.4115153 | 0.158093 | 0.709224 |
| hs3st2 | 42.39036313 | -0.11097178 | 0.304392 | -0.364569 | 0.715433 | 0.96909 |
| asphd2 | 437.2430492 | 0.131377334 | 0.1141421 | 1.150998 | 0.249733 | 0.819758 |
| mlec | 166.7728747 | 0.113323376 | 0.162914 | 0.6956024 | 0.486678 | 0.930882 |
| thumpd3 | 236.9297147 | 0.065317729 | 0.1433635 | 0.4556093 | 0.648671 | 0.960708 |
| si:ch211-127d4.3 | 67.97470844 | -0.2347711 | 0.264831 | -0.886494 | 0.375351 | 0.894316 |
| mtmr14 | 506.2711805 | 0.054761582 | 0.104151 | 0.5257901 | 0.599034 | 0.955806 |
| nt5dc2 | 2191.730204 | -0.352269454 | 0.0726035 | -4.851965 | 1.22E-06 | 0.000119 |
| cidec | 21.89384868 | 0.120586676 | 0.408363 | 0.2952928 | 0.76777 | 0.975687 |
| kdm2aa | 1318.760474 | -0.093460737 | 0.0861846 | -1.084425 | 0.278176 | 0.841891 |
| EIF3ba | 6819.676537 | -0.217459639 | 0.0788618 | -2.757476 | 0.005825 | 0.114852 |
| mks1 | 135.900224 | -0.145218435 | 0.1747257 | -0.831122 | 0.405905 | 0.901305 |
| mrml | 11.49553468 | -0.078288477 | 0.5597151 | -0.139872 | 0.888761 | 0.989291 |
| arhgap36 | 160.4632694 | -0.201852178 | 0.1614077 | -1.250573 | 0.21109 | 0.778604 |
| fscn1a | 4002.611765 | -0.005748324 | 0.0673771 | -0.085316 | 0.93201 | 0.992702 |
| slc43a3a | 150.5251263 | 0.090948237 | 0.1831321 | 0.4966264 | 0.619453 | 0.957354 |
| mblac2 | 26.19722414 | 0.725901704 | 0.42967 | 1.6894399 | 0.091135 | 0.578217 |
| slc29a4 | 452.4393146 | 0.121359102 | 0.1088575 | 1.1148441 | 0.264917 | 0.830836 |
| adam19a | 345.3337755 | -0.016589515 | 0.1255574 | -0.132127 | 0.894884 | 0.989814 |
| dusp28 | 11.76992817 | -0.025996973 | 0.5834373 | -0.044558 | 0.964459 | 0.995927 |
| dnajc16 | 27.94098495 | -0.645449158 | 0.3781729 | -1.706757 | 0.087867 | 0.567519 |
| agmat | 31.95729032 | -0.472702234 | 0.3595155 | -1.314831 | 0.188567 | 0.753276 |
| flii | 1075.048071 | 0.065068828 | 0.0917242 | 0.7093968 | 0.478078 | 0.926857 |
| vwa5b1 | 5.132469766 | -0.277975632 | 0.9028984 | -0.30787 | 0.758181 | NA |
| si:ch211-216l23.1 | 1424.975883 | -0.101805881 | 0.0813658 | -1.251213 | 0.210857 | 0.778412 |

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| nol6 | 556.1693229 | 0.019200403 | 0.1044043 | 0.1839044 | 0.854088 | 0.985174 |
| slc19a2 | 8.332402059 | 0.069106299 | 0.6799053 | 0.1016411 | 0.919042 | NA |
| arsk | 42.65293188 | 0.001831338 | 0.3009089 | 0.006086 | 0.995144 | 0.998694 |
| fam169aa | 8.36753648 | 0.161612613 | 0.6775342 | 0.2385306 | 0.81147 | NA |
| ubac1 | 602.4107737 | 0.210110346 | 0.0992659 | 2.1166411 | 0.03429 | 0.360094 |
| hypk | 1051.701337 | -0.17991026 | 0.0979079 | -1.837546 | 0.066129 | 0.502802 |
| sec1418 | 240.3249826 | -0.238786035 | 0.1367654 | -1.745953 | 0.080819 | 0.550801 |
| ptprsa | 211.3915684 | 0.127955457 | 0.1448156 | 0.8835749 | 0.376926 | 0.895192 |
| tmem98 | 42.37506896 | 0.277978454 | 0.2931547 | 0.9482314 | 0.343012 | 0.878434 |
| plod1a | 1196.236904 | 0.002877241 | 0.0983099 | 0.029267 | 0.976652 | 0.996762 |
| kcnj19a | 47.22708588 | 0.2323326 | 0.3001956 | 0.7739374 | 0.438968 | 0.916082 |
| abtb2a | 171.0533338 | 0.22785844 | 0.1596623 | 1.4271275 | 0.153543 | 0.702578 |
| wdtc1 | 462.3789174 | 0.034305668 | 0.1119305 | 0.3064909 | 0.759231 | 0.975374 |
| gabrd | 348.1300186 | 0.06389634 | 0.1344619 | 0.4752003 | 0.634644 | 0.9578 |
| gpatch8 | 3584.43768 | -0.07920267 | 0.0776686 | -1.019751 | 0.307846 | 0.861088 |
| cpt1aa | 708.9424202 | 0.099695962 | 0.0979594 | 1.0177271 | 0.308808 | 0.861088 |
| SRCIN1 | 209.3151595 | 0.190565371 | 0.1628218 | 1.1703923 | 0.241843 | 0.810713 |
| dub | 91.20892997 | -0.12092423 | 0.2165966 | -0.558292 | 0.576645 | 0.950611 |
| slc32a1 | 2841.83826 | 0.167773879 | 0.0777108 | 2.1589528 | 0.030854 | 0.33998 |
| atcayb | 220.4672769 | 0.188493092 | 0.1428626 | 1.3194009 | 0.187035 | 0.751002 |
| parp8 | 208.8533943 | 0.063411311 | 0.146254 | 0.4335698 | 0.664601 | 0.964736 |
| trpm5 | 112.8870264 | -0.120820417 | 0.1995609 | -0.605431 | 0.544893 | 0.945463 |
| kdm6a1 | 760.5972654 | 0.037463927 | 0.1153429 | 0.3248047 | 0.745329 | 0.974094 |
| kcnql.1 | 41.8731629 | 0.184258044 | 0.3033485 | 0.6074138 | 0.543576 | 0.945438 |
| pdzd2 | 203.8992291 | -0.051231384 | 0.1444574 | -0.354647 | 0.722854 | 0.970375 |
| retreg3 | 704.9690795 | 0.138335883 | 0.0981167 | 1.4099114 | 0.158566 | 0.709224 |
| slc25a38a | 58.78003433 | 0.201438074 | 0.3085385 | 0.6528783 | 0.513835 | 0.936778 |
| sacm1lb | 281.2572398 | -0.03913525 | 0.1278068 | -0.306206 | 0.759448 | 0.975374 |
| caska | 839.0409774 | 0.040522613 | 0.0914873 | 0.4429318 | 0.657815 | 0.962538 |
| smpd5 | 328.3470059 | -0.010482854 | 0.1221003 | -0.085854 | 0.931582 | 0.992702 |
| sin3ab | 1179.584428 | 0.000525316 | 0.0884563 | 0.0059387 | 0.995262 | 0.998696 |
| oaz2b | 194.566382 | 0.039286177 | 0.1483553 | 0.2648114 | 0.791155 | 0.977461 |
| zgc:136864 | | 0 NA | NA | NA | NA | NA |
| mtmr12 | 157.5529245 | 0.117196847 | 0.1666132 | 0.7034067 | 0.481802 | 0.928392 |
| kif5ab | 135.557689 | 0.170646929 | 0.1858892 | 0.9180033 | 0.358617 | 0.884532 |
| soat2 | 109.7021201 | -0.14050904 | 0.2012913 | -0.698038 | 0.485153 | 0.930136 |
| crtac1a | 614.0781302 | 0.373084554 | 0.2387803 | 1.5624592 | 0.11818 | 0.641526 |
| adgrb3 | 1161.537691 | 0.097244451 | 0.090155 | 1.0786358 | 0.28075 | 0.84357 |
| zfyve27 | 333.4130616 | 0.053743815 | 0.1225081 | 0.4386959 | 0.660882 | 0.964022 |
| ddit3 | 562.1778537 | -0.135135693 | 0.1171873 | -1.15316 | 0.248845 | 0.81797 |
| exosc1 | 207.0370483 | -0.278185016 | 0.1727772 | -1.61008 | 0.10738 | 0.617344 |
| fam135a | 851.5750992 | 0.096737406 | 0.093595 | 1.0335742 | 0.301335 | 0.856944 |
| epg5 | 89.48044821 | 0.140273649 | 0.223292 | 0.6282074 | 0.529868 | 0.942209 |
| slc35f3b | 4.723116429 | 0.670406075 | 0.9209164 | 0.7279772 | 0.466628 | NA |
| manba1 | 376.9270018 | -0.125823644 | 0.115462 | -1.089741 | 0.275827 | 0.839541 |
| CABZ01041604.1 | 59.85671275 | 0.016282624 | 0.2502707 | 0.06506 | 0.948126 | 0.99381 |
| wdr66 | 25.48146043 | 0.548657938 | 0.3893138 | 1.4092949 | 0.158748 | 0.709382 |
| alkbh2 | 64.10313118 | -0.264587616 | 0.2619531 | -1.010057 | 0.312468 | 0.864401 |
| blvra | 97.11340785 | -0.018014196 | 0.2076471 | -0.086754 | 0.930867 | 0.992702 |
| pappab | 8.906064382 | 0.88220253 | 0.6491611 | 1.3589887 | 0.17415 | NA |
| cactin | 669.5799955 | 0.061825672 | 0.0990745 | 0.6240322 | 0.532606 | 0.942805 |
| clk2b | 276.2358925 | -0.0361975 | 0.1305951 | -0.277173 | 0.781647 | 0.97627 |
| shrprbck1r | 426.4390871 | -0.001998612 | 0.1143399 | -0.01748 | 0.986054 | 0.996944 |
| trpv1 | 30.40141989 | 0.216652423 | 0.3556287 | 0.6092097 | 0.542385 | 0.944974 |

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| frmd3 | 24.90748856 | 0.454235903 | 0.3905012 | 1.1632124 | 0.244743 | 0.814435 |
| fam222ba | 485.2972728 | 0.044922494 | 0.1079762 | 0.4160409 | 0.67738 | 0.965257 |
| erall | 225.5381562 | 0.068465478 | 0.1428018 | 0.4794441 | 0.631623 | 0.957356 |
| ago3a | 15.45552709 | 0.509358211 | 0.5239349 | 0.9721784 | 0.330962 | 0.874224 |
| AL929217.1 | 9.835483876 | 0.100766885 | 0.6193342 | 0.162702 | 0.870753 | NA |
| ntrk2a | 245.8788807 | 0.031957091 | 0.1349577 | 0.2367934 | 0.812817 | 0.981081 |
| CR847944.2 | 5.022867759 | 2.306622102 | 0.9962416 | 2.3153241 | 0.020595 | NA |
| tbc1d9 | 41.62067692 | -0.151789087 | 0.30273 | -0.501401 | 0.616089 | 0.95688 |
| vps16 | 967.2677138 | -0.065757507 | 0.085039 | -0.773263 | 0.439367 | 0.916082 |
| hs3st31 | 103.9795822 | 0.175534798 | 0.1969612 | 0.8912151 | 0.372814 | 0.892868 |
| sdc4 | 3828.084042 | 0.06562574 | 0.0772666 | 0.8493413 | 0.395691 | 0.899378 |
| si:ch211-217k17.7 | 364.1012761 | -0.063783872 | 0.1196049 | -0.533288 | 0.593834 | 0.954434 |
| bbs7 | 298.2943046 | 0.154364586 | 0.1449506 | 1.0649465 | 0.2869 | 0.845979 |
| sdr42e2 | 22.84408573 | -0.332649457 | 0.435606 | -0.763648 | 0.445077 | 0.916958 |
| hyal1 | 49.60010947 | 0.281991268 | 0.2748737 | 1.0258938 | 0.304942 | 0.859575 |
| ccnj | 21.39539015 | -0.00095909 | 0.4130659 | -0.002322 | 0.998147 | 0.999281 |
| zgc:162613 | 191.7652075 | -0.118264436 | 0.1491233 | -0.793065 | 0.42774 | 0.91075 |
| slc25a47a | 146.9352921 | 0.361657504 | 0.1744516 | 2.0731109 | 0.038162 | 0.382665 |
| usp24 | 750.9415458 | -0.073122594 | 0.1150857 | -0.635375 | 0.525184 | 0.940073 |
| hyal2a | 36.10725342 | -0.042597496 | 0.3465818 | -0.122907 | 0.90218 | 0.990121 |
| plpp3 | 2301.618231 | 0.085442202 | 0.0785072 | 1.0883361 | 0.276447 | 0.839541 |
| herc4 | 98.54170987 | 0.082385208 | 0.2024775 | 0.4068858 | 0.684092 | 0.965679 |
| dabla | 27.44523553 | 0.315114457 | 0.3650329 | 0.8632495 | 0.388 | 0.896144 |
| clqtnf2 | 25.89588713 | 0.330386504 | 0.4060269 | 0.813706 | 0.415813 | 0.906237 |
| sv2a | 5863.149843 | 0.120911067 | 0.0690134 | 1.7519942 | 0.079775 | 0.548493 |
| si:dkey-121b10.7 | 4.41628836 | -0.925631282 | 1.0254689 | -0.902642 | 0.366716 | NA |
| plxdc2 | 690.6432158 | 0.14168516 | 0.0959611 | 1.4764856 | 0.139814 | 0.678781 |
| p1d6 | 2.322814721 | 0.439458333 | 1.2953654 | 0.3392543 | 0.734418 | NA |
| ptk6b | 86.02807216 | -0.774107528 | 0.2377993 | -3.255297 | 0.001133 | 0.033989 |
| plch2a | 1072.29825 | -0.00745621 | 0.0924856 | -0.08062 | 0.935744 | 0.992702 |
| chpf2 | 415.2101904 | 0.256817824 | 0.1183449 | 2.1700788 | 0.030001 | 0.335162 |
| polk | 84.66293468 | 0.079290259 | 0.2134783 | 0.3714208 | 0.710324 | 0.968985 |
| camsap2b | 96.02195359 | -0.149194398 | 0.2049976 | -0.727786 | 0.466745 | 0.924327 |
| raly | 480.578102 | -0.050725546 | 0.1053078 | -0.481688 | 0.630027 | 0.957354 |
| cplx4a | 1455.60923 | 0.177877129 | 0.091524 | 1.9435027 | 0.051955 | 0.447654 |
| poc5 | 52.23454228 | -0.235727388 | 0.2726464 | -0.86459 | 0.387264 | 0.895778 |
| zufsp | 128.290923 | -0.17314877 | 0.1870734 | -0.925566 | 0.354672 | 0.882105 |
| dnah12 | 76.63414587 | 0.347169957 | 0.2417989 | 1.4357799 | 0.151065 | 0.699078 |
| trpm4a | 882.9322845 | -0.691519199 | 0.1049996 | -6.585922 | 4.52E-11 | 1.13E-08 |
| sv2ca | 4.460818453 | 0.304542591 | 0.8847307 | 0.3442207 | 0.73068 | NA |
| mettl9 | 231.8161993 | 0.052659543 | 0.1442667 | 0.3650152 | 0.7151 | 0.96909 |
| oggl | 26.31245785 | -0.617850535 | 0.3843851 | -1.607374 | 0.107972 | 0.619371 |
| fzd7a | 1540.152913 | 0.022386468 | 0.0821648 | 0.272458 | 0.78527 | 0.97627 |
| mtrf11 | 74.99389826 | -0.698989166 | 0.2289466 | -3.053066 | 0.002265 | 0.058495 |
| nedd41 | 724.4385241 | -0.098817999 | 0.0923906 | -1.069568 | 0.284814 | 0.844998 |
| n4bp3 | 25.3924127 | 0.02940968 | 0.3872575 | 0.0759435 | 0.939464 | 0.992857 |
| hhip12 | 190.7260218 | 0.472872652 | 0.1568263 | 3.0152628 | 0.002568 | 0.064186 |
| iqgap2 | 355.540111 | 0.030595051 | 0.1367988 | 0.2236501 | 0.82303 | 0.982189 |
| f2r | 20.38231001 | -0.363099455 | 0.428828 | -0.846725 | 0.397148 | 0.899672 |
| nsd1a | 753.6864415 | -0.016206418 | 0.0983534 | -0.164777 | 0.869119 | 0.987245 |
| si:ch1073-44g3.1 | 539.8119158 | -0.034196712 | 0.1053637 | -0.324559 | 0.745515 | 0.974094 |
| vcpkmt | 138.2952732 | -0.241499006 | 0.1787869 | -1.350764 | 0.176771 | 0.737285 |
| ncapg2 | 262.6435809 | -0.017632517 | 0.1332404 | -0.132336 | 0.894718 | 0.989716 |
| nsmfa | 21.61012615 | 0.572492042 | 0.4532137 | 1.2631834 | 0.206523 | 0.774129 |

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| noml | 166.0523559 | 0.030704032 | 0.1665203 | 0.1843861 | 0.853711 | 0.985174 |
| fam160b2 | 245.9303947 | 0.024305809 | 0.1412375 | 0.1720917 | 0.863365 | 0.985841 |
| setd1a | 1058.963422 | -0.071687813 | 0.0942504 | -0.76061 | 0.44689 | 0.917154 |
| tmem151ba | 79.42879984 | 0.620120421 | 0.2181853 | 2.8421732 | 0.004481 | 0.09535 |
| rnf32 | 23.74171601 | -0.188833431 | 0.4060062 | -0.4651 | 0.64186 | 0.959994 |
| aimpla | 1067.919945 | -0.02768554 | 0.087598 | -0.316052 | 0.751963 | 0.974526 |
| lig1 | 580.5580322 | -0.105711469 | 0.1087905 | -0.971697 | 0.331201 | 0.874339 |
| zgc:195075 | 4.205472037 | -0.109311544 | 0.9150919 | -0.119454 | 0.904916 | NA |
| slc47a2.1 | 52.14524709 | 0.656146496 | 0.2984795 | 2.1982966 | 0.027928 | 0.323709 |
| epclb | 772.1933672 | -0.069710931 | 0.1112858 | -0.626413 | 0.531044 | 0.942209 |
| cylda | 708.7450272 | -0.029546318 | 0.0979929 | -0.301515 | 0.763022 | 0.975374 |
| lrrc74a | 6.580054931 | -0.135430198 | 0.825733 | -0.164012 | 0.869722 | NA |
| ubap2b | 2237.723126 | -0.090217025 | 0.0953181 | -0.946484 | 0.343902 | 0.878434 |
| fam98b | 251.9628249 | 0.045559786 | 0.1607984 | 0.2833348 | 0.77692 | 0.975826 |
| isocl | 111.3115625 | -0.110543836 | 0.1874004 | -0.58988 | 0.555271 | 0.947449 |
| adcy7 | 290.6390549 | 0.320761071 | 0.1408994 | 2.2765258 | 0.022815 | 0.289004 |
| tent4b | 622.8000712 | 0.197509593 | 0.0980539 | 2.0142971 | 0.043978 | 0.412341 |
| abi3a | 199.3171249 | 0.16628135 | 0.1635789 | 1.0165206 | 0.309382 | 0.861497 |
| crb2b | | 0 NA | NA | NA | NA | NA |
| kcnq3 | 17.43236626 | 0.383575168 | 0.4594714 | 0.8348183 | 0.40382 | 0.900979 |
| btaf1 | 1107.762187 | 0.046990509 | 0.0869 | 0.5407423 | 0.588685 | 0.953319 |
| zgc:165481 | 99.95686739 | -0.072587731 | 0.2044853 | -0.354978 | 0.722606 | 0.970375 |
| dapk1 | 633.3071466 | -0.061384062 | 0.0969013 | -0.63347 | 0.526427 | 0.940506 |
| ptgis | 184.3879369 | -0.179867082 | 0.1601866 | -1.12286 | 0.261497 | 0.829593 |
| kcnbl | 7.559324306 | 0.278773465 | 0.7212232 | 0.3865287 | 0.699105 | NA |
| tbcld10ab | 24.94812177 | 0.596054114 | 0.387889 | 1.5366616 | 0.124376 | 0.653231 |
| trappc12 | 667.92957 | 0.073468553 | 0.1039524 | 0.706752 | 0.479721 | 0.927091 |
| kankla | 785.3434882 | -0.040623128 | 0.0912377 | -0.445245 | 0.656143 | 0.961833 |
| cpeb3 | 18.09133561 | 0.308182094 | 0.4904133 | 0.628413 | 0.529733 | 0.942209 |
| crb2a | 42.94717198 | 0.173301009 | 0.3080062 | 0.5626544 | 0.57367 | 0.949904 |
| aggf1 | 214.0423311 | -0.155593216 | 0.1556086 | -0.999901 | 0.317358 | 0.867404 |
| sybu | 345.1150375 | -0.019550902 | 0.117708 | -0.166097 | 0.868081 | 0.987245 |
| znf395a | 3162.380598 | -0.448411306 | 0.0994305 | -4.509797 | 6.49E-06 | 0.000501 |
| lrrn1 | 1600.646694 | -0.004261163 | 0.079254 | -0.053766 | 0.957122 | 0.994589 |
| camkla | 35.00010889 | -0.152846248 | 0.3217958 | -0.474979 | 0.634802 | 0.9578 |
| glyctk | 255.0587388 | 0.135814249 | 0.1332635 | 1.0191408 | 0.308136 | 0.861088 |
| cal6b | 780.475018 | 0.026641237 | 0.0910631 | 0.2925579 | 0.76986 | 0.975687 |
| timml7b | 30.42850648 | -0.16374933 | 0.3463629 | -0.472768 | 0.636379 | 0.958565 |
| acypl | 144.2639568 | 0.035748813 | 0.1863706 | 0.1918157 | 0.847887 | 0.985174 |
| adants3 | 35.67618167 | 0.252569573 | 0.3218502 | 0.7847426 | 0.432604 | 0.91326 |
| dusp3b | 1.030002046 | -2.236497097 | 2.086282 | -1.072001 | 0.283719 | NA |
| sh3pxd2aa | 51.92785489 | -0.114503127 | 0.2769708 | -0.413412 | 0.679305 | 0.965257 |
| ablim1a | 410.6011142 | 0.243404028 | 0.1112067 | 2.1887543 | 0.028615 | 0.328246 |
| psmd11a | 1178.167165 | -0.055063099 | 0.0833102 | -0.66094 | 0.50865 | 0.935807 |
| fam155b | 144.1319996 | -0.020311877 | 0.1776589 | -0.114331 | 0.908976 | 0.990702 |
| h6pd | 480.4426076 | -0.209950097 | 0.1196029 | -1.755393 | 0.079192 | 0.547489 |
| dnah7 | 24.04279629 | -0.040091272 | 0.3936234 | -0.101852 | 0.918874 | 0.991623 |
| fam160b1 | 86.37504772 | -0.149524626 | 0.2176291 | -0.687062 | 0.492044 | 0.931926 |
| mns1 | 91.03068378 | -0.273775567 | 0.2078238 | -1.317345 | 0.187723 | 0.752195 |
| trmt10b | 44.16117103 | 0.371662738 | 0.2978523 | 1.2478088 | 0.212101 | 0.77986 |
| vepipl | 60.15364691 | -0.410459301 | 0.2523384 | -1.626622 | 0.103817 | 0.610348 |
| pkn1a | 624.11712 | 0.057532552 | 0.0981076 | 0.5864228 | 0.557591 | 0.948478 |
| si:ch211-214c7.5 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| rpusd1 | 46.91337574 | 0.226493045 | 0.2870373 | 0.7890719 | 0.43007 | 0.911615 |

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| lhpp | 267.0504374 | 0.063240241 | 0.1361707 | 0.4644187 | 0.642348 | 0.959994 |
| atp2c1 | 400.8267561 | -0.060155934 | 0.12203 | -0.49296 | 0.622041 | 0.957354 |
| mrpl18 | 357.2592256 | -0.063404769 | 0.1314096 | -0.482497 | 0.629453 | 0.957354 |
| CU019662.1 | 12.32198548 | -0.626626614 | 1.2213276 | -0.51307 | 0.607902 | 0.956718 |
| traf7 | 252.2344188 | 0.039104961 | 0.1393627 | 0.2805984 | 0.779018 | 0.976146 |
| d2hgdh | 94.49640316 | -0.044399102 | 0.2112707 | -0.210153 | 0.833549 | 0.983583 |
| ankeflb | 2.125400153 | -0.630319348 | 1.3838149 | -0.455494 | 0.648754 | NA |
| cep85 | 205.1308135 | 0.038414428 | 0.1527793 | 0.2514374 | 0.801476 | 0.979444 |
| scn1ba | 196.039807 | 0.209043005 | 0.148263 | 1.4099468 | 0.158555 | 0.709224 |
| mst1ra | 149.631421 | -0.168054617 | 0.1714764 | -0.980045 | 0.327064 | 0.872658 |
| dok7 | 109.4486221 | 0.322816516 | 0.2013203 | 1.6034968 | 0.108825 | 0.621829 |
| uacab | 955.8101644 | 0.081066605 | 0.0864996 | 0.937191 | 0.34866 | 0.880195 |
| enox1 | 371.7774321 | -0.143037797 | 0.1149093 | -1.244789 | 0.213209 | 0.781631 |
| slc16a6b | 1835.369151 | 0.07312357 | 0.0827999 | 0.8831359 | 0.377163 | 0.895192 |
| fgd4b | 52.89905593 | 0.019934317 | 0.2818919 | 0.0707162 | 0.943624 | 0.993364 |
| wdr44 | 1040.323066 | 0.017450238 | 0.086209 | 0.2024179 | 0.83959 | 0.984979 |
| mogs | 717.5544284 | 0.043431707 | 0.0967242 | 0.4490261 | 0.653413 | 0.960996 |
| si:ch211-216b21.2 | 71.01970859 | 0.081228076 | 0.2501223 | 0.3247534 | 0.745368 | 0.974094 |
| alkbh8 | 71.88280559 | 0.421487701 | 0.2394759 | 1.7600426 | 0.078401 | 0.545524 |
| zranbla | 1153.218347 | -0.072912808 | 0.0946375 | -0.770443 | 0.441037 | 0.916336 |
| zgc:162160 | 17.267358 | -0.174126016 | 0.4646549 | -0.374743 | 0.707852 | 0.968664 |
| pecam1 | 227.0696192 | -0.256765884 | 0.1467176 | -1.750069 | 0.080106 | 0.549631 |
| si:dkey-37g12.1 | 4.473732008 | 0.528557643 | 0.989856 | 0.5339743 | 0.593359 | NA |
| pde9a | 48.45097033 | 0.192000347 | 0.2853156 | 0.6729402 | 0.500985 | 0.934398 |
| rnf121 | 667.8616646 | 0.054857279 | 0.0991265 | 0.5534069 | 0.579985 | 0.951257 |
| plpbp | 1126.070365 | 0.083168488 | 0.0879783 | 0.9453295 | 0.344491 | 0.878434 |
| arhgap35b | 705.4675157 | 0.164622749 | 0.0956461 | 1.721166 | 0.085221 | 0.560519 |
| nin | 199.7003864 | 0.056546689 | 0.1469464 | 0.3848117 | 0.700377 | 0.967998 |
| slc4a10b | 49.25383627 | 0.501785164 | 0.2853817 | 1.758295 | 0.078697 | 0.546789 |
| tfcp2 | 1025.196531 | -0.090295905 | 0.0848965 | -1.0636 | 0.28751 | 0.845979 |
| urbl | 349.9568275 | -0.090511402 | 0.1188578 | -0.76151 | 0.446352 | 0.917154 |
| srgap3 | 41.26840727 | 0.379488749 | 0.3391227 | 1.1190309 | 0.263127 | 0.830245 |
| wdr62 | 311.3204267 | -0.009586493 | 0.1209156 | -0.079283 | 0.936808 | 0.992702 |
| rabgap112 | 211.0726038 | -0.196623245 | 0.1793601 | -1.096248 | 0.27297 | 0.838141 |
| cish | 263.7741706 | -0.110712621 | 0.1677398 | -0.660026 | 0.509237 | 0.936123 |
| scn4bb | 5.556164236 | 0.17937605 | 0.8608549 | 0.2083697 | 0.83494 | NA |
| dcaf5 | 345.4220607 | 0.016176197 | 0.1302289 | 0.1242136 | 0.901146 | 0.990121 |
| zgc:153654 | 10.52343624 | 0.165583289 | 0.5994783 | 0.2762123 | 0.782385 | NA |
| exoc5 | 259.0441889 | -0.110255857 | 0.1385468 | -0.795802 | 0.426147 | 0.909807 |
| fam20c1 | 1.157520887 | -0.478318508 | 1.9214732 | -0.248933 | 0.803412 | NA |
| map1sb | 340.1822704 | 0.024367544 | 0.1299415 | 0.187527 | 0.851247 | 0.985174 |
| si:ch211-284e13.4 | 110.372498 | -0.224394833 | 0.2171632 | -1.0333 | 0.301463 | 0.856944 |
| trmt12 | 37.86287348 | -0.18329856 | 0.3445012 | -0.532069 | 0.594678 | 0.954434 |
| si:dkey-157119.2 | 28.19646409 | -0.131139091 | 0.3863229 | -0.339455 | 0.734267 | 0.972021 |
| apoda.1 | 318.898485 | -0.542201359 | 0.1251384 | -4.332814 | 1.47E-05 | 0.000988 |
| map3k3 | 169.8313476 | -0.144233097 | 0.1624726 | -0.887738 | 0.374682 | 0.894316 |
| wasf1 | 437.6137359 | 0.133735686 | 0.1132455 | 1.1809365 | 0.237628 | 0.806474 |
| apoda.2 | 1129.022273 | -0.286208267 | 0.2797532 | -1.023074 | 0.306273 | 0.860027 |
| samd7 | 285.8881395 | 0.035756218 | 0.1410332 | 0.2535305 | 0.799858 | 0.979377 |
| cep104 | 17.46141632 | 0.165672344 | 0.4581159 | 0.3616385 | 0.717622 | 0.96909 |
| nadkb | 427.9241729 | 0.050302329 | 0.126254 | 0.3984216 | 0.690319 | 0.966973 |
| slc12a9 | 209.3696868 | -0.211732473 | 0.1463124 | -1.447126 | 0.147862 | 0.695319 |
| syn1 | 2076.736883 | 0.103841474 | 0.0768079 | 1.3519641 | 0.176387 | 0.73663 |
| plxna2 | 63.25355395 | 0.284720861 | 0.2615361 | 1.0886483 | 0.276309 | 0.839541 |

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| tll111 | 20.13254254 | -0.177901628 | 0.4493913 | -0.395872 | 0.692199 | 0.96736 |
| coq6 | 508.5707235 | 0.00326714 | 0.1069141 | 0.0305585 | 0.975622 | 0.996762 |
| mmaa | 252.1293342 | -0.145036442 | 0.131679 | -1.101439 | 0.270706 | 0.835351 |
| stk26 | 465.6992736 | -0.001522767 | 0.1064804 | -0.014301 | 0.98859 | 0.997519 |
| ash21 | 1015.926718 | -0.074955908 | 0.0859843 | -0.871739 | 0.383351 | 0.895192 |
| fibcd1 | 66.75064529 | 0.015131155 | 0.2483104 | 0.0609364 | 0.95141 | 0.99381 |
| mtfr2 | 149.5936128 | -0.165406409 | 0.1730572 | -0.955791 | 0.339178 | 0.877867 |
| si:dkey-57k2.7 | 186.6035043 | -0.368029189 | 0.157523 | -2.336352 | 0.019473 | 0.261766 |
| hhip | 996.2197082 | 0.072159577 | 0.0853771 | 0.8451863 | 0.398007 | 0.899672 |
| rft1 | 159.6025132 | 0.227297788 | 0.1630061 | 1.3944126 | 0.163193 | 0.718029 |
| gpr185a | 5.028729735 | 0.2124081 | 0.8404738 | 0.2527242 | 0.800481 | NA |
| thbs2a | 239.5538492 | 0.263090397 | 0.139044 | 1.8921381 | 0.058473 | 0.473924 |
| ddx28 | 149.4665322 | 0.069732302 | 0.1645535 | 0.4237667 | 0.671736 | 0.965257 |
| si:ch211-157b11.8 | 9.008529456 | 0.556234059 | 0.6782506 | 0.8201011 | 0.412159 | NA |
| arhgef28a | 419.1639412 | 0.072559828 | 0.114549 | 0.6334394 | 0.526447 | 0.940506 |
| zfyve28 | 47.59253093 | 0.06476143 | 0.2829557 | 0.2288748 | 0.818966 | 0.981594 |
| map1b | 941.7891098 | 0.088349125 | 0.0955369 | 0.924764 | 0.355089 | 0.882321 |
| bnip1 | 97.5623128 | 0.151882014 | 0.2014949 | 0.753776 | 0.450984 | 0.918761 |
| tbl1x | 149.3930467 | 0.045409186 | 0.1717261 | 0.264428 | 0.79145 | 0.977645 |
| clcn2c | 331.2770688 | 0.37902788 | 0.127689 | 2.9683674 | 0.002994 | 0.071933 |
| tmem259 | 649.1455653 | 0.082579076 | 0.0951701 | 0.8677001 | 0.385559 | 0.89551 |
| elp6 | 110.8537708 | -0.073120982 | 0.1898875 | -0.385075 | 0.700182 | 0.967998 |
| sdk2b | 493.3411453 | 0.019847565 | 0.1084535 | 0.1830052 | 0.854794 | 0.985174 |
| pmp22b | 2763.951692 | 0.143315018 | 0.0759538 | 1.8868697 | 0.059178 | 0.475427 |
| pik3r4 | 627.6414613 | 0.154100151 | 0.1059516 | 1.4544392 | 0.145825 | 0.691641 |
| gcnt3 | 22.26363208 | -0.145928928 | 0.4123663 | -0.353882 | 0.723427 | 0.970402 |
| vps8 | 794.2985291 | 0.063507514 | 0.1011613 | 0.6277845 | 0.530145 | 0.942209 |
| ubrl | 60.73267656 | 0.086781752 | 0.2601206 | 0.3336212 | 0.738665 | 0.972722 |
| at11 | 910.46405 | -0.068991341 | 0.0935257 | -0.737672 | 0.460714 | 0.921978 |
| mid1 | 16.20928101 | -0.205962351 | 0.4984853 | -0.413176 | 0.679477 | 0.965257 |
| selenoi | 160.3997647 | 0.272220336 | 0.174453 | 1.5604219 | 0.11866 | 0.642318 |
| mrpl32 | 415.1061031 | 0.113341525 | 0.1191118 | 0.951556 | 0.341322 | 0.878134 |
| eprs | 3611.97999 | -0.058544963 | 0.0708994 | -0.825747 | 0.408948 | 0.90171 |
| cacnalha | 282.6377243 | 0.224368545 | 0.1287116 | 1.743188 | 0.081301 | 0.551885 |
| tnfrsf9a | 65.00605483 | -0.163608857 | 0.2487659 | -0.657682 | 0.510743 | 0.936253 |
| l2hgdh | 247.673964 | -0.274511212 | 0.1517139 | -1.8094 | 0.070389 | 0.518967 |
| dpcd | 72.4403901 | 0.1706338 | 0.2437087 | 0.7001548 | 0.483831 | 0.929461 |
| pfkla | 95.84258042 | 0.147524054 | 0.2125866 | 0.693948 | 0.487715 | 0.931809 |
| sos2 | 662.2188963 | 0.171588197 | 0.1222699 | 1.4033565 | 0.160511 | 0.713404 |
| cul4b | 1264.512773 | -0.034658744 | 0.0842862 | -0.411203 | 0.680924 | 0.965476 |
| kbtbd3 | 69.44642163 | -0.086640033 | 0.2335545 | -0.370963 | 0.710665 | 0.968985 |
| zdhhc9 | 895.5924341 | -0.019428787 | 0.0897033 | -0.21659 | 0.828528 | 0.982721 |
| psk5b | 420.0874123 | 0.062661984 | 0.1130976 | 0.5540525 | 0.579543 | 0.951257 |
| rbm27 | 234.6620004 | 0.09464029 | 0.1501478 | 0.6303143 | 0.528489 | 0.941896 |
| rfk | 50.55140154 | -0.041063046 | 0.299762 | -0.136985 | 0.891042 | 0.989291 |
| bmp3 | 243.5226706 | 0.048647697 | 0.1388114 | 0.3504589 | 0.725994 | 0.970402 |
| nkx6.3 | 37.8527074 | -0.32006311 | 0.3483908 | -0.91869 | 0.358258 | 0.884398 |
| adam22 | 63.29371313 | 0.102879497 | 0.252141 | 0.4080236 | 0.683256 | 0.965476 |
| sgppl | 41.75708721 | 0.472113031 | 0.313189 | 1.5074379 | 0.131698 | 0.665187 |
| atad2b | 194.6692309 | -0.103564634 | 0.1614303 | -0.641544 | 0.521169 | 0.939056 |
| shank1 | 111.0305642 | -0.082616903 | 0.2471753 | -0.334244 | 0.738195 | 0.972535 |
| lgr4 | 1157.445811 | 0.005317774 | 0.079999 | 0.066473 | 0.947001 | 0.99381 |
| ecell | 155.2380975 | 0.027828008 | 0.1690037 | 0.1646592 | 0.869212 | 0.987274 |
| rps6ka5 | 13.19812033 | 0.501313363 | 0.5269807 | 0.9512935 | 0.341455 | 0.878134 |

| | | | | | | |
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| mut | 1016.250046 | -0.14223854 | 0.0900093 | -1.580265 | 0.114046 | 0.632852 |
| dis3 | 255.165587 | 0.106295504 | 0.1325018 | 0.8022195 | 0.422426 | 0.906561 |
| slc25a21 | 109.0178872 | -0.108248781 | 0.193841 | -0.558441 | 0.576543 | 0.950611 |
| cluhb | 71.0468533 | -0.23438085 | 0.2593789 | -0.903623 | 0.366195 | 0.887239 |
| tmem229b | 564.5908957 | 0.113966938 | 0.1291098 | 0.8827136 | 0.377391 | 0.895192 |
| si:dkey-226m8.10 | 98.77888151 | 0.106899038 | 0.2027348 | 0.527285 | 0.597996 | 0.955459 |
| taspl | 258.3414798 | 0.025300099 | 0.1336658 | 0.1892788 | 0.849874 | 0.985174 |
| kank1b | 9.38591521 | 0.438077966 | 0.6529681 | 0.6709025 | 0.502283 | NA |
| ctdsp12b | 1192.042013 | 0.003505787 | 0.1014502 | 0.0345567 | 0.972433 | 0.996315 |
| hadhab | 2873.162119 | -0.061401139 | 0.0720279 | -0.852463 | 0.393957 | 0.898496 |
| prkaal | 845.2642854 | 0.047337815 | 0.0956494 | 0.4949096 | 0.620664 | 0.957354 |
| zgc:158659 | 29.37835864 | -0.23077918 | 0.4016047 | -0.574643 | 0.565533 | 0.948739 |
| capn15 | 240.177281 | -0.002836238 | 0.1414943 | -0.020045 | 0.984008 | 0.996944 |
| rgs7bpa | 379.7284102 | 0.122276033 | 0.1175094 | 1.0405641 | 0.298078 | 0.85401 |
| cd109 | 154.5559812 | 0.16495118 | 0.1683101 | 0.9800432 | 0.327065 | 0.872658 |
| pcdh7b | 397.2184868 | 0.050224419 | 0.1230384 | 0.4082012 | 0.683126 | 0.965476 |
| ipol3 | 151.2256812 | 0.159349985 | 0.1646961 | 0.9675396 | 0.333274 | 0.874926 |
| lig4 | 91.48462691 | -0.285719184 | 0.2102765 | -1.358779 | 0.174217 | 0.734375 |
| si:ch73-14h1.2 | 86.42356577 | -0.808623231 | 0.2189911 | -3.692493 | 0.000222 | 0.009323 |
| dgkaa | 668.3204467 | -0.125538021 | 0.0995775 | -1.260707 | 0.207415 | 0.775175 |
| hip1ra | 40.29821891 | -0.245572539 | 0.3095062 | -0.793433 | 0.427525 | 0.91075 |
| GARNL3 | 212.9010976 | 0.062786952 | 0.1611437 | 0.3896333 | 0.696808 | 0.96736 |
| uspl6 | 6.419480842 | 0.051006877 | 0.7625664 | 0.0668884 | 0.946671 | NA |
| clstn2 | 829.5514206 | 0.054011676 | 0.098402 | 0.548888 | 0.583082 | 0.952214 |
| CLSTN2 (1 of many) | 92.46993614 | 0.158307384 | 0.2122264 | 0.7459363 | 0.455706 | 0.921215 |
| apba2b | 1725.292317 | 0.000582351 | 0.0785837 | 0.0074106 | 0.994087 | 0.998694 |
| prkaa2 | 11.30910996 | 0.374261414 | 0.5862642 | 0.6383835 | 0.523224 | 0.939336 |
| sirt7 | 64.99641017 | 0.32131877 | 0.2492161 | 1.2893178 | 0.197288 | 0.762244 |
| senp5 | 198.4799025 | -0.06375139 | 0.1507348 | -0.422937 | 0.672341 | 0.965257 |
| BX005421.2 | 0.491560863 | 0.853615855 | 2.865157 | 0.2979299 | 0.765757 | NA |
| si:ch211-10a23.2 | 552.0721074 | 0.119103323 | 0.1125636 | 1.0580984 | 0.290011 | 0.846246 |
| klf8 | 522.9409525 | 0.040075238 | 0.1103196 | 0.3632649 | 0.716407 | 0.96909 |
| prf1.9 | 2.917889451 | 0.024714463 | 1.1427822 | 0.0216266 | 0.982746 | NA |
| tm4sf18 | 152.0691226 | -0.219037235 | 0.1635132 | -1.339569 | 0.180385 | 0.741452 |
| lct | 7.662426681 | -1.069017592 | 0.717689 | -1.489528 | 0.136348 | NA |
| ndst2b | 67.07870682 | 0.143989705 | 0.2464581 | 0.584236 | 0.559062 | 0.948478 |
| kdmla | 3596.685888 | -0.089166413 | 0.0694655 | -1.283607 | 0.199279 | 0.764601 |
| si:ch73-127m5.1 | 88.45197092 | -0.149512527 | 0.2248503 | -0.664943 | 0.506087 | 0.935724 |
| agr1 | 1073.525843 | -0.135133232 | 0.0924796 | -1.461222 | 0.143955 | 0.687741 |
| lrsam1 | 107.8657558 | 0.058338192 | 0.2040766 | 0.2858642 | 0.774982 | 0.975687 |
| chd2 | 1804.166187 | -0.079904867 | 0.0792554 | -1.008195 | 0.313361 | 0.865132 |
| trim69 | 36.01335913 | -0.325812726 | 0.3313225 | -0.98337 | 0.325425 | 0.871896 |
| znf346 | 1401.92672 | 0.197303147 | 0.0886508 | 2.2256216 | 0.02604 | 0.311101 |
| kmt2bb | 1205.555281 | 0.115625868 | 0.0871194 | 1.3272112 | 0.184439 | 0.747376 |
| npffr2b | 0.482760567 | -0.866527181 | 2.7059286 | -0.320233 | 0.748792 | NA |
| nsdlb | 136.2346903 | 0.055619478 | 0.1758812 | 0.3162331 | 0.751826 | 0.974458 |
| pex11a | 36.94386704 | 0.13518477 | 0.3330377 | 0.4059143 | 0.684806 | 0.966146 |
| sv2bb | 1709.518963 | 0.152977693 | 0.0924688 | 1.6543701 | 0.098052 | 0.59749 |
| prkx | 187.0769299 | 0.032306565 | 0.1778832 | 0.1816167 | 0.855884 | 0.985174 |
| stimla | 1096.093252 | 0.132563079 | 0.0850797 | 1.5581038 | 0.119209 | 0.643307 |
| dnajc161 | 786.1082897 | 0.048441037 | 0.0988225 | 0.4901823 | 0.624005 | 0.957354 |
| trim8b | 1307.489472 | 0.038725343 | 0.0874309 | 0.442925 | 0.65782 | 0.962538 |
| appl1 | 126.7165546 | -0.085286808 | 0.1808646 | -0.471551 | 0.637248 | 0.958872 |
| sytl7 | 5.135462918 | 1.088375455 | 0.8492936 | 1.2815067 | 0.200016 | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| pgm5 | 20.95018184 | -0.02126162 | 0.4336156 | -0.049033 | 0.960893 | 0.9956 |
| tsfm | 309.220295 | 0.109390252 | 0.1322928 | 0.8268802 | 0.408305 | 0.90171 |
| taok3a | 439.9182704 | -0.01382068 | 0.12037 | -0.114818 | 0.908589 | 0.990702 |
| pear1 | 177.5303274 | -0.115174352 | 0.1574271 | -0.731604 | 0.46441 | 0.923403 |
| abhd6a | 35.47605155 | -0.140353877 | 0.3367137 | -0.416834 | 0.6768 | 0.965257 |
| nphs1 | 69.38157548 | 0.036664922 | 0.2454087 | 0.1494035 | 0.881235 | 0.988235 |
| pxnb | 10.08049862 | 0.054072065 | 0.5867551 | 0.0921544 | 0.926575 | NA |
| smg7 | 2591.874072 | -0.047974853 | 0.0788592 | -0.608361 | 0.542948 | 0.944974 |
| ankib1a | 86.38882878 | -0.047187636 | 0.2403274 | -0.196347 | 0.844338 | 0.985174 |
| map7d3 | 910.2619157 | -0.003623481 | 0.0889691 | -0.040727 | 0.967513 | 0.996315 |
| acap2 | 240.7414579 | 0.086269817 | 0.1461605 | 0.5902402 | 0.55503 | 0.947449 |
| pcnx4 | 502.6789056 | -0.045877834 | 0.11086 | -0.413836 | 0.678994 | 0.965257 |
| lrrc14b | 31.94299385 | 0.252488273 | 0.3379432 | 0.7471323 | 0.454984 | 0.921022 |
| slc20a2 | 998.5933746 | 0.179306272 | 0.0885154 | 2.0257081 | 0.042795 | 0.406447 |
| pfkmb | 512.9855607 | 0.248175582 | 0.1117939 | 2.2199388 | 0.026423 | 0.313054 |
| map1sa | 364.1788509 | -0.109609809 | 0.1173415 | -0.93411 | 0.350247 | 0.880195 |
| mecom | 207.7701824 | -0.234731518 | 0.1490139 | -1.575233 | 0.115203 | 0.636141 |
| plekha7a | 252.5633574 | 0.109829876 | 0.131677 | 0.8340857 | 0.404233 | 0.901305 |
| car15 | 16.94193286 | 0.639401499 | 0.4580846 | 1.3958154 | 0.16277 | 0.7178 |
| fam83hb | 288.1189549 | 0.094011383 | 0.1430411 | 0.6572333 | 0.511031 | 0.936253 |
| tecpr2 | 70.15742935 | 0.031679508 | 0.2333768 | 0.1357441 | 0.892024 | 0.989291 |
| trpc5b | 75.66436624 | 0.180928227 | 0.2266165 | 0.7983896 | 0.424644 | 0.9085 |
| trim35-33 | 3.861240648 | -0.083449989 | 0.9943487 | -0.083924 | 0.933117 | NA |
| pik3c2a | 753.8273644 | 0.030474182 | 0.0943076 | 0.3231362 | 0.746592 | 0.97419 |
| antxr1d | 25.61265879 | 0.466654355 | 0.3765554 | 1.2392715 | 0.215245 | 0.782831 |
| cabp7b | 96.33863792 | 0.257506337 | 0.1992452 | 1.292409 | 0.196216 | 0.761674 |
| setd1ba | 453.058072 | 0.017831242 | 0.1142088 | 0.1561284 | 0.875932 | 0.987881 |
| dlgap4a | 544.5981722 | -0.106231446 | 0.1077095 | -0.986278 | 0.323997 | 0.870928 |
| nckap1 | 4145.487005 | -0.05029327 | 0.0655095 | -0.767725 | 0.442651 | 0.916336 |
| kctd3 | 88.82166151 | -0.095169108 | 0.2072462 | -0.459208 | 0.646085 | 0.96029 |
| pstpipla | 3.095745377 | 0.160940701 | 1.0756697 | 0.1496191 | 0.881065 | NA |
| dars2 | 179.6111177 | 0.043299654 | 0.1541523 | 0.2808888 | 0.778796 | 0.976037 |
| atxn1b | 792.5484245 | -0.055892548 | 0.0891467 | -0.626973 | 0.530677 | 0.942209 |
| scai | 9.532074543 | -0.048425085 | 0.6184058 | -0.078306 | 0.937584 | NA |
| mbtd1 | 274.1239514 | 0.066487727 | 0.1295834 | 0.5130883 | 0.60789 | 0.956718 |
| mctplb | 121.1455712 | 0.05959104 | 0.1874886 | 0.3178382 | 0.750608 | 0.97419 |
| pdela | 75.53237341 | 0.183212924 | 0.2596775 | 0.7055401 | 0.480474 | 0.927601 |
| edil3b | 15.71083337 | -0.347517078 | 0.4851202 | -0.716353 | 0.473774 | 0.924993 |
| slc28a1 | 46.17073641 | -1.010652495 | 0.2885023 | -3.503101 | 0.00046 | 0.016716 |
| nmurla | 3.040768928 | -0.989439688 | 1.1508932 | -0.859715 | 0.389946 | NA |
| znf592 | 260.0995791 | -0.061762845 | 0.1411155 | -0.437676 | 0.661621 | 0.964247 |
| mett17a | | 0 NA | NA | NA | NA | NA |
| col8a2 | 599.7310855 | 0.04711513 | 0.0982194 | 0.4796928 | 0.631446 | 0.957356 |
| znf362a | 622.1005008 | 0.075446263 | 0.1078067 | 0.6998291 | 0.484034 | 0.929461 |
| trim62.1 | 52.33843982 | -0.21260262 | 0.2723869 | -0.780517 | 0.435087 | 0.914408 |
| si:ch211-126i22.5 | 290.3378328 | -0.101870047 | 0.1256944 | -0.810458 | 0.417677 | 0.906237 |
| fbx116 | 170.0297463 | 0.294349965 | 0.1693139 | 1.7384867 | 0.082125 | 0.553114 |
| anln | 687.1200133 | -0.05157007 | 0.0925778 | -0.557046 | 0.577496 | 0.950825 |
| pla2g6 | 667.9406432 | 0.000726114 | 0.1135902 | 0.0063924 | 0.9949 | 0.998694 |
| ess2 | 619.5379899 | -0.017459448 | 0.1041042 | -0.167711 | 0.86681 | 0.986958 |
| jarid2a | 505.6190588 | -0.129856128 | 0.1164365 | -1.115253 | 0.264742 | 0.830616 |
| rnf19b | 47.7255623 | 0.310413566 | 0.2867409 | 1.0825577 | 0.279005 | 0.842806 |
| si:ch211-136a13.1 | 300.6463834 | 0.067290126 | 0.1484328 | 0.4533373 | 0.650306 | 0.960708 |
| rnf220a | 1075.79936 | -0.038690232 | 0.0821489 | -0.470977 | 0.637657 | 0.958872 |

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|---------------------|--------------|---------------|------------|------------|-----------|-----------|
| baiap212b | 23. 11386527 | -0. 378675482 | 0. 4004165 | -0. 945704 | 0. 3443 | 0. 878434 |
| adnp2a | 292. 6294634 | 0. 074903847 | 0. 1304402 | 0. 574239 | 0. 565806 | 0. 948739 |
| ANKFN1 | 3. 651158645 | 0. 273853582 | 0. 9678786 | 0. 2829421 | 0. 777221 | NA |
| rnf217 | 13. 33964371 | 0. 13927299 | 0. 5610818 | 0. 2482223 | 0. 803962 | 0. 979643 |
| pip5k11 | 46. 0376109 | 0. 032960539 | 0. 3016971 | 0. 1092504 | 0. 913004 | 0. 991119 |
| dync1i1 | 842. 1421706 | 0. 01138987 | 0. 0921893 | 0. 1235488 | 0. 901673 | 0. 990121 |
| polg | 193. 6902746 | 0. 106517668 | 0. 1789789 | 0. 5951408 | 0. 551749 | 0. 947156 |
| si:ch1073-214b20. 2 | 3. 308105203 | -0. 248998081 | 1. 0527917 | -0. 236512 | 0. 813035 | NA |
| tmcc1b | 701. 8226402 | -0. 025913971 | 0. 0988083 | -0. 262265 | 0. 793117 | 0. 977937 |
| btr04 | 144. 5961514 | -0. 141147432 | 0. 1724515 | -0. 818476 | 0. 413085 | 0. 905281 |
| zgc:153018 | 600. 1656514 | 0. 120846044 | 0. 0988969 | 1. 2219395 | 0. 22173 | 0. 78829 |
| atp2a3 | 1128. 190404 | 0. 004037092 | 0. 0852465 | 0. 0473579 | 0. 962228 | 0. 995907 |
| atp8b1 | 288. 9765459 | -0. 083672256 | 0. 1281487 | -0. 652931 | 0. 513801 | 0. 936778 |
| smyd4 | 98. 29659186 | -0. 116910929 | 0. 2181173 | -0. 536 | 0. 591958 | 0. 954434 |
| zgc:154077 | 222. 3417471 | -0. 063719767 | 0. 1507537 | -0. 422675 | 0. 672533 | 0. 965257 |
| mief1 | 373. 7226196 | -0. 015815032 | 0. 1157501 | -0. 136631 | 0. 891323 | 0. 989291 |
| rpud2 | 93. 17547586 | 0. 239602247 | 0. 2174728 | 1. 1017575 | 0. 270567 | 0. 835315 |
| fbxw7 | 869. 4336053 | 0. 102876762 | 0. 0908708 | 1. 132121 | 0. 257584 | 0. 825314 |
| klhdc8a | 8. 250642086 | 0. 45055773 | 0. 6736084 | 0. 6688719 | 0. 503577 | NA |
| cox11 | 271. 8813778 | 0. 19712686 | 0. 144508 | 1. 3641239 | 0. 172529 | 0. 731348 |
| cyb5d2 | 126. 695034 | 0. 134605365 | 0. 1771726 | 0. 7597416 | 0. 447409 | 0. 917154 |
| hlfb | 53. 07076415 | 0. 61039039 | 0. 2693316 | 2. 2663158 | 0. 023432 | 0. 294562 |
| ankfy1 | 945. 2158298 | 0. 067160676 | 0. 0973163 | 0. 690128 | 0. 490114 | 0. 931926 |
| kcnj5 | 13. 27595718 | 0. 496258105 | 0. 5459455 | 0. 9089884 | 0. 363356 | 0. 885944 |
| spns2 | 481. 2846525 | 0. 053639144 | 0. 1068386 | 0. 5020579 | 0. 615627 | 0. 95688 |
| ccdc186 | 494. 3978361 | -0. 042920152 | 0. 1071654 | -0. 400504 | 0. 688785 | 0. 966672 |
| fam160a1a | 92. 07949636 | 0. 222292902 | 0. 2096445 | 1. 0603325 | 0. 288993 | 0. 845979 |
| si:dkey-72114. 4 | 582. 8078971 | -0. 104918542 | 0. 0997437 | -1. 051881 | 0. 292854 | 0. 848607 |
| rabggt | 502. 2663019 | 0. 046286234 | 0. 1238207 | 0. 3738167 | 0. 708541 | 0. 968664 |
| vezf1b | 50. 5585324 | -0. 082176735 | 0. 2690291 | -0. 305457 | 0. 760018 | 0. 975374 |
| dner | 50. 07345794 | 0. 37199397 | 0. 2713244 | 1. 3710301 | 0. 170366 | 0. 728041 |
| atp10a | 47. 28080779 | -0. 04656703 | 0. 2776817 | -0. 167699 | 0. 86682 | 0. 986958 |
| pum2 | 47. 65780229 | 0. 1805316 | 0. 2856005 | 0. 6321124 | 0. 527313 | 0. 941244 |
| gabbr2 | 17. 92388019 | -0. 066309932 | 0. 4687196 | -0. 14147 | 0. 887498 | 0. 989291 |
| si:dkey-72114. 3 | 88. 34228975 | 0. 201539979 | 0. 2132601 | 0. 945043 | 0. 344637 | 0. 878434 |
| abcg4a | 13. 6799439 | 0. 331208639 | 0. 5689905 | 0. 5820987 | 0. 5605 | 0. 948728 |
| ranbp9 | 985. 9071658 | -0. 128018841 | 0. 0897308 | -1. 426699 | 0. 153667 | 0. 702578 |
| rnf182 | 102. 7118807 | -0. 316788864 | 0. 2065435 | -1. 533763 | 0. 125088 | 0. 654648 |
| brinp3a. 2 | 223. 7045661 | 0. 124517045 | 0. 1527299 | 0. 8152763 | 0. 414914 | 0. 906237 |
| nipblb | 1583. 996431 | 0. 071536153 | 0. 0774641 | 0. 9234747 | 0. 35576 | 0. 882675 |
| cyhr1 | 467. 3185118 | -0. 077887942 | 0. 1180987 | -0. 659516 | 0. 509565 | 0. 936253 |
| stpg2 | 16. 41096822 | 0. 136290621 | 0. 4765766 | 0. 2859784 | 0. 774895 | 0. 975687 |
| dpagt1 | 240. 4742257 | 0. 056886098 | 0. 1375638 | 0. 4135251 | 0. 679222 | 0. 965257 |
| nemp2 | 263. 5185823 | -0. 084998651 | 0. 1290588 | -0. 658604 | 0. 51015 | 0. 936253 |
| c2cd21 | 467. 1027797 | 0. 183111916 | 0. 1166862 | 1. 5692678 | 0. 116586 | 0. 639148 |
| chst3a | 16. 74147823 | 0. 497450648 | 0. 481817 | 1. 0324474 | 0. 301863 | 0. 856944 |
| arpp21 | 441. 5016015 | 0. 12929935 | 0. 1257139 | 1. 0285205 | 0. 303705 | 0. 857923 |
| igl4v8 | 0. 339758314 | 0. 005883863 | 3. 2682461 | 0. 0018003 | 0. 998564 | NA |
| gtpbp6 | 67. 68451114 | -0. 131054348 | 0. 2460799 | -0. 532568 | 0. 594332 | 0. 954434 |
| phldb1a | 343. 607974 | 0. 198990335 | 0. 1253022 | 1. 5880827 | 0. 112268 | 0. 627572 |
| stk36 | 67. 91824546 | 0. 025235268 | 0. 2660821 | 0. 0948402 | 0. 924442 | 0. 992676 |
| dapk2a | 84. 90946635 | 0. 068479187 | 0. 2270032 | 0. 3016662 | 0. 762907 | 0. 975374 |
| nfasca | 1059. 99276 | 0. 03604958 | 0. 0896101 | 0. 4022938 | 0. 687468 | 0. 966376 |
| nars | 1357. 163716 | -0. 332379608 | 0. 1178116 | -2. 821281 | 0. 004783 | 0. 099772 |

| | | | | | | |
|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| snx19a | 175.5400284 | -0.101968988 | 0.1619044 | -0.62981 | 0.528819 | 0.942109 |
| slc19a3b | 10.63334079 | 0.347185188 | 0.5980782 | 0.5805013 | 0.561577 | NA |
| ep300b | 1608.542738 | 0.034977685 | 0.0869091 | 0.4024629 | 0.687343 | 0.966376 |
| zbtb44 | 55.8908786 | -0.087768412 | 0.2732592 | -0.321191 | 0.748066 | 0.97419 |
| parga | 605.19854 | -0.069463084 | 0.0998056 | -0.695984 | 0.486439 | 0.930833 |
| slc43a2b | 3215.302059 | 0.071528866 | 0.1066775 | 0.6705148 | 0.50253 | 0.935304 |
| adgr13.1 | 1830.259498 | 0.025053084 | 0.0837368 | 0.2991884 | 0.764796 | 0.975374 |
| srpra | 1200.429024 | 0.050804018 | 0.102857 | 0.4939285 | 0.621357 | 0.957354 |
| kif21a | 552.7219513 | 0.181479344 | 0.1026848 | 1.7673434 | 0.077171 | 0.540934 |
| senp7b | 340.3183525 | -0.259191209 | 0.1313439 | -1.973379 | 0.048452 | 0.433449 |
| colec12 | 936.8606817 | 0.237861214 | 0.0934054 | 2.5465461 | 0.010879 | 0.180962 |
| tapt1b | 548.4992097 | -0.006366471 | 0.1011472 | -0.062943 | 0.949812 | 0.99381 |
| gfod2 | 270.6434258 | 0.122856534 | 0.1482642 | 0.8286323 | 0.407313 | 0.901305 |
| zfp64 | 144.5362244 | -0.087087019 | 0.180401 | -0.482741 | 0.629279 | 0.957354 |
| nrn11b | 113.3522448 | 0.176420471 | 0.1948487 | 0.9054227 | 0.365241 | 0.886714 |
| bicra | 744.181121 | -0.152429687 | 0.1213836 | -1.255768 | 0.2092 | 0.776073 |
| ube2j2 | 47.42145557 | 0.014930019 | 0.2979083 | 0.0501162 | 0.96003 | 0.995388 |
| slc6a4a | 137.1644361 | 0.237551646 | 0.1766203 | 1.344985 | 0.17863 | 0.739486 |
| dhx34 | 190.3527383 | -0.018957184 | 0.1809847 | -0.104745 | 0.916578 | 0.991381 |
| larplb | 1303.873198 | -0.091598207 | 0.085392 | -1.072679 | 0.283415 | 0.84466 |
| st14a | 1352.755985 | -0.085589391 | 0.084695 | -1.01056 | 0.312227 | 0.864401 |
| znf740b | 303.4477596 | -0.046184446 | 0.1284986 | -0.359416 | 0.719284 | 0.969183 |
| mov10b.1 | 61.86936808 | 0.068064372 | 0.2453171 | 0.2774546 | 0.781431 | 0.97627 |
| vps45 | 470.5867138 | 0.018269571 | 0.1058184 | 0.1726502 | 0.862926 | 0.985841 |
| nat15 | 433.6243991 | 0.097399225 | 0.1162001 | 0.8382026 | 0.401917 | 0.90084 |
| cbx5 | 4510.925968 | 0.035409079 | 0.0724147 | 0.4889761 | 0.624859 | 0.957354 |
| plekhola | 334.1100786 | -0.00083854 | 0.119015 | -0.007046 | 0.994378 | 0.998694 |
| hectd2 | 20.73808999 | 0.377144851 | 0.4374531 | 0.8621377 | 0.388612 | 0.896271 |
| cnnm2a | 22.81161745 | -0.246689324 | 0.4255451 | -0.579702 | 0.562116 | 0.948728 |
| emilin2a | 168.8428048 | 0.097119971 | 0.16281 | 0.5965232 | 0.550826 | 0.946549 |
| armac7 | 52.71463557 | 0.57927536 | 0.2767177 | 2.0933801 | 0.036315 | 0.372071 |
| acsf2 | 834.0015178 | -0.11807869 | 0.097978 | -1.205155 | 0.228144 | 0.795505 |
| trpcl | 240.9583303 | 0.258090675 | 0.1427491 | 1.8080018 | 0.070606 | 0.520155 |
| ddx20 | 222.9761037 | -0.139516019 | 0.1448222 | -0.963361 | 0.335367 | 0.876088 |
| stagla | 815.2494695 | 0.00569875 | 0.1035273 | 0.0550459 | 0.956102 | 0.994543 |
| ttc7b | 988.7114632 | -0.032291104 | 0.0912663 | -0.353812 | 0.72348 | 0.970402 |
| rab40c | 1036.518146 | 0.102019193 | 0.0859574 | 1.1868573 | 0.235284 | 0.804375 |
| rabep2 | 308.1514636 | 0.199778427 | 0.1248316 | 1.6003836 | 0.109514 | 0.623766 |
| lpin2 | 1221.685873 | -0.025192017 | 0.0869491 | -0.289733 | 0.772021 | 0.975687 |
| fam149b1 | 481.9869196 | 0.001016202 | 0.1035986 | 0.009809 | 0.992174 | 0.997927 |
| hexdc | 102.4789495 | -0.17196071 | 0.2023759 | -0.849709 | 0.395487 | 0.899378 |
| si:ch211-157j23.2 | 5.862770517 | 0.347551963 | 0.8383044 | 0.4145892 | 0.678443 | NA |
| uba7 | 12.5802364 | -0.253582072 | 0.5546985 | -0.457153 | 0.647561 | 0.960606 |
| ogfr11 | 98.0132309 | -0.03428343 | 0.2141202 | -0.160113 | 0.872792 | 0.987846 |
| timp2a | 1629.369992 | 0.023451661 | 0.0782493 | 0.2997042 | 0.764403 | 0.975374 |
| pfdn4 | 438.7208855 | -0.126531918 | 0.1192425 | -1.061131 | 0.28863 | 0.845979 |
| tinagl1 | 32.53136808 | 0.025828307 | 0.3648757 | 0.0707866 | 0.943568 | 0.993364 |
| abcc5 | 3289.928552 | -0.03818428 | 0.0688041 | -0.554971 | 0.578914 | 0.951052 |
| alg5 | 157.6676987 | 0.106153142 | 0.1749641 | 0.6067139 | 0.544041 | 0.945438 |
| cbln4 | 47.61484205 | -0.296277008 | 0.3000274 | -0.9875 | 0.323398 | 0.870761 |
| tuftla | 306.5894209 | 0.195308455 | 0.1249781 | 1.5627418 | 0.118113 | 0.641526 |
| ubash3ba | 23.06021598 | 0.161663446 | 0.4010498 | 0.4031007 | 0.686874 | 0.966376 |
| xylt1 | 41.09168887 | -0.131939115 | 0.3048836 | -0.432752 | 0.665195 | 0.964736 |
| myomla | 3360.661271 | 0.463858375 | 0.0884937 | 5.2417093 | 1.59E-07 | 2.07E-05 |

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| dusp3a | 175.0963202 | -0.02432683 | 0.1704783 | -0.142698 | 0.886529 | 0.988936 |
| si:dkey-44g23.5 | 555.4641997 | -0.06539707 | 0.1087886 | -0.601139 | 0.547747 | 0.945705 |
| zgc:153240 | 533.4210498 | 0.134539877 | 0.1108079 | 1.2141721 | 0.224682 | 0.791954 |
| sost | 311.8205457 | 0.003195137 | 0.1228967 | 0.0259986 | 0.979258 | 0.996802 |
| si:dkey-202e22.2 | 169.0460868 | 0.392926132 | 0.1611305 | 2.4385587 | 0.014746 | 0.222347 |
| lmln | 6.431231239 | 0.132769129 | 0.846728 | 0.1568026 | 0.8754 | NA |
| ago2 | 5.81815432 | 1.327966744 | 0.8082458 | 1.6430234 | 0.100378 | NA |
| BX294434.1 | 859.5572745 | 0.165915501 | 0.0879664 | 1.8861229 | 0.059278 | 0.475912 |
| lss | 120.7418129 | -0.105437503 | 0.1872508 | -0.563082 | 0.573379 | 0.949869 |
| glgla | 2693.928102 | 0.008054786 | 0.0770565 | 0.1045309 | 0.916748 | 0.99151 |
| kcnc4 | 32.39279008 | 0.016341154 | 0.3729513 | 0.0438158 | 0.965051 | 0.996154 |
| pil5b | 16.37804486 | -0.087352985 | 0.4625808 | -0.188838 | 0.85022 | 0.985174 |
| arhgap5 | 1239.373925 | 0.076786633 | 0.0889372 | 0.8633805 | 0.387928 | 0.896133 |
| gmpr2 | 752.5171915 | -0.00934882 | 0.0906101 | -0.103176 | 0.917823 | 0.991623 |
| oca2 | 109.4139577 | -0.184286136 | 0.209602 | -0.87922 | 0.379282 | 0.895192 |
| ppplr9a | 26.19559015 | 0.007676391 | 0.3814516 | 0.0201242 | 0.983944 | 0.996944 |
| znf438 | 119.773781 | -0.224117735 | 0.181712 | -1.233368 | 0.217439 | 0.784786 |
| ngrn | 182.169443 | -0.180333175 | 0.1502787 | -1.199992 | 0.230143 | 0.797833 |
| cdon | 1400.862585 | -0.016415766 | 0.0871019 | -0.188466 | 0.850511 | 0.985174 |
| galnt1 | 966.0452154 | 0.026488879 | 0.0950316 | 0.2787375 | 0.780446 | 0.97627 |
| ddx6 | 758.6783418 | -0.022462812 | 0.0983701 | -0.22835 | 0.819374 | 0.981594 |
| wwp2 | 2803.97447 | -0.028042638 | 0.0717869 | -0.390637 | 0.696065 | 0.96736 |
| adat1 | 44.34074185 | 0.122933198 | 0.312531 | 0.3933472 | 0.694063 | 0.96736 |
| tfpi2 | 57.77264703 | -0.062072859 | 0.2613586 | -0.237501 | 0.812268 | 0.981081 |
| bcl11aa | 852.0619299 | -0.104174287 | 0.0891308 | -1.16878 | 0.242492 | 0.811298 |
| foxred2 | 513.2688567 | 0.117385451 | 0.1080566 | 1.0863332 | 0.277332 | 0.840857 |
| aocl | 44.33346703 | -0.492717703 | 0.3118089 | -1.580191 | 0.114063 | 0.632852 |
| chst6 | 31.93239614 | 0.104060623 | 0.3404609 | 0.3056463 | 0.759874 | 0.975374 |
| dipklab | 58.83489497 | 0.020773571 | 0.2605885 | 0.0797179 | 0.936462 | 0.992702 |
| GFOD1 | 7.8909762 | 0.32229604 | 0.6824991 | 0.4722293 | 0.636763 | NA |
| hepacam2 | 70.30412758 | -0.115777282 | 0.2365993 | -0.489339 | 0.624602 | 0.957354 |
| klf13 | 23.82745972 | -0.087856249 | 0.4065574 | -0.216098 | 0.828911 | 0.982721 |
| tsen34 | 150.3608724 | -0.193883063 | 0.1688707 | -1.148116 | 0.250921 | 0.820469 |
| cdh18a | 433.568378 | 0.032533883 | 0.1088877 | 0.298784 | 0.765105 | 0.975374 |
| cog7 | 581.6110415 | 0.040377096 | 0.1000512 | 0.4035641 | 0.686533 | 0.966376 |
| znf142 | 193.0157805 | -0.141592037 | 0.1473696 | -0.960795 | 0.336655 | 0.876088 |
| sgpl1 | 1071.322933 | 0.149735301 | 0.0986797 | 1.5173878 | 0.129169 | 0.660844 |
| efcab1 | 15.84344028 | 0.541946984 | 0.4817101 | 1.125048 | 0.260569 | 0.828546 |
| smg8 | 317.6924259 | -0.145080562 | 0.1208941 | -1.200063 | 0.230115 | 0.797833 |
| cmya5 | 200.1798506 | 0.472362417 | 0.1590911 | 2.969131 | 0.002986 | 0.071842 |
| serpinf2b | 1079.369739 | 0.131418522 | 0.0994913 | 1.3209053 | 0.186533 | 0.750917 |
| haus3 | 145.3480982 | 0.036921511 | 0.1679631 | 0.2198191 | 0.826012 | 0.982196 |
| grhl1 | 258.1895598 | -0.1109322 | 0.1380687 | -0.803457 | 0.421711 | 0.90651 |
| trip12 | 3198.869403 | -0.032213122 | 0.0785378 | -0.410161 | 0.681688 | 0.965476 |
| epb4114b | 169.765838 | 0.14355045 | 0.1658862 | 0.865355 | 0.386844 | 0.89551 |
| csgalnact2 | 344.4388556 | -0.001924362 | 0.1210701 | -0.015895 | 0.987318 | 0.997136 |
| evala | 144.7663928 | 0.13861436 | 0.1740256 | 0.7965173 | 0.425731 | 0.909437 |
| bivm | 146.4821291 | 0.007129341 | 0.1674517 | 0.0425755 | 0.96604 | 0.996315 |
| nelfa | 277.4452862 | -0.130606781 | 0.1337072 | -0.976812 | 0.328662 | 0.872945 |
| sec23ip | 824.6419222 | 0.112139442 | 0.0956961 | 1.1718283 | 0.241266 | 0.810257 |
| slx4 | 309.9730405 | 0.1891869 | 0.1458529 | 1.2971079 | 0.194594 | 0.758506 |
| c2cd4a | 111.5560291 | -0.139648084 | 0.2007994 | -0.695461 | 0.486767 | 0.930882 |
| nubl | 57.7195117 | 0.00520294 | 0.2699394 | 0.0192745 | 0.984622 | 0.996944 |
| zmat4b | 28.35255614 | -0.452871389 | 0.3859755 | -1.173317 | 0.240669 | 0.808939 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| FQ311928.1 | 295.6776052 | 0.024719503 | 0.130863 | 0.188896 | 0.850174 | 0.985174 |
| znf646 | 696.7340622 | 0.132139948 | 0.0963517 | 1.3714339 | 0.17024 | 0.727696 |
| zgc:194330 | 18.0112097 | -0.373794782 | 0.4552768 | -0.821027 | 0.411631 | 0.903595 |
| col6a2 | 2857.152804 | 0.12729857 | 0.0679918 | 1.8722625 | 0.06117 | 0.482482 |
| inpp5f | 134.5507418 | -0.013781351 | 0.1869611 | -0.073712 | 0.941239 | 0.992857 |
| ugt5c3 | 138.8030122 | -0.057532814 | 0.17518 | -0.328421 | 0.742593 | 0.973232 |
| ugt5c1 | 5.255648189 | -0.543503156 | 0.8480037 | -0.640921 | 0.521574 | NA |
| adcy6a | 220.5903978 | -0.173704822 | 0.1550273 | -1.120479 | 0.26251 | 0.830166 |
| smap2 | 6.42620057 | -0.431266452 | 0.7854749 | -0.549052 | 0.58297 | NA |
| tesk2 | 417.0263901 | -0.040993543 | 0.1114306 | -0.367884 | 0.71296 | 0.96909 |
| n4bp2 | 264.7784446 | -0.154425127 | 0.1399063 | -1.103775 | 0.269691 | 0.834705 |
| nrxn2a | 1675.497012 | 0.024256495 | 0.0931159 | 0.2604978 | 0.79448 | 0.977937 |
| phf14 | 289.7575494 | -0.005853022 | 0.127279 | -0.045986 | 0.963322 | 0.995927 |
| si:dkey-253i9.4 | 990.1084606 | -0.073663415 | 0.0860016 | -0.856535 | 0.391702 | 0.897688 |
| dsela | 31.21828451 | 0.012479853 | 0.3745477 | 0.0333198 | 0.97342 | 0.996315 |
| vwa7 | 55.4849852 | 0.094185326 | 0.2578932 | 0.3652106 | 0.714954 | 0.96909 |
| cpne5a | 19.5567632 | -0.318278951 | 0.4645606 | -0.685118 | 0.493269 | 0.931926 |
| ncaph | 387.8754202 | 0.014382552 | 0.1121783 | 0.1282115 | 0.897982 | 0.990121 |
| sema5ba | 59.43267111 | -0.143990549 | 0.2530273 | -0.569071 | 0.569308 | 0.948983 |
| gba2 | 563.1991107 | -0.007228769 | 0.1018605 | -0.070967 | 0.943424 | 0.993364 |
| tbkbp1 | 346.2765836 | 0.129633497 | 0.1176464 | 1.101891 | 0.270509 | 0.835266 |
| igf2bp1 | 5079.454423 | -0.039265528 | 0.0671002 | -0.585177 | 0.558428 | 0.948478 |
| thsd7aa | 331.695356 | -0.078867121 | 0.1371996 | -0.574835 | 0.565403 | 0.948739 |
| si:ch211-132b12.1 | 9.358345328 | 0.038782243 | 0.6234137 | 0.0622095 | 0.950396 | NA |
| wu:fj05g07 | 222.662397 | 0.456785461 | 0.1496207 | 3.0529572 | 0.002266 | 0.058495 |
| DNAH10 | 169.6792227 | -0.282735565 | 0.1986215 | -1.423489 | 0.154594 | 0.704307 |
| u2surp | 1648.107472 | -0.139378759 | 0.0899361 | -1.549753 | 0.121201 | 0.647458 |
| si:ch211-250e5.2 | 90.38601119 | -0.0385365 | 0.2099231 | -0.183574 | 0.854347 | 0.985174 |
| thsd7bb | 20.94423525 | 0.744115337 | 0.4278268 | 1.7392911 | 0.081984 | 0.552725 |
| duspl3a | 1.054757122 | 0.07669138 | 2.0202577 | 0.0379612 | 0.969719 | NA |
| kdm4c | 466.7328993 | 0.026326056 | 0.1127337 | 0.2335243 | 0.815354 | 0.981244 |
| mrps9 | 669.9481118 | -0.051271313 | 0.0972206 | -0.527371 | 0.597936 | 0.955459 |
| tgfbrap1 | 114.6622239 | -0.065073301 | 0.1968399 | -0.33059 | 0.740954 | 0.973154 |
| tbx3b | 14.84025067 | 0.45820757 | 0.5042216 | 0.9087424 | 0.363486 | 0.886042 |
| tmtops2a | 81.36041403 | -0.279788876 | 0.2274968 | -1.229858 | 0.21875 | 0.785734 |
| lrplbb | 386.7675741 | 0.0723467 | 0.1184212 | 0.6109268 | 0.541248 | 0.944954 |
| b4galnt1a | 42.19580471 | -0.025326732 | 0.3263441 | -0.077607 | 0.93814 | 0.99279 |
| slka | 656.659859 | 0.089885098 | 0.1033502 | 0.869714 | 0.384457 | 0.89551 |
| nxt2 | 135.4760733 | 0.103324425 | 0.1787295 | 0.5781049 | 0.563193 | 0.948728 |
| unc5db | 18.64292562 | 0.02384467 | 0.4468499 | 0.0533617 | 0.957444 | 0.99467 |
| ccdc85b | 1181.871902 | 0.097445241 | 0.0853105 | 1.1422427 | 0.253353 | 0.823169 |
| ano6 | 20.16540238 | -0.101229213 | 0.4371508 | -0.231566 | 0.816875 | 0.981594 |
| zgc:153409 | 22.28015583 | 0.456694357 | 0.4402551 | 1.0373404 | 0.299577 | 0.855675 |
| si:ch211-145o7.3 | 49.47792219 | 0.286816393 | 0.2815358 | 1.0187563 | 0.308319 | 0.861088 |
| foxo1b | 9.919771919 | -0.102081883 | 0.5968332 | -0.171039 | 0.864193 | NA |
| rap1gap2a | 65.70575222 | -0.750131721 | 0.2581211 | -2.906123 | 0.003659 | 0.081763 |
| tmem246 | 216.7061204 | -0.161076385 | 0.1446397 | -1.113639 | 0.265434 | 0.831302 |
| stim1b | 65.71070573 | 0.0597669 | 0.2411693 | 0.2478213 | 0.804273 | 0.979643 |
| tmem121aa | 147.6118532 | 0.192554995 | 0.1755622 | 1.096791 | 0.272733 | 0.838096 |
| slc7a3b | 195.6357032 | -0.210356322 | 0.1569719 | -1.340089 | 0.180216 | 0.74128 |
| gldn | 17.97510466 | 0.146252367 | 0.4763563 | 0.307023 | 0.758826 | 0.975374 |
| myo1cb | 1343.844095 | 0.030570271 | 0.0790117 | 0.3869084 | 0.698824 | 0.967998 |
| kctd7 | 278.8373544 | 0.141988351 | 0.1266417 | 1.1211819 | 0.26221 | 0.830166 |
| cyp4v7 | 40.27555377 | -0.625208579 | 0.3356728 | -1.862553 | 0.062525 | 0.487868 |

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| ctdsp12a | 911.0261621 | 0.026453918 | 0.0897452 | 0.2947669 | 0.768172 | 0.975687 |
| cachd1 | 1115.730651 | -0.016962328 | 0.0856861 | -0.197959 | 0.843077 | 0.985174 |
| abcb10 | 171.0272366 | 0.130307535 | 0.1680371 | 0.775469 | 0.438063 | 0.915284 |
| cemip2 | 416.4467096 | 0.099631827 | 0.1192833 | 0.8352541 | 0.403575 | 0.900979 |
| ssx2ipb | 87.64976114 | -0.260607377 | 0.2134745 | -1.220789 | 0.222166 | 0.788551 |
| sorbs2b | 1025.252091 | 0.047024933 | 0.0861169 | 0.5460591 | 0.585025 | 0.952436 |
| ufspl | 26.10844376 | 0.015967932 | 0.4101267 | 0.0389341 | 0.968943 | 0.996315 |
| si:dkey-85k7.11 | 0.83328727 | -3.180757216 | 2.5122726 | -1.266088 | 0.205482 | NA |
| them4 | 257.1141345 | 0.296146524 | 0.1316446 | 2.2495908 | 0.024475 | 0.3019 |
| kcng3 | 5.790581277 | -0.736493882 | 0.8030103 | -0.917166 | 0.359056 | NA |
| ndufaf5 | 402.7643397 | -0.089000979 | 0.1176384 | -0.756564 | 0.449311 | 0.918313 |
| fbxolla | 881.2812951 | 0.07600382 | 0.09254 | 0.8213077 | 0.411471 | 0.903483 |
| aifm4 | 448.0379764 | -0.494217986 | 0.1176988 | -4.199007 | 2.68E-05 | 0.001616 |
| myo5aa | 95.41227858 | 0.193220954 | 0.2056286 | 0.9396598 | 0.347392 | 0.880195 |
| kcnj9 | 11.14951105 | 0.324568618 | 0.5884629 | 0.5515532 | 0.581255 | 0.951731 |
| dcakd | 71.04357895 | -0.070411405 | 0.2502354 | -0.281381 | 0.778418 | 0.975942 |
| sipall2 | 1610.426473 | -0.145122661 | 0.0814044 | -1.782737 | 0.074629 | 0.532003 |
| ankrd34bb | 27.34415554 | 0.219395947 | 0.4130927 | 0.5311059 | 0.595345 | 0.954434 |
| ensab | 31.43260028 | -0.016366208 | 0.3668526 | -0.044612 | 0.964416 | 0.995927 |
| nrxnla | 3292.056173 | 0.082051059 | 0.0707283 | 1.1600881 | 0.246013 | 0.816218 |
| marveld2b | 155.7441393 | 0.127058532 | 0.1671702 | 0.7600551 | 0.447222 | 0.917154 |
| wwc3 | 364.4531897 | 0.157679891 | 0.1140336 | 1.3827492 | 0.166742 | 0.723339 |
| ptpdcla | 254.1893662 | 0.021214365 | 0.1377456 | 0.1540112 | 0.877601 | 0.987881 |
| CABZ01055347.1 | 34.7531907 | 0.228920298 | 0.3308803 | 0.6918524 | 0.48903 | 0.931926 |
| zgc:162707 | 249.8495627 | 0.076081354 | 0.1318681 | 0.5769504 | 0.563973 | 0.948739 |
| hcn2b | 215.304804 | 0.055218569 | 0.1586316 | 0.3480931 | 0.72777 | 0.970402 |
| si:ch73-334d15.1 | 151.0349302 | 0.065737893 | 0.1622668 | 0.4051222 | 0.685388 | 0.966198 |
| biccla | 231.7735425 | -0.034902526 | 0.1484775 | -0.235069 | 0.814155 | 0.981081 |
| slc25a17 | 103.0628722 | -0.265345199 | 0.1990079 | -1.33334 | 0.18242 | 0.744977 |
| hcn4 | 5.363388479 | 1.157604006 | 0.9048561 | 1.2793239 | 0.200783 | NA |
| atxnla | 42.49217711 | 0.519701209 | 0.3146854 | 1.6514945 | 0.098638 | 0.59799 |
| arvcfb | 1204.784379 | 0.144398193 | 0.0811849 | 1.7786332 | 0.0753 | 0.534207 |
| nxpe3 | 111.2417227 | 0.16261295 | 0.1976991 | 0.8225275 | 0.410777 | 0.90316 |
| qpct1a | 241.1578144 | 0.115932511 | 0.1434425 | 0.8082158 | 0.418966 | 0.906406 |
| yjefn3 | 384.7130101 | 0.107757281 | 0.1194169 | 0.9023624 | 0.366864 | 0.88734 |
| cal4 | 82.97557858 | 0.26254572 | 0.2182571 | 1.2029197 | 0.229007 | 0.796691 |
| sipall3 | 46.42284812 | -0.053039351 | 0.2859232 | -0.185502 | 0.852835 | 0.985174 |
| map3k8 | 45.96982242 | -0.254813121 | 0.2972039 | -0.857368 | 0.391242 | 0.897688 |
| tpd52 | 203.852497 | 0.111878893 | 0.157603 | 0.7098778 | 0.47778 | 0.926857 |
| si:dkey-45k15.1 | 17.39236039 | 0.122893477 | 0.4969942 | 0.2472735 | 0.804697 | 0.979705 |
| cytip | 6.726836383 | -0.425082548 | 0.8943929 | -0.475275 | 0.634591 | NA |
| znf704 | 14.01745785 | -0.248114415 | 0.5119193 | -0.484675 | 0.627907 | 0.957354 |
| washc4 | 475.5887029 | -0.02241367 | 0.1231704 | -0.181973 | 0.855604 | 0.985174 |
| tmem64 | 42.37365499 | -0.208774929 | 0.3062166 | -0.681789 | 0.495373 | 0.931928 |
| mast3a | 382.4437005 | -0.082761065 | 0.1216449 | -0.68035 | 0.496283 | 0.932415 |
| acot13 | 245.9541022 | 0.012623812 | 0.1399381 | 0.09021 | 0.92812 | 0.992702 |
| raph1b | 648.8254605 | -0.098759764 | 0.1142119 | -0.864706 | 0.3872 | 0.895778 |
| hnrnpm | 6143.291402 | -0.147806693 | 0.0738984 | -2.000134 | 0.045486 | 0.418148 |
| ank3a | 1570.575663 | -0.002136154 | 0.0782933 | -0.027284 | 0.978233 | 0.996762 |
| ecel | 380.3949386 | -0.140903917 | 0.1211289 | -1.163256 | 0.244726 | 0.814435 |
| 2-Mar | 28.92677082 | 0.157446329 | 0.3803713 | 0.4139279 | 0.678927 | 0.965257 |
| itpr3 | 259.826807 | 0.014478465 | 0.1333202 | 0.1085992 | 0.91352 | 0.991119 |
| clasrp | 590.4091003 | 0.010874086 | 0.1069837 | 0.1016424 | 0.919041 | 0.991623 |
| arhgef9a | 568.5815268 | 0.142109641 | 0.1039101 | 1.3676206 | 0.171431 | 0.729863 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| dipk2b | 12.06017591 | 0.255931541 | 0.5624015 | 0.4550691 | 0.64906 | 0.960708 |
| htr3b | 47.0064641 | 0.179970167 | 0.2925842 | 0.6151055 | 0.538485 | 0.943336 |
| ripor2 | 188.6216386 | 0.019344936 | 0.1496824 | 0.1292399 | 0.897168 | 0.990121 |
| rabgap11 | 1169.921753 | -0.127947124 | 0.0845672 | -1.512964 | 0.130289 | 0.662797 |
| sh3pxd2ab | 135.9995256 | -0.04377146 | 0.1908306 | -0.229373 | 0.818579 | 0.981594 |
| kdm6a | 1111.823491 | -0.039141972 | 0.084647 | -0.462414 | 0.643784 | 0.960045 |
| opa3 | 174.4879787 | 0.150540942 | 0.159216 | 0.9455137 | 0.344397 | 0.878434 |
| trim108 | 18.52558904 | -0.099032052 | 0.4837632 | -0.204712 | 0.837797 | 0.984701 |
| spata511 | 111.5788345 | -0.00604858 | 0.190182 | -0.031804 | 0.974628 | 0.996579 |
| ahnak | 2803.768736 | 0.024004882 | 0.0775082 | 0.3097078 | 0.756783 | 0.975374 |
| bmp10 | 2.905940877 | -0.026843586 | 1.1457431 | -0.023429 | 0.981308 | NA |
| abcd4 | 180.1768016 | -0.193173209 | 0.1645644 | -1.173846 | 0.240457 | 0.808525 |
| neur11ab | 60.02910588 | 0.03792042 | 0.2488126 | 0.1524055 | 0.878867 | 0.987881 |
| mbd3a | 1271.564308 | -0.069142219 | 0.081752 | -0.845756 | 0.397689 | 0.899672 |
| fmn2b | 941.48439 | -0.008529813 | 0.1015731 | -0.083977 | 0.933075 | 0.992702 |
| arhgap25 | 6.973177013 | -0.406650297 | 0.723892 | -0.561755 | 0.574283 | NA |
| klh12 | 332.7199161 | 0.023012266 | 0.1272146 | 0.1808933 | 0.856451 | 0.985537 |
| gn11 | 326.2974726 | -0.209055909 | 0.1241136 | -1.684392 | 0.092106 | 0.57849 |
| nyx | 160.4469932 | 0.183614697 | 0.169176 | 1.0853473 | 0.277768 | 0.841388 |
| jam3b | 1063.211873 | 0.087327782 | 0.0909615 | 0.9600521 | 0.337029 | 0.876088 |
| rasgrp4 | 369.2188392 | 0.100483063 | 0.1216304 | 0.8261342 | 0.408728 | 0.90171 |
| zgc:154006 | 23.57220027 | 0.050359528 | 0.3918262 | 0.1285252 | 0.897733 | 0.990121 |
| arhgap271 | 289.1513041 | -0.180566511 | 0.1366656 | -1.321229 | 0.186425 | 0.750788 |
| si:dkey-208k22.6 | 21.96997439 | -0.522795284 | 0.4107658 | -1.272733 | 0.203113 | 0.770099 |
| cnot2 | 1230.235602 | -0.132819161 | 0.0836296 | -1.588184 | 0.112245 | 0.627572 |
| si:ch211-194e15.5 | 162.1665901 | 0.007335238 | 0.1792007 | 0.0409331 | 0.967349 | 0.996315 |
| si:dkey-13n15.2 | 102.5889755 | -0.006900371 | 0.203323 | -0.033938 | 0.972927 | 0.996315 |
| mbd3b | 2037.278889 | 0.033201542 | 0.086288 | 0.384776 | 0.700403 | 0.967998 |
| kif1aa | 1942.699777 | 0.1462547 | 0.0763858 | 1.9146841 | 0.055533 | 0.461579 |
| meox2b | 41.6351005 | -0.248438905 | 0.2988572 | -0.831296 | 0.405806 | 0.901305 |
| wscd2 | 26.84194055 | -0.156894384 | 0.3810123 | -0.411783 | 0.680499 | 0.965431 |
| UNC13A | 136.6329676 | -0.110209361 | 0.1727234 | -0.638069 | 0.523429 | 0.939336 |
| prssl2 | 294.1422204 | 0.027428848 | 0.1318718 | 0.2079964 | 0.835232 | 0.984089 |
| sntgl | 4.034113107 | -0.702332574 | 1.0563031 | -0.664897 | 0.506116 | NA |
| zpld1a | 36.55682292 | -0.112638378 | 0.3297571 | -0.34158 | 0.732667 | 0.971719 |
| nfixb | 42.31548052 | -0.375033819 | 0.3024291 | -1.240072 | 0.214949 | 0.782493 |
| tiparp | 939.1924197 | -0.196645097 | 0.089785 | -2.190178 | 0.028511 | 0.327971 |
| si:dkey-38p12.3 | 426.6764114 | -0.227791995 | 0.1084464 | -2.100504 | 0.035685 | 0.368007 |
| p1d7 | 292.011754 | 0.111356265 | 0.1267066 | 0.878851 | 0.379482 | 0.895192 |
| rxfp3.2b | 33.68650516 | 0.059430175 | 0.3351133 | 0.1773435 | 0.859239 | 0.985773 |
| coll5a1b | 1254.393582 | 0.092371031 | 0.0859662 | 1.0745036 | 0.282597 | 0.843865 |
| si:dkey-19b23.13 | 126.6910889 | 0.023094985 | 0.1817951 | 0.1270386 | 0.89891 | 0.990121 |
| olfml3a | 70.16851845 | 0.368038096 | 0.2444698 | 1.5054544 | 0.132207 | 0.666055 |
| lman2 | 1240.981548 | -0.094524553 | 0.0833481 | -1.134093 | 0.256755 | 0.824902 |
| zgc:153968 | 120.139912 | 0.345553374 | 0.2185012 | 1.581471 | 0.11377 | 0.632292 |
| myo18ab | 1704.920684 | 0.05919584 | 0.0833722 | 0.7100186 | 0.477693 | 0.926857 |
| hdlbpb | 903.4402283 | -0.036722022 | 0.0864718 | -0.42467 | 0.671077 | 0.965257 |
| ddx10 | 374.9462952 | 0.015664742 | 0.1150194 | 0.1361921 | 0.891669 | 0.989291 |
| v2rx3 | 3.095824445 | 0.133928205 | 1.0962878 | 0.1221652 | 0.902768 | NA |
| v2rh10 | | 0 NA | NA | NA | NA | NA |
| satb2 | 120.066495 | -0.111272527 | 0.1809062 | -0.615084 | 0.538499 | 0.943336 |
| ppcs | 148.5466482 | -0.044489308 | 0.1701354 | -0.261494 | 0.793712 | 0.977937 |
| atp13a2 | 198.6544989 | -0.172006448 | 0.153021 | -1.124071 | 0.260983 | 0.829139 |
| usp32 | 932.6284577 | 0.053669291 | 0.0930136 | 0.5770047 | 0.563936 | 0.948739 |

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|-----------------|-------------|--------------|-----------|-----------|----------|----------|
| slco2a1 | 269.2497308 | -0.006426132 | 0.1289406 | -0.049838 | 0.960252 | 0.995388 |
| iqub | 22.89438202 | -0.03364106 | 0.3973862 | -0.084656 | 0.932535 | 0.992702 |
| ankrd13a | 120.5854668 | -0.144489772 | 0.2017637 | -0.716134 | 0.473909 | 0.924993 |
| v2ral8 | 3.216739331 | 0.198727244 | 1.1224662 | 0.1770452 | 0.859473 | NA |
| fhod3b | 72.67005334 | 0.225470889 | 0.2404758 | 0.9376031 | 0.348448 | 0.880195 |
| mfsd12a | 148.8522987 | -0.208357588 | 0.1661897 | -1.253733 | 0.209939 | 0.777416 |
| si:ch73-233f7.1 | 1342.092085 | 0.017680068 | 0.0935072 | 0.189077 | 0.850032 | 0.985174 |
| git2a | 336.1631311 | 0.082661833 | 0.1210527 | 0.6828583 | 0.494696 | 0.931926 |
| tmem51b | 117.9897583 | -0.353413622 | 0.191975 | -1.840936 | 0.065631 | 0.500566 |
| cplx2 | 1019.02476 | 0.03593116 | 0.0921636 | 0.3898627 | 0.696638 | 0.96736 |
| gltpa | 207.6879078 | -0.256364681 | 0.1468133 | -1.746195 | 0.080777 | 0.550801 |
| amot12a | 1324.390391 | -0.080941794 | 0.0851337 | -0.950761 | 0.341726 | 0.878134 |
| fbxo10 | 22.77621822 | -0.249332215 | 0.4260802 | -0.585177 | 0.558429 | 0.948478 |
| htr4 | 7.975389269 | 0.102815582 | 0.7102632 | 0.144757 | 0.884903 | NA |
| trpv4 | 186.6324394 | 0.038480093 | 0.1533074 | 0.2509996 | 0.801814 | 0.979492 |
| commd4 | 203.7190668 | 0.151547659 | 0.1553754 | 0.9753646 | 0.329379 | 0.873436 |
| amot12b | 497.9392886 | -0.04843052 | 0.1260952 | -0.384079 | 0.70092 | 0.968134 |
| golgb1 | 994.253522 | -0.021156757 | 0.0838827 | -0.252218 | 0.800872 | 0.979377 |
| ecpas | 1108.610841 | -0.013883772 | 0.0871742 | -0.159265 | 0.87346 | 0.987858 |
| sytl2a | 82.80399843 | 0.066295046 | 0.2517917 | 0.2632933 | 0.792325 | 0.977937 |
| ube3b | 34.36308483 | -0.000203351 | 0.3394439 | -0.000599 | 0.999522 | 0.999704 |
| vrtn | 7.318082693 | 0.025836884 | 0.7147288 | 0.0361492 | 0.971163 | NA |
| myolha | 7.353111201 | 0.401253564 | 0.7041633 | 0.5698303 | 0.568793 | NA |
| lingo3a | 140.7645829 | 0.273288588 | 0.167494 | 1.6316325 | 0.102757 | 0.609031 |
| grhl2b | 185.0719768 | -0.056617233 | 0.1652711 | -0.342572 | 0.731921 | 0.971665 |
| sema6bb | 50.88258389 | 0.192838654 | 0.280957 | 0.6863636 | 0.492484 | 0.931926 |
| ppfibp2a | 338.4934674 | 0.078922517 | 0.1333792 | 0.5917152 | 0.554041 | 0.947449 |
| lap3 | 457.3763534 | 0.034386388 | 0.1062315 | 0.323693 | 0.74617 | 0.97419 |
| rbm47 | 1007.099136 | -0.253100345 | 0.0852105 | -2.970296 | 0.002975 | 0.071657 |
| tbc1d2b | 94.03217945 | 0.067568008 | 0.2019855 | 0.3345191 | 0.737988 | 0.972535 |
| mpnd | 551.0957042 | -0.103459274 | 0.1111927 | -0.93045 | 0.352138 | 0.880879 |
| kcnh4b | 55.6387792 | 0.226704929 | 0.2660822 | 0.852011 | 0.394208 | 0.898673 |
| dot11 | 39.20646267 | 0.426076486 | 0.3280295 | 1.298897 | 0.193979 | 0.75784 |
| wdr74 | 148.4975991 | -0.094361387 | 0.1805649 | -0.52259 | 0.60126 | 0.956045 |
| acacb | 728.3858416 | 0.093533524 | 0.0969432 | 0.9648281 | 0.334631 | 0.875699 |
| abtb2b | 195.3547438 | -0.150872809 | 0.1461783 | -1.032115 | 0.302018 | 0.856944 |
| adnpa | | 0 NA | NA | NA | NA | NA |
| myo5b | 952.7131657 | -0.373905018 | 0.0897206 | -4.167439 | 3.08E-05 | 0.001781 |
| hs2st1b | 235.4509052 | -0.095804946 | 0.1385101 | -0.691682 | 0.489137 | 0.931926 |
| gpr18 | 0.794338034 | 3.131709106 | 2.3335617 | 1.3420297 | 0.179586 | NA |
| vps51 | 437.4981485 | 0.130899601 | 0.113489 | 1.153412 | 0.248741 | 0.81797 |
| fsd1 | 212.7401348 | -0.020812689 | 0.1517188 | -0.137179 | 0.890889 | 0.989291 |
| rufy2 | 1069.807631 | -0.056399004 | 0.0931131 | -0.605704 | 0.544711 | 0.945438 |
| gsel | 1670.162083 | -0.113158019 | 0.0857359 | -1.319844 | 0.186887 | 0.750967 |
| ccdc181 | 71.55064882 | 0.062866519 | 0.2307718 | 0.2724185 | 0.7853 | 0.97627 |
| fnhc3bb | 139.7341904 | -0.080999477 | 0.1702847 | -0.475671 | 0.634309 | 0.95776 |
| kif1ab | 333.4612032 | 0.081147218 | 0.1481066 | 0.5478976 | 0.583762 | 0.952214 |
| cpox | 470.9157035 | -0.529384618 | 0.1144475 | -4.625567 | 3.74E-06 | 0.000317 |
| gpr17 | 19.78800758 | 0.287319599 | 0.4378823 | 0.6561571 | 0.511723 | 0.936253 |
| atp8b5a | 49.21144991 | -0.227983327 | 0.2987319 | -0.76317 | 0.445362 | 0.917117 |
| mthfsd | 14.00914446 | 0.2485652 | 0.5225394 | 0.475687 | 0.634297 | 0.95776 |
| illrap11a | 649.5701833 | -0.113481915 | 0.1068261 | -1.062305 | 0.288097 | 0.845979 |
| arhgap45b | 33.94148495 | -0.034392631 | 0.336443 | -0.102224 | 0.918579 | 0.991623 |
| casp2 | 250.436266 | 0.079269394 | 0.1342334 | 0.5905341 | 0.554833 | 0.947449 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| kif1bp | 568.8275035 | 0.081421752 | 0.0993369 | 0.8196524 | 0.412414 | 0.904913 |
| cptlab | 1981.249326 | 0.025864502 | 0.0753355 | 0.343324 | 0.731355 | 0.971557 |
| rnf38 | 288.7450314 | -0.114295569 | 0.1279698 | -0.893145 | 0.371779 | 0.892248 |
| elmod1 | 2355.990694 | 0.037696715 | 0.0779029 | 0.4838936 | 0.628461 | 0.957354 |
| zgc:174945 | 1.306217685 | 0.741218782 | 1.6736071 | 0.442887 | 0.657847 | NA |
| slc12a7b | 2243.191748 | 0.368350179 | 0.0823372 | 4.4736803 | 7.69E-06 | 0.000576 |
| si:ch211-236114.4 | 250.4810326 | 0.420104136 | 0.136124 | 3.0861863 | 0.002027 | 0.05403 |
| gmebl | 437.9857799 | -0.091815018 | 0.1162911 | -0.789527 | 0.429804 | 0.911615 |
| tab3 | 412.5605319 | 0.061742773 | 0.129511 | 0.4767376 | 0.633549 | 0.957703 |
| acsbgl | 8.862418044 | 0.282399899 | 0.6339079 | 0.4454904 | 0.655965 | NA |
| shc2 | 48.97172935 | 0.178911704 | 0.2866991 | 0.6240399 | 0.532601 | 0.942805 |
| tblcl1 | 673.852073 | 0.028310132 | 0.1020102 | 0.2775225 | 0.781379 | 0.97627 |
| hipk3b | 73.57446916 | 0.806347296 | 0.257247 | 3.1345261 | 0.001721 | 0.047873 |
| dph7 | 207.0583101 | -0.141952735 | 0.1503371 | -0.94423 | 0.345052 | 0.878434 |
| clcn1a | 88.91245966 | 0.341186147 | 0.2147561 | 1.5887144 | 0.112125 | 0.627454 |
| tkfc | 280.7366712 | -0.346781804 | 0.1353806 | -2.561532 | 0.010421 | 0.175676 |
| kiaal5491b | 16.54936359 | 0.043293429 | 0.470777 | 0.0919616 | 0.926729 | 0.992702 |
| ncehlb.1 | 67.07886177 | -0.151848338 | 0.2411471 | -0.629692 | 0.528896 | 0.942109 |
| uggt2 | 857.4766323 | 0.206238802 | 0.094312 | 2.1867723 | 0.028759 | 0.328909 |
| pm20d1.2 | 182.0030884 | -0.020578383 | 0.1528508 | -0.134631 | 0.892904 | 0.989291 |
| iffo2a | 18.62497727 | -0.028652368 | 0.4374985 | -0.065491 | 0.947783 | 0.99381 |
| ankrd24 | 156.782574 | 0.025195533 | 0.1635537 | 0.1540505 | 0.87757 | 0.987881 |
| klf5b | 38.14362801 | 0.124079128 | 0.3099813 | 0.4002794 | 0.688951 | 0.966672 |
| iffo1b | 45.72846087 | -0.062675324 | 0.2839934 | -0.220693 | 0.825332 | 0.982196 |
| shdb | 383.2836232 | -0.128433583 | 0.1131458 | -1.135116 | 0.256327 | 0.824633 |
| rxfp3.3a2 | 7.312814974 | -0.381719226 | 0.6987637 | -0.546278 | 0.584875 | NA |
| tent4a | 72.8601412 | -0.144297891 | 0.2342831 | -0.615912 | 0.537952 | 0.943336 |
| ctdsp1b | 618.6695123 | 0.204438696 | 0.1039293 | 1.9670935 | 0.049172 | 0.435115 |
| klhl5 | 8.286961067 | -0.062327203 | 0.7090238 | -0.087906 | 0.929952 | NA |
| agap1 | 1730.869444 | -0.051295845 | 0.0809504 | -0.63367 | 0.526296 | 0.940506 |
| mxra8b | 383.311624 | 0.153956457 | 0.1190081 | 1.2936639 | 0.195782 | 0.76113 |
| cyp4v8 | 204.0290848 | -0.120088867 | 0.1695032 | -0.708476 | 0.47865 | 0.926978 |
| kcnab2b | 45.19565281 | 0.068007164 | 0.3076648 | 0.2210431 | 0.825059 | 0.982196 |
| sytl5 | 17.41342862 | -0.442790439 | 0.4746704 | -0.932838 | 0.350904 | 0.880443 |
| stag1b | 1179.895681 | 0.017665034 | 0.0820789 | 0.2152201 | 0.829596 | 0.982805 |
| ranbp10 | 414.0156135 | 0.084101413 | 0.113011 | 0.7441879 | 0.456763 | 0.921215 |
| eif2ak3 | 597.076397 | -0.125358956 | 0.1008639 | -1.242853 | 0.213922 | 0.782251 |
| stoml1 | 133.9118793 | 0.151573662 | 0.1861453 | 0.8142759 | 0.415487 | 0.906237 |
| larp4b | 488.7152556 | 0.073723304 | 0.1077856 | 0.6839808 | 0.493987 | 0.931926 |
| otc | 198.2048353 | 0.118453038 | 0.1545528 | 0.7664246 | 0.443424 | 0.916631 |
| SENP7 | 310.5437283 | 0.008679077 | 0.1257543 | 0.0690161 | 0.944977 | 0.993409 |
| chaf1a | 1292.325804 | -0.158006677 | 0.0882675 | -1.790089 | 0.07344 | 0.528705 |
| dip2ca | 519.289476 | 0.013427175 | 0.1030933 | 0.130243 | 0.896374 | 0.989971 |
| abi3bpa | 27.34681848 | -0.095786754 | 0.3724664 | -0.257169 | 0.797048 | 0.978569 |
| atrn | 698.6933273 | 0.047169566 | 0.0979339 | 0.481647 | 0.630057 | 0.957354 |
| tub | 485.794439 | 0.178141576 | 0.1103663 | 1.6140945 | 0.106507 | 0.615567 |
| tmem168b | 18.9985393 | -0.046445169 | 0.4499003 | -0.103234 | 0.917777 | 0.991623 |
| olfml3b | 486.8506613 | 0.218844759 | 0.1047521 | 2.089168 | 0.036693 | 0.374386 |
| camsap2a | 343.9124624 | 0.013223213 | 0.1270111 | 0.1041107 | 0.917081 | 0.991572 |
| cacnb4b | 2040.258485 | 0.129428652 | 0.0798456 | 1.6209862 | 0.105021 | 0.613313 |
| dcblld2 | 149.017877 | -0.134704058 | 0.1653476 | -0.814672 | 0.41526 | 0.906237 |
| ripor1 | 657.5791158 | -0.063367429 | 0.0979642 | -0.646843 | 0.517734 | 0.938592 |
| bmt2 | 58.29537729 | 0.334149515 | 0.265847 | 1.2569242 | 0.208781 | 0.776022 |
| slc22a7b.3 | 17.11714906 | 0.445745447 | 0.4676776 | 0.9531041 | 0.340537 | 0.878053 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| kif14 | 243.6740537 | 0.038838195 | 0.1375974 | 0.2822597 | 0.777744 | 0.975942 |
| PDE3B | 593.0605086 | -0.150486215 | 0.1139889 | -1.320183 | 0.186774 | 0.750951 |
| TBC1D8B | 546.4949864 | 0.122008281 | 0.1025623 | 1.1896021 | 0.234203 | 0.802815 |
| fbxo31 | 102.5222685 | 0.156667041 | 0.1969515 | 0.79546 | 0.426346 | 0.909969 |
| pcml | 1251.312407 | -0.095017664 | 0.0864234 | -1.099444 | 0.271575 | 0.83659 |
| si:dkey-217124.1 | 44.53518961 | 0.144385076 | 0.2958412 | 0.4880492 | 0.625515 | 0.957354 |
| sigirr | 76.89633026 | -0.109979462 | 0.2195341 | -0.500967 | 0.616394 | 0.95688 |
| skiv21 | 317.4148695 | -0.099009377 | 0.126769 | -0.781022 | 0.434789 | 0.914408 |
| prrtl | 140.3943712 | 0.360129446 | 0.1940328 | 1.8560235 | 0.06345 | 0.492164 |
| mrps5 | 556.3193973 | 0.0592897 | 0.1082189 | 0.5478683 | 0.583782 | 0.952214 |
| narfl | 299.7107083 | -0.02979597 | 0.1261558 | -0.236184 | 0.81329 | 0.981081 |
| kcnj3b | 372.6282753 | 0.117464056 | 0.1330813 | 0.8826486 | 0.377426 | 0.895192 |
| plekha7b | 306.0512718 | -0.09484358 | 0.1380628 | -0.68696 | 0.492108 | 0.931926 |
| arapla | 110.3452309 | 0.493746393 | 0.197153 | 2.5043824 | 0.012267 | 0.195612 |
| mxra8a | 230.1252832 | 0.231890178 | 0.1449999 | 1.5992434 | 0.109767 | 0.623766 |
| ino80db | 513.0319265 | -0.081943758 | 0.1143923 | -0.71634 | 0.473781 | 0.924993 |
| adipoqa | 5.859313351 | 0.594349931 | 0.8332962 | 0.7132517 | 0.47569 | NA |
| znf362b | 72.84106767 | -0.05313384 | 0.2460168 | -0.215976 | 0.829006 | 0.982721 |
| lrrc34 | 6.524363123 | -0.029159367 | 0.7760261 | -0.037575 | 0.970026 | NA |
| nfs1 | 467.8429935 | 0.053217158 | 0.1144122 | 0.4651353 | 0.641835 | 0.959994 |
| si:ch211-15p9.2 | | 0 NA | NA | NA | NA | NA |
| setd2 | 1435.633247 | -0.023076774 | 0.082407 | -0.280034 | 0.779451 | 0.976146 |
| ptpn21 | 42.11340349 | 0.409355297 | 0.299182 | 1.3682486 | 0.171234 | 0.729413 |
| fbx17 | 66.56915255 | 0.276329345 | 0.2414422 | 1.144495 | 0.252418 | 0.821887 |
| armc8 | 310.5591435 | -0.05909439 | 0.1312715 | -0.450169 | 0.652588 | 0.960708 |
| ednrab | 5.971464881 | -0.159169712 | 0.7651623 | -0.208021 | 0.835213 | NA |
| arhgap17b | 286.7820583 | -0.088355079 | 0.1376627 | -0.641823 | 0.520988 | 0.939056 |
| edc4 | 867.6612584 | 0.220822284 | 0.088605 | 2.4922113 | 0.012695 | 0.200185 |
| kdm3b | 2736.688066 | -0.169744491 | 0.0785093 | -2.162094 | 0.030611 | 0.338573 |
| jarid2b | 64.61277594 | 0.195679945 | 0.2437916 | 0.8026526 | 0.422176 | 0.90651 |
| fan1 | 210.5835628 | -0.129874417 | 0.146023 | -0.889411 | 0.373782 | 0.893677 |
| slc25a15b | 129.8800644 | -0.103211948 | 0.1770179 | -0.583059 | 0.559853 | 0.948478 |
| afg312 | 1126.885465 | 0.065755931 | 0.0885582 | 0.7425164 | 0.457775 | 0.921978 |
| ppp2r2cb | 184.0885564 | -0.182794024 | 0.1633389 | -1.119109 | 0.263094 | 0.830245 |
| si:dkey-202e17.1 | 15.73668277 | 0.352241965 | 0.4803319 | 0.7333304 | 0.463357 | 0.922701 |
| hacel | 160.6488214 | -0.178299538 | 0.1682915 | -1.059468 | 0.289387 | 0.846123 |
| edaradd | 19.0070758 | 0.086454967 | 0.4612997 | 0.187416 | 0.851334 | 0.985174 |
| qpct1b | 26.11992961 | -0.227140317 | 0.3769774 | -0.60253 | 0.546821 | 0.945526 |
| soat1 | 35.22690594 | -0.699212684 | 0.3380078 | -2.068629 | 0.038581 | 0.385234 |
| znf652 | 297.3725183 | 0.177953055 | 0.1294261 | 1.3749396 | 0.16915 | 0.726198 |
| pdpk1a | 213.5715126 | -0.144707371 | 0.1458945 | -0.991863 | 0.321264 | 0.868938 |
| rims3 | 4.833314255 | 0.511670522 | 0.8506974 | 0.6014719 | 0.547526 | NA |
| ccdc61 | 237.3567138 | -0.000961225 | 0.1353058 | -0.007104 | 0.994332 | 0.998694 |
| si:ch211-1f22.14 | 0.500161739 | 2.450146464 | 2.7711133 | 0.8841741 | 0.376602 | NA |
| wdr26a | 319.184748 | 0.124315882 | 0.1242078 | 1.0008704 | 0.316889 | 0.867308 |
| rasl10a | 3.961605242 | -1.273296815 | 0.9680552 | -1.315314 | 0.188404 | NA |
| sik2b | 1250.967895 | 0.154452893 | 0.0854429 | 1.8076745 | 0.070657 | 0.520155 |
| si:dkey-103g5.3 | 307.6102398 | 0.236022221 | 0.1364401 | 1.7298596 | 0.083655 | 0.557158 |
| adam23a | 1652.070416 | 0.045434758 | 0.0746115 | 0.608951 | 0.542557 | 0.944974 |
| shank2b | 309.7450175 | 0.155209528 | 0.124724 | 1.2444242 | 0.213343 | 0.781631 |
| hmgn7 | 7224.084219 | -0.071400626 | 0.0701052 | -1.018478 | 0.308451 | 0.861088 |
| rasgrp2 | 8.23504096 | -1.23875974 | 0.7332036 | -1.689517 | 0.09112 | NA |
| b4galt3 | 60.64760396 | -0.226253049 | 0.2602937 | -0.869222 | 0.384726 | 0.89551 |
| si:ch211-233a24.2 | 1895.918086 | -0.000885921 | 0.082822 | -0.010697 | 0.991465 | 0.997679 |

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|------------------|-------------|--------------|-----------|-----------|----------|----------|
| nudt14 | 59.97283017 | 0.389084962 | 0.2608468 | 1.4916226 | 0.135798 | 0.672208 |
| zeb2a | 2053.173618 | -0.031126092 | 0.0722716 | -0.430682 | 0.6667 | 0.964736 |
| wfsla | 111.0461256 | 0.191262522 | 0.209482 | 0.913026 | 0.361229 | 0.885686 |
| cacnalea | 70.76276545 | 0.020094935 | 0.2398359 | 0.0837862 | 0.933226 | 0.992702 |
| mtus2a | 102.0681994 | 0.157629144 | 0.1975831 | 0.7977867 | 0.424994 | 0.908819 |
| arhgap15 | 5.913214255 | 0.60422254 | 0.7934203 | 0.7615416 | 0.446334 | NA |
| synm | 171.0864467 | -0.001922833 | 0.1564973 | -0.012287 | 0.990197 | 0.997679 |
| sema4ab | 358.1868825 | -0.00251228 | 0.1182723 | -0.021241 | 0.983053 | 0.996944 |
| axdnd1 | 42.23809224 | 0.268089143 | 0.2988661 | 0.897021 | 0.369708 | 0.889476 |
| tafala | 194.488616 | -0.058162748 | 0.1542715 | -0.377016 | 0.706162 | 0.968459 |
| scn3b | 227.6897325 | -0.069222053 | 0.1580857 | -0.437877 | 0.661476 | 0.964234 |
| PAXBP1 | 970.1001297 | 0.011334666 | 0.0911173 | 0.1243964 | 0.901001 | 0.990121 |
| tpcn1 | 271.2378501 | 0.200588792 | 0.1332389 | 1.5054819 | 0.1322 | 0.666055 |
| phex | 578.5486534 | 0.105865741 | 0.1118932 | 0.9461321 | 0.344081 | 0.878434 |
| bc12l13 | 698.3219639 | 0.287702299 | 0.0998887 | 2.8802299 | 0.003974 | 0.086636 |
| nrd1b | 327.4266375 | 0.058578372 | 0.125041 | 0.4684735 | 0.639446 | 0.959994 |
| leng9 | 114.8737625 | -0.10030814 | 0.1902601 | -0.527216 | 0.598044 | 0.955459 |
| nlgn3b | 1100.391209 | 0.001001824 | 0.0919287 | 0.0108978 | 0.991305 | 0.997679 |
| CRHR2 | 17.08768559 | -0.092017913 | 0.4687149 | -0.19632 | 0.84436 | 0.985174 |
| slc35a4 | 484.9612734 | -0.13491902 | 0.1047392 | -1.288143 | 0.197696 | 0.762928 |
| si:ch211-238n5.4 | 478.6157333 | 0.005741973 | 0.1062016 | 0.0540667 | 0.956882 | 0.994543 |
| snapin | 480.6476312 | 0.081419967 | 0.107712 | 0.7559043 | 0.449707 | 0.918526 |
| flcn | 541.2485537 | -0.250058234 | 0.1041522 | -2.400892 | 0.016355 | 0.236236 |
| cdc42ep5 | 240.1268904 | 0.014197645 | 0.1400626 | 0.1013664 | 0.91926 | 0.991623 |
| ankslaa | 49.41627217 | -0.005151258 | 0.2734054 | -0.018841 | 0.984968 | 0.996944 |
| ndst1a | 336.4602929 | 0.024949938 | 0.1262359 | 0.1976453 | 0.843323 | 0.985174 |
| znf319b | 205.2622365 | 0.053199675 | 0.1476265 | 0.3603668 | 0.718573 | 0.96909 |
| frem1b | 364.0028586 | 0.253912584 | 0.1194711 | 2.1253062 | 0.033561 | 0.357045 |
| ctnnd2a | 686.0199261 | -0.025942901 | 0.1052059 | -0.246592 | 0.805224 | 0.979883 |
| t1l | 64.96248616 | 0.145076315 | 0.2432329 | 0.5964502 | 0.550875 | 0.946549 |
| nfia | 123.7384249 | -0.197416228 | 0.1904393 | -1.036636 | 0.299906 | 0.855995 |
| pex2 | 45.69531047 | 0.373222616 | 0.2863881 | 1.3032057 | 0.192505 | 0.756795 |
| zgc:153901 | 54.30986512 | -0.213485361 | 0.2754656 | -0.774998 | 0.438341 | 0.915672 |
| zgc:153521 | 220.0885802 | 0.021991825 | 0.1417074 | 0.1551918 | 0.87667 | 0.987881 |
| clcn2a | 21.50449436 | 0.255593083 | 0.4162189 | 0.6140833 | 0.53916 | 0.943733 |
| trim109 | 45.19789166 | 0.161406187 | 0.2895328 | 0.5574712 | 0.577206 | 0.950788 |
| gpd2 | 79.42191742 | 0.037019635 | 0.2345921 | 0.1578043 | 0.874611 | 0.987881 |
| msrblb | 6.706896195 | 0.657116941 | 0.7578947 | 0.8670293 | 0.385926 | NA |
| pias1b | 145.2365352 | -0.06982186 | 0.1656992 | -0.421377 | 0.67348 | 0.965257 |
| neur12 | 47.99653582 | 0.604909374 | 0.2908692 | 2.0796609 | 0.037557 | 0.379013 |
| hecw2a | 413.8791472 | 0.02158008 | 0.1161261 | 0.1858331 | 0.852576 | 0.985174 |
| skor1b | 300.1817534 | -0.109262965 | 0.1391675 | -0.785118 | 0.432384 | 0.91326 |
| xpr1a | 770.1004322 | 0.170014276 | 0.0990463 | 1.7165125 | 0.086068 | 0.563109 |
| rnf115 | 526.6870139 | -0.110279458 | 0.113318 | -0.973186 | 0.330461 | 0.874098 |
| las1l | 523.1155248 | -0.102715927 | 0.1114201 | -0.92188 | 0.356591 | 0.883422 |
| sgk3 | 366.1950314 | -0.007966274 | 0.1227007 | -0.064924 | 0.948234 | 0.99381 |
| shisa7a | 99.47272188 | 0.115870472 | 0.1994576 | 0.580928 | 0.561289 | 0.948728 |
| zc3h12b | 13.34284771 | 0.235152923 | 0.5223165 | 0.4502116 | 0.652558 | 0.960708 |
| pgap1 | 40.38339937 | -0.08281801 | 0.3157567 | -0.262284 | 0.793102 | 0.977937 |
| stra6l | 66.14240547 | 0.294155052 | 0.2490962 | 1.1808896 | 0.237647 | 0.806474 |
| hipk3a | 844.5772387 | -0.031990647 | 0.0912242 | -0.350682 | 0.725827 | 0.970402 |
| tafa4b | 80.83670686 | -0.028243136 | 0.2275201 | -0.124135 | 0.901209 | 0.990121 |
| sin3b | 833.7475751 | 0.061604828 | 0.1083249 | 0.5687044 | 0.569557 | 0.948983 |
| snape5 | 366.6339974 | 0.207954536 | 0.1165179 | 1.7847438 | 0.074303 | 0.530996 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| kiaal5491a | 1147.094776 | 0.146491973 | 0.0980672 | 1.4937917 | 0.13523 | 0.670689 |
| ackr3a | 28.21807685 | 0.028982404 | 0.3930716 | 0.0737331 | 0.941223 | 0.992857 |
| vcamlb | 539.9476044 | 0.018616239 | 0.1049426 | 0.1773945 | 0.859199 | 0.985773 |
| mlphb | 87.47696291 | -0.593353563 | 0.2176846 | -2.725749 | 0.006416 | 0.122335 |
| lyvelb | 23.32611585 | -0.38954319 | 0.4160367 | -0.936319 | 0.349109 | 0.880195 |
| dock11 | 252.3000721 | -0.003866284 | 0.1410589 | -0.027409 | 0.978134 | 0.996762 |
| si:dkey-6n6.1 | 522.6879747 | 0.021557581 | 0.1290345 | 0.1670683 | 0.867316 | 0.987125 |
| 8-Mar | 746.8207964 | 0.133567466 | 0.0915863 | 1.4583776 | 0.144736 | 0.688986 |
| hhip11 | 233.229752 | -0.159608993 | 0.1370727 | -1.164411 | 0.244257 | 0.813808 |
| si:ch73-19616.5 | 6.685284747 | -0.422152443 | 0.736138 | -0.573469 | 0.566327 | NA |
| zc3h18 | 1226.55275 | -0.051635962 | 0.0946449 | -0.545576 | 0.585358 | 0.952585 |
| cplx3a | 21.37995931 | -0.034899467 | 0.4275191 | -0.081633 | 0.934939 | 0.992702 |
| bcl11ba | 1695.977431 | -0.058024106 | 0.0916179 | -0.633327 | 0.52652 | 0.940506 |
| golga3 | 495.7079526 | -0.194163344 | 0.1075179 | -1.805869 | 0.070939 | 0.521075 |
| tecprla | 142.3484949 | -0.007515279 | 0.1990488 | -0.037756 | 0.969882 | 0.996315 |
| si:ch211-107n13.1 | 51.58930651 | 0.048086868 | 0.2723336 | 0.1765734 | 0.859844 | 0.985773 |
| ulk1a | 208.09428 | -0.017883642 | 0.1457677 | -0.122686 | 0.902356 | 0.990121 |
| abcc13 | 62.07509274 | 0.221709889 | 0.2463546 | 0.8999625 | 0.36814 | 0.88754 |
| atp9b | 46.3411669 | 0.348238277 | 0.2913115 | 1.1954154 | 0.231925 | 0.800084 |
| ASTE1 | 34.25707887 | 0.227846167 | 0.3524981 | 0.6463756 | 0.518036 | 0.938592 |
| mapk8ip3 | 2349.69571 | 0.06197481 | 0.0802464 | 0.7723065 | 0.439933 | 0.916082 |
| washc2c | 839.8022762 | -0.105510793 | 0.0993464 | -1.062049 | 0.288213 | 0.845979 |
| si:dkey-117i10.1 | 28.9487939 | -0.617907527 | 0.3692786 | -1.673283 | 0.094272 | 0.583986 |
| TMEM132C | 101.2801972 | -0.201137304 | 0.2127957 | -0.945213 | 0.34455 | 0.878434 |
| acmsd | 186.0694802 | -0.463384437 | 0.1552967 | -2.983865 | 0.002846 | 0.069229 |
| rc3h1a | 20.39234352 | 0.588168357 | 0.4357852 | 1.3496748 | 0.17712 | 0.738119 |
| lpar6a | 520.4950361 | -0.014588851 | 0.1125012 | -0.129677 | 0.896822 | 0.989971 |
| bach1a | 102.8590447 | -0.017485744 | 0.1944557 | -0.089921 | 0.92835 | 0.992702 |
| rspryl | 639.9096324 | 0.126626232 | 0.0969157 | 1.3065604 | 0.191362 | 0.755886 |
| adck1 | 152.7884583 | 0.04589124 | 0.1655674 | 0.2771756 | 0.781645 | 0.97627 |
| egln2 | 40.301933 | 0.243195576 | 0.3156787 | 0.7703897 | 0.441069 | 0.916336 |
| kcnh4a | 39.55171349 | 0.1027917 | 0.3117706 | 0.329703 | 0.741624 | 0.973154 |
| mrpl2 | 889.2966882 | 0.004994688 | 0.0947224 | 0.0527298 | 0.957947 | 0.99467 |
| znrf3 | 227.8532779 | 0.161956612 | 0.1374308 | 1.1784591 | 0.238614 | 0.807659 |
| si:ch211-210g13.5 | 38.20192741 | 0.230334777 | 0.3117685 | 0.7388007 | 0.460028 | 0.921978 |
| arhgap35a | 1177.349564 | -0.080468706 | 0.0834249 | -0.964565 | 0.334763 | 0.875699 |
| kremen1 | 14.72278174 | -0.549865671 | 0.5128161 | -1.072247 | 0.283609 | 0.84466 |
| brat1 | 211.8881369 | -0.102144548 | 0.1563822 | -0.653172 | 0.513645 | 0.936778 |
| pleca | 1676.681507 | 0.246831405 | 0.0776838 | 3.1773877 | 0.001486 | 0.042404 |
| myl10 | 4234.090062 | 0.153233613 | 0.1086295 | 1.4106072 | 0.15836 | 0.709224 |
| stox1 | 261.2936363 | -0.018914651 | 0.1441592 | -0.131207 | 0.895612 | 0.989814 |
| coq7 | 273.6653857 | -0.035220797 | 0.135142 | -0.260621 | 0.794385 | 0.977937 |
| ltc4s | 5.270330169 | -0.206427804 | 0.8462949 | -0.243919 | 0.807293 | NA |
| piwil2 | 22.70341272 | 0.049653204 | 0.4117852 | 0.1205804 | 0.904023 | 0.990291 |
| si:dkey-26i13.8 | 123.663493 | 0.034236144 | 0.1910309 | 0.1792178 | 0.857767 | 0.985703 |
| dhx37 | 387.1325765 | -0.120577698 | 0.1136937 | -1.060549 | 0.288895 | 0.845979 |
| kcnj12b | 211.5808972 | 0.381129078 | 0.1529994 | 2.4910491 | 0.012737 | 0.200229 |
| satb1b | 79.97695706 | -0.065869808 | 0.2323627 | -0.283478 | 0.77681 | 0.975826 |
| dnah9l | 23.05657846 | -0.020726127 | 0.4059822 | -0.051052 | 0.959284 | 0.995115 |
| npffr112 | 10.30465418 | -0.384379168 | 0.6020053 | -0.638498 | 0.52315 | NA |
| duox | 22.57138423 | -0.47741158 | 0.4108374 | -1.162045 | 0.245217 | 0.815227 |
| cadm2b | 197.4858304 | 0.028244512 | 0.1480373 | 0.1907933 | 0.848688 | 0.985174 |
| kat2b | 24.41240544 | -0.189755676 | 0.3909993 | -0.485309 | 0.627457 | 0.957354 |
| fem1b | 290.5892078 | -0.007908242 | 0.1297852 | -0.060933 | 0.951412 | 0.99381 |

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|-----------------|-------------|--------------|-----------|-----------|----------|----------|
| kcnh8 | 20.45551806 | -0.330888816 | 0.4575133 | -0.723233 | 0.469537 | 0.924505 |
| tet3 | 3392.541335 | -0.117940745 | 0.0807393 | -1.46076 | 0.144081 | 0.68818 |
| rif1 | 865.3471173 | -0.109990633 | 0.0929408 | -1.183448 | 0.236632 | 0.805854 |
| zc3hc1 | 405.391716 | -0.02752817 | 0.1192653 | -0.230815 | 0.817459 | 0.981594 |
| ydjc | 103.6156123 | 0.084609758 | 0.2206472 | 0.3834618 | 0.701377 | 0.968134 |
| abca4b | 755.3394392 | 0.273458118 | 0.0994503 | 2.7496972 | 0.005965 | 0.116901 |
| lmod3 | 101.3145158 | 0.648851511 | 0.2211044 | 2.9345931 | 0.00334 | 0.077242 |
| oxnad1 | 276.2832021 | -0.109284645 | 0.1319984 | -0.827924 | 0.407713 | 0.9014 |
| mpp3b | 212.324504 | 0.169371147 | 0.144037 | 1.1758866 | 0.23964 | 0.808091 |
| kcnj19b | 112.6077538 | 0.035271217 | 0.1994381 | 0.1768529 | 0.859624 | 0.985773 |
| btbd10a | 1130.174981 | -0.061345084 | 0.0818062 | -0.749883 | 0.453325 | 0.920041 |
| megf11 | 246.5598196 | 0.062856027 | 0.1614376 | 0.3893519 | 0.697016 | 0.96736 |
| kcnh7 | 19.75536019 | 0.119766482 | 0.4364977 | 0.2743806 | 0.783792 | 0.97627 |
| gpnmb | 1285.037931 | -0.642137713 | 0.0868455 | -7.394026 | 1.42E-13 | 5.63E-11 |
| nrxn3b | 407.1390744 | 0.142748082 | 0.1292685 | 1.1042757 | 0.269474 | 0.834705 |
| ccdc126 | 106.654302 | 0.003393585 | 0.1936597 | 0.0175234 | 0.986019 | 0.996944 |
| dgkg | 8.739866393 | -0.608634811 | 0.6408705 | -0.9497 | 0.342265 | NA |
| nkain4 | 124.1082104 | 0.182631134 | 0.1903814 | 0.9592908 | 0.337412 | 0.876394 |
| ankmyl | 24.11961343 | -0.130368064 | 0.3833603 | -0.340067 | 0.733806 | 0.971993 |
| plat | 38.47914385 | 0.603072005 | 0.3352452 | 1.798898 | 0.072035 | 0.525083 |
| gal3st1a | 129.1875167 | 0.473325182 | 0.1772701 | 2.6700796 | 0.007583 | 0.138588 |
| tmem264 | 40.23436849 | -0.133132472 | 0.3017863 | -0.441148 | 0.659106 | 0.962839 |
| pcdh1a | 493.7812404 | 0.106971244 | 0.1157008 | 0.9245509 | 0.3552 | 0.882342 |
| dennd4a | 202.7392673 | 0.100098712 | 0.1476204 | 0.6780818 | 0.49772 | 0.93348 |
| cep290 | 527.1048758 | 0.012686614 | 0.1076257 | 0.1178772 | 0.906165 | 0.990702 |
| scn11ab | 152.1355428 | 0.006235975 | 0.1721023 | 0.0362341 | 0.971096 | 0.996315 |
| socs5b | 145.0452673 | 0.244758806 | 0.180861 | 1.353298 | 0.17596 | 0.736505 |
| pkn1b | 49.25554472 | -0.124526235 | 0.283395 | -0.439409 | 0.660365 | 0.963766 |
| ino80b | 301.2991406 | 0.003353056 | 0.1350491 | 0.0248284 | 0.980192 | 0.996879 |
| si:ch73-74h11.1 | 491.4896031 | 0.209894874 | 0.103497 | 2.0280293 | 0.042557 | 0.405751 |
| mfap3l | 1027.722544 | 0.065074564 | 0.0899843 | 0.7231766 | 0.469571 | 0.924505 |
| naif1 | 9.716820657 | 0.609795567 | 0.6634065 | 0.9191884 | 0.357997 | NA |
| pllp | 179.2826684 | -0.522546655 | 0.1564738 | -3.339515 | 0.000839 | 0.02694 |
| zgc:158403 | 220.5268085 | -0.157701619 | 0.1549054 | -1.018051 | 0.308654 | 0.861088 |
| CR352265.1 | 46.31371161 | 0.261262718 | 0.2899145 | 0.9011715 | 0.367497 | 0.887458 |
| nsd3 | 92.44661561 | -0.018699828 | 0.2116046 | -0.088372 | 0.929581 | 0.992702 |
| snx21 | 20.62507138 | 0.097928817 | 0.4225745 | 0.2317433 | 0.816737 | 0.981594 |
| aifm3 | 9.330820821 | 0.10901423 | 0.6622963 | 0.1646004 | 0.869259 | NA |
| glsl | 24.49009777 | -0.121505654 | 0.3833837 | -0.31693 | 0.751297 | 0.97419 |
| adpgk2 | 29.52862003 | -0.177526686 | 0.3527959 | -0.503199 | 0.614824 | 0.95688 |
| irg1l | 641.2084377 | -0.49342672 | 0.2597848 | -1.899367 | 0.057516 | 0.470942 |
| CU639469.1 | 2598.151115 | 0.047073695 | 0.073377 | 0.6415323 | 0.521177 | 0.939056 |
| trim36 | 600.7567787 | -0.025827344 | 0.1006362 | -0.256641 | 0.797456 | 0.978577 |
| abcb7 | 698.1207532 | -0.088529083 | 0.0938704 | -0.943099 | 0.34563 | 0.878469 |
| nell2b | 3115.540821 | 0.082315108 | 0.079179 | 1.0396075 | 0.298522 | 0.85439 |
| baiap2a | 416.1209708 | 0.080333338 | 0.1140211 | 0.7045477 | 0.481092 | 0.927927 |
| erf13 | 1149.388098 | 0.033925708 | 0.0808968 | 0.4193701 | 0.674946 | 0.965257 |
| ttl19 | 23.26735583 | -0.164899096 | 0.4103699 | -0.40183 | 0.687809 | 0.966442 |
| CR786571.1 | 20.94828419 | 0.087958538 | 0.4186758 | 0.2100874 | 0.833599 | 0.983583 |
| p2ry10 | 0.714370301 | 1.588951002 | 2.5174818 | 0.6311668 | 0.527931 | NA |
| glsa | 31.94511089 | 0.75012436 | 0.3445834 | 2.176902 | 0.029488 | 0.332709 |
| crym | 82.96823416 | -0.690525879 | 0.2197876 | -3.141787 | 0.001679 | 0.047099 |
| irgf3 | 3.775917256 | -0.382487127 | 1.0567128 | -0.361959 | 0.717382 | NA |
| slc6a15 | 101.5699783 | -0.241096165 | 0.2010589 | -1.199132 | 0.230477 | 0.798571 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| pi4kab | 109.4905568 | -0.182381408 | 0.2170405 | -0.840311 | 0.400734 | 0.90084 |
| alx1 | 72.46192291 | -0.537689468 | 0.2551318 | -2.107497 | 0.035074 | 0.364435 |
| si:ch73-171o20.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| tent5d | 14.46285919 | -0.043598514 | 0.5468598 | -0.079725 | 0.936456 | 0.992702 |
| si:ch73-22o12.1 | 1138.702057 | -0.077024426 | 0.0863627 | -0.891872 | 0.372462 | 0.892843 |
| ecsit | 400.4325688 | 0.289397841 | 0.1131977 | 2.5565697 | 0.010571 | 0.17767 |
| spata13 | 932.8236422 | 0.04684783 | 0.0866398 | 0.5407192 | 0.588701 | 0.953319 |
| tmtc3 | 1009.266739 | 0.090918826 | 0.0900022 | 1.0101849 | 0.312407 | 0.864401 |
| kcnk10a | 20.60258812 | -0.572272145 | 0.4349967 | -1.315578 | 0.188316 | 0.753187 |
| sdklb | 77.01597758 | 0.010739479 | 0.2281145 | 0.0470793 | 0.96245 | 0.995907 |
| plekhg7 | 218.6047008 | -0.187322815 | 0.1541945 | -1.214848 | 0.224424 | 0.79161 |
| gk5 | 419.9896049 | -0.018524963 | 0.1209135 | -0.153208 | 0.878234 | 0.987881 |
| mras | 678.1736578 | 0.061192152 | 0.0990684 | 0.6176756 | 0.536789 | 0.943336 |
| eeal | 84.67955249 | -0.002929195 | 0.2162818 | -0.013543 | 0.989194 | 0.997589 |
| mrs2 | 147.6247778 | -0.031035304 | 0.1733446 | -0.179038 | 0.857908 | 0.985703 |
| slc2a11l | 15.61043974 | 0.710405241 | 0.5325793 | 1.3338958 | 0.182238 | 0.74454 |
| hcar1-3 | 10.94439365 | 0.182146435 | 0.5631852 | 0.3234219 | 0.746376 | NA |
| cntn3a.1 | 389.4325015 | 0.054700474 | 0.1227106 | 0.4457682 | 0.655765 | 0.961833 |
| map3k2 | 7.811705999 | 0.404265151 | 0.7090621 | 0.5701406 | 0.568582 | NA |
| steap2 | 139.9372553 | 0.238079096 | 0.1902306 | 1.2515287 | 0.210742 | 0.778412 |
| foxe3 | 34.76518999 | -0.398478468 | 0.3301285 | -1.207041 | 0.227417 | 0.794775 |
| si:dkey-103i16.6 | 25.4425752 | -0.216993373 | 0.3783968 | -0.573455 | 0.566337 | 0.948739 |
| tnksb | 1327.61333 | -0.081607589 | 0.0834537 | -0.977878 | 0.328135 | 0.872701 |
| si:ch211-81a5.1 | 42.65410902 | 0.490771088 | 0.3076225 | 1.5953681 | 0.11063 | 0.625514 |
| si:dkey-220f10.4 | 137.0183912 | -0.113378604 | 0.1807674 | -0.627207 | 0.530524 | 0.942209 |
| idua | 56.76403922 | -0.272846149 | 0.2548061 | -1.070799 | 0.28426 | 0.844697 |
| kcnv2b | 31.90918857 | 0.365803962 | 0.3386962 | 1.0800356 | 0.280126 | 0.843423 |
| furina | 958.7010459 | 0.134480017 | 0.0899768 | 1.4946082 | 0.135017 | 0.670689 |
| polr3b | 514.2907744 | -0.030138068 | 0.1089659 | -0.276583 | 0.782101 | 0.97627 |
| mrpl37 | 742.2062191 | -0.104661692 | 0.0940724 | -1.112566 | 0.265895 | 0.831945 |
| tceanc2 | 109.7534931 | 0.016168184 | 0.1989969 | 0.0812484 | 0.935244 | 0.992702 |
| si:ch211-243o19.4 | 6.893171651 | -0.524638879 | 0.7589439 | -0.691275 | 0.489393 | NA |
| FAM83G | 456.8103847 | 0.266605164 | 0.1095505 | 2.4336275 | 0.014948 | 0.223931 |
| cmip | 1967.657404 | 0.054926042 | 0.0732998 | 0.7493343 | 0.453656 | 0.920041 |
| gpr12 | 13.52673682 | 0.859803948 | 0.532583 | 1.6144038 | 0.10644 | 0.615567 |
| ndnf | 1499.704697 | 0.017303249 | 0.0769207 | 0.2249493 | 0.822019 | 0.982186 |
| kcnala | 15.64582505 | 0.383113402 | 0.4761226 | 0.8046528 | 0.42102 | 0.90651 |
| tacol | 139.1154954 | -0.371780948 | 0.1740256 | -2.136358 | 0.03265 | 0.352204 |
| amn | 56.65904527 | -1.328053079 | 0.267792 | -4.959271 | 7.08E-07 | 7.48E-05 |
| wasf3b | 819.567122 | -0.084033055 | 0.1002956 | -0.837854 | 0.402113 | 0.90084 |
| nt5dc3 | 6.856417514 | 0.091347151 | 0.7206579 | 0.1267552 | 0.899134 | NA |
| meak7 | | 0 NA | NA | NA | NA | NA |
| clk2a | 1551.441813 | -0.066598808 | 0.0783275 | -0.850261 | 0.39518 | 0.899244 |
| dipklaa | 207.2945899 | 0.043484763 | 0.1549792 | 0.2805846 | 0.779029 | 0.976146 |
| dagla | 620.4046258 | 0.07890552 | 0.1016302 | 0.7763982 | 0.437514 | 0.914814 |
| zgc:158785 | 164.2668563 | 0.076452183 | 0.165481 | 0.4619998 | 0.644081 | 0.960129 |
| armc10 | 192.2716913 | 0.196744375 | 0.1563879 | 1.258054 | 0.208372 | 0.775404 |
| kmt2ba | 926.7493228 | -0.041541012 | 0.085503 | -0.485843 | 0.627079 | 0.957354 |
| si:dkey-246g23.2 | 5.969952619 | -0.003133983 | 0.8040674 | -0.003898 | 0.99689 | NA |
| fam45a | 224.1976916 | -0.005818907 | 0.1437829 | -0.04047 | 0.967718 | 0.996315 |
| kcng4a | 88.68544136 | 0.201143219 | 0.2217704 | 0.9069886 | 0.364413 | 0.886564 |
| sbfl | 1720.156383 | 0.048385644 | 0.0832897 | 0.5809318 | 0.561286 | 0.948728 |
| fam129ba | 482.6409767 | -0.053944913 | 0.1059549 | -0.509131 | 0.61066 | 0.95688 |
| sdhaf2 | 547.018925 | 0.063595192 | 0.1051561 | 0.6047696 | 0.545332 | 0.945526 |

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|------------------|-------------|--------------|-----------|-----------|----------|----------|
| hipl | 895.3444034 | -0.083138362 | 0.0854842 | -0.972558 | 0.330773 | 0.87417 |
| ttl17 | 603.9614004 | 0.072932695 | 0.1005146 | 0.7255929 | 0.468088 | 0.924328 |
| itga2.2 | 21.98192721 | -0.162288765 | 0.4114986 | -0.394385 | 0.693297 | 0.96736 |
| iffola | 9.553064119 | 0.06381561 | 0.6185144 | 0.1031756 | 0.917824 | NA |
| samd13 | 297.3213181 | 0.039976087 | 0.1236694 | 0.3232497 | 0.746506 | 0.97419 |
| ccdc151 | 29.2510855 | 0.234856806 | 0.3615246 | 0.6496289 | 0.515932 | 0.93786 |
| fbxo18 | 391.4126972 | -0.081263947 | 0.112243 | -0.724 | 0.469066 | 0.92448 |
| pnpla7a | 923.8415673 | -0.065712794 | 0.0959813 | -0.684642 | 0.49357 | 0.931926 |
| tywl | 314.3987991 | -0.266881175 | 0.1260144 | -2.117862 | 0.034187 | 0.359388 |
| abilb | 29.30184626 | -0.09222736 | 0.3791375 | -0.243256 | 0.807807 | 0.980642 |
| si:dkey-14o18.2 | 8.81485339 | 0.586731841 | 0.7206492 | 0.8141712 | 0.415547 | NA |
| hyal2b | 390.5591096 | 0.207889152 | 0.1197785 | 1.735613 | 0.082632 | 0.554782 |
| pglyrp2 | 19.9291249 | 0.626183664 | 0.4343464 | 1.4416688 | 0.149396 | 0.696734 |
| atp8a1 | 44.79107178 | 0.124138709 | 0.3316313 | 0.3743275 | 0.708161 | 0.968664 |
| alkbh5 | 182.5678037 | -0.124385973 | 0.1569032 | -0.792756 | 0.42792 | 0.910858 |
| anapc7 | 263.5741472 | -0.04915567 | 0.1466403 | -0.335212 | 0.737465 | 0.972535 |
| cacng7a | 50.1968861 | 0.145713234 | 0.2791172 | 0.5220504 | 0.601635 | 0.956045 |
| apc2 | 302.8539667 | -0.160513368 | 0.1225548 | -1.309728 | 0.190288 | 0.754967 |
| si:dkeyp-27e10.3 | 567.4677516 | 0.110067434 | 0.1081878 | 1.0173742 | 0.308975 | 0.861246 |
| catip | 41.24346198 | 0.245086465 | 0.3006254 | 0.8152554 | 0.414926 | 0.906237 |
| antxr2b | 48.58621393 | 0.170744692 | 0.2807489 | 0.6081759 | 0.543071 | 0.944974 |
| dbpa | 641.7853818 | 0.159841991 | 0.1061201 | 1.5062372 | 0.132006 | 0.665721 |
| fam78ba | 41.13627376 | -0.070031384 | 0.3177019 | -0.220431 | 0.825535 | 0.982196 |
| panx2 | 76.88563369 | 0.19790513 | 0.2328175 | 0.850044 | 0.395301 | 0.899293 |
| rpain | 92.79743544 | -0.038292116 | 0.2109191 | -0.181549 | 0.855937 | 0.985174 |
| mlcl | 124.4825959 | 0.235004716 | 0.1865007 | 1.260074 | 0.207643 | 0.775175 |
| mesd | 406.628729 | 0.044531421 | 0.1169215 | 0.380866 | 0.703303 | 0.968134 |
| rad5412 | 1248.00341 | 0.074424661 | 0.0939553 | 0.7921281 | 0.428286 | 0.911082 |
| dok6 | 15.70907789 | -0.064747279 | 0.5442641 | -0.118963 | 0.905305 | 0.990702 |
| psd2 | 630.0262915 | 0.199453153 | 0.100277 | 1.9890222 | 0.046699 | 0.424613 |
| lipea | 30.27666605 | -0.042937321 | 0.3436773 | -0.124935 | 0.900575 | 0.990121 |
| btbd11b | 33.92407341 | 0.005927652 | 0.3341429 | 0.0177399 | 0.985846 | 0.996944 |
| thtpa | 119.2815869 | -0.041880465 | 0.1839658 | -0.227653 | 0.819916 | 0.981594 |
| rc3h2 | 40.87018625 | 0.078176646 | 0.3055647 | 0.2558432 | 0.798072 | 0.978793 |
| bap1 | 521.1256738 | 0.088766034 | 0.1128644 | 0.7864838 | 0.431584 | 0.91277 |
| shank3b | 217.6573713 | 0.014496641 | 0.158969 | 0.0911916 | 0.92734 | 0.992702 |
| tulp4b | 766.3906325 | 0.089127832 | 0.0950178 | 0.9380119 | 0.348238 | 0.880195 |
| abcg8 | 28.79990832 | 0.038504648 | 0.3508091 | 0.1097595 | 0.9126 | 0.991119 |
| ubn2a | 627.2688007 | -0.179682734 | 0.1141907 | -1.573532 | 0.115596 | 0.637206 |
| synelb | 1372.11636 | 0.020324762 | 0.101041 | 0.2011537 | 0.840578 | 0.985042 |
| gripapl | 80.86804281 | 0.102775976 | 0.2212309 | 0.4645644 | 0.642243 | 0.959994 |
| sogal | 196.9072803 | -0.156934102 | 0.1707273 | -0.919209 | 0.357986 | 0.884398 |
| atrip | 183.6028121 | -0.211841015 | 0.1538729 | -1.376727 | 0.168597 | 0.725919 |
| abcg5 | 55.20093025 | -0.584414317 | 0.2670512 | -2.188398 | 0.028641 | 0.328313 |
| ago3b | 24.91379987 | -0.154732178 | 0.3801839 | -0.406993 | 0.684013 | 0.965679 |
| si:dkey-211g8.6 | 1.621341276 | -0.610147117 | 1.5935892 | -0.382876 | 0.701812 | NA |
| ccm21 | 83.04167144 | -0.349063302 | 0.2401315 | -1.453634 | 0.146048 | 0.69189 |
| ctsf | 3498.844252 | 0.113943985 | 0.0718163 | 1.5866023 | 0.112603 | 0.628452 |
| scubel | 69.76598671 | -0.097468383 | 0.235927 | -0.413129 | 0.679512 | 0.965257 |
| psmd14 | 1455.547511 | -0.093076841 | 0.0815299 | -1.141628 | 0.253609 | 0.823394 |
| man2a2 | 810.8459065 | 0.083951529 | 0.0919234 | 0.9132766 | 0.361097 | 0.885686 |
| CABZ01059392.1 | 1.11484644 | -0.41260322 | 1.8539026 | -0.222559 | 0.823879 | NA |
| si:ch73-160i9.1 | | 0 NA | NA | NA | NA | NA |
| gusb | 289.4400416 | -0.189068596 | 0.1399598 | -1.350878 | 0.176735 | 0.737285 |

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| si:ch211-38m6.7 | 9.793403288 | -0.745472884 | 0.6174453 | -1.207351 | 0.227297 | NA |
| slc4a10a | 3013.438204 | 0.048344312 | 0.0721055 | 0.6704662 | 0.502561 | 0.935304 |
| exd3 | 200.1735986 | 0.020414251 | 0.1627076 | 0.1254659 | 0.900155 | 0.990121 |
| shisa7b | 1474.27488 | 0.054264789 | 0.0770812 | 0.7039951 | 0.481436 | 0.928386 |
| tfam | 412.1181373 | -0.189656735 | 0.1306329 | -1.45183 | 0.146549 | 0.692967 |
| tmtc1 | 468.6420158 | 0.065197094 | 0.1126432 | 0.5787932 | 0.562729 | 0.948728 |
| nrxn2b | 1025.030047 | 0.017933525 | 0.0932163 | 0.1923861 | 0.84744 | 0.985174 |
| bcl11ab | 256.4043568 | -0.193740182 | 0.134889 | -1.436293 | 0.150919 | 0.698912 |
| dcaf12 | 681.0708989 | 0.01714805 | 0.1040233 | 0.1648482 | 0.869063 | 0.987245 |
| mapk8ip2 | 35.87429688 | -0.142022977 | 0.3349679 | -0.42399 | 0.671573 | 0.965257 |
| CABZ01081780.1 | 13.83827897 | 0.20440074 | 0.5426985 | 0.3766377 | 0.706443 | 0.968459 |
| si:dkey-32e23.4 | 54.60187014 | -0.136777287 | 0.267456 | -0.511401 | 0.60907 | 0.956718 |
| ppwd1 | 301.6126941 | 0.045317308 | 0.1327041 | 0.3414913 | 0.732734 | 0.971719 |
| cmtm8b | 8.794289994 | -0.589428108 | 0.6530308 | -0.902604 | 0.366736 | NA |
| chkb | 396.8751305 | 0.132931671 | 0.1118842 | 1.188118 | 0.234787 | 0.803509 |
| ubn1 | 56.44936607 | 0.121865487 | 0.2653827 | 0.4592065 | 0.646086 | 0.96029 |
| manf | 543.5820348 | 0.173936783 | 0.106497 | 1.6332556 | 0.102415 | 0.608235 |
| dock3 | 47.8929571 | -0.196970194 | 0.3044827 | -0.646901 | 0.517696 | 0.938592 |
| rc3h1b | 626.0292918 | 0.121640835 | 0.0980767 | 1.2402627 | 0.214878 | 0.782493 |
| si:ch211-220f12.4 | 27.57881602 | -0.076984712 | 0.3666434 | -0.209972 | 0.83369 | 0.983583 |
| agpat5 | 435.2997107 | 0.077257794 | 0.1224403 | 0.6309835 | 0.528051 | 0.941711 |
| zran1b | 949.9905774 | -0.028719068 | 0.0956828 | -0.300149 | 0.764064 | 0.975374 |
| ext12 | 65.94139578 | -0.136376387 | 0.2455037 | -0.555496 | 0.578555 | 0.951052 |
| lin54 | 469.1433876 | -0.082466288 | 0.1112863 | -0.741028 | 0.458676 | 0.921978 |
| pxk | 459.35518 | -0.054554002 | 0.1088917 | -0.500993 | 0.616376 | 0.95688 |
| golga2 | 537.9500984 | -0.015217052 | 0.1056461 | -0.144038 | 0.88547 | 0.988936 |
| erbb4a | 12.43686772 | 0.052712527 | 0.568389 | 0.0927402 | 0.92611 | 0.992702 |
| exoc8 | 218.7777359 | 0.315675248 | 0.1582081 | 1.9953172 | 0.046008 | 0.421189 |
| prmt2 | 38.49695954 | -0.691672952 | 0.315106 | -2.195049 | 0.02816 | 0.325071 |
| mtif2 | 260.436969 | 0.075860393 | 0.1332643 | 0.5692479 | 0.569188 | 0.948983 |
| lrrc3b | 2.492228153 | -1.4304165 | 1.2737087 | -1.123033 | 0.261424 | NA |
| ppm1la | 936.1074404 | -0.031873296 | 0.0875073 | -0.364236 | 0.715682 | 0.96909 |
| ubap21 | 1982.998729 | 0.028641201 | 0.0961715 | 0.2978137 | 0.765845 | 0.975374 |
| ar114 | 128.2980968 | 0.004228863 | 0.1906906 | 0.0221766 | 0.982307 | 0.996944 |
| nxph2a | 147.0123777 | -0.003851888 | 0.1678256 | -0.022952 | 0.981689 | 0.996944 |
| xpolb | 4971.767542 | -0.186221855 | 0.0784746 | -2.373022 | 0.017643 | 0.246556 |
| bmp7b | 95.59182239 | 0.043934623 | 0.2059031 | 0.2133753 | 0.831034 | 0.982994 |
| baz1a | 325.6494497 | -0.254103063 | 0.1236139 | -2.055619 | 0.039819 | 0.391511 |
| ttc13 | 360.2237881 | 0.092977805 | 0.1232077 | 0.7546427 | 0.450463 | 0.918761 |
| lix11 | 197.5523418 | 0.311862076 | 0.159056 | 1.9607065 | 0.049913 | 0.437835 |
| mrpl9 | 405.8798874 | 0.035681826 | 0.1185283 | 0.3010404 | 0.763384 | 0.975374 |
| spata2 | 372.7256123 | -0.059187347 | 0.1151881 | -0.513832 | 0.607369 | 0.956718 |
| prcc | 1071.300821 | 0.048504466 | 0.0932744 | 0.520019 | 0.60305 | 0.956045 |
| hecw2b | 207.9569416 | -0.08934254 | 0.1458129 | -0.61272 | 0.540061 | 0.944206 |
| r3hdm4 | 598.3536965 | 0.048613222 | 0.1043716 | 0.4657706 | 0.64138 | 0.959994 |
| btbd11a | 376.0445013 | 0.150161792 | 0.1193523 | 1.2581389 | 0.208342 | 0.775404 |
| si:ch211-194e18.2 | 13.05849369 | 0.404107283 | 0.5278013 | 0.7656429 | 0.443889 | 0.916631 |
| rfx5 | 249.123206 | 0.043252807 | 0.1347275 | 0.3210392 | 0.748181 | 0.97419 |
| pcdh9 | 82.3833646 | 0.450228885 | 0.2306538 | 1.9519679 | 0.050942 | 0.442781 |
| SLC35G1 | 57.72228409 | 0.432721839 | 0.2568425 | 1.6847749 | 0.092032 | 0.57849 |
| retreg2 | 146.4824788 | -0.302610725 | 0.1741922 | -1.737224 | 0.082348 | 0.553931 |
| msh3 | 142.6905456 | 0.303326912 | 0.1743205 | 1.7400535 | 0.08185 | 0.552725 |
| abi3b | 90.37081615 | 0.122437385 | 0.2075648 | 0.5898755 | 0.555274 | 0.947449 |
| ube2t | 104.3547418 | -0.218971932 | 0.1919688 | -1.140664 | 0.25401 | 0.823394 |

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| slc2a11b | 215.7294576 | 0.067240834 | 0.1500852 | 0.4480176 | 0.65414 | 0.961305 |
| ssuh2rs1 | 1997.825265 | 0.008048129 | 0.0753094 | 0.1068676 | 0.914894 | 0.991119 |
| neto2b | 27.15787223 | 0.375369691 | 0.3838581 | 0.9778866 | 0.32813 | 0.872701 |
| myh9a | 2601.523282 | 0.20967538 | 0.0701013 | 2.9910334 | 0.00278 | 0.06821 |
| abcb6a | 114.2697385 | 0.192347588 | 0.185367 | 1.0376584 | 0.299429 | 0.855609 |
| pcloa | 1669.199982 | 0.136051746 | 0.0761138 | 1.7874787 | 0.07386 | 0.529749 |
| CU655845.1 | 53.66762287 | 0.124494314 | 0.2839168 | 0.4384886 | 0.661032 | 0.964099 |
| sgsm2 | 41.76714415 | -0.102770271 | 0.3115554 | -0.329862 | 0.741504 | 0.973154 |
| tjp2a | 855.7205975 | -0.086298538 | 0.0897894 | -0.961122 | 0.336491 | 0.876088 |
| oxr1b | 917.9676965 | 0.163116803 | 0.0875241 | 1.8636785 | 0.062367 | 0.487498 |
| soga3a | | 0 NA | NA | NA | NA | NA |
| plbd1 | 28.89392385 | 0.035507544 | 0.3556264 | 0.0998451 | 0.920467 | 0.99206 |
| apba2a | 321.9472461 | 0.042366159 | 0.1221148 | 0.3469371 | 0.728639 | 0.970631 |
| FP085394.1 | 27.94856195 | 0.138210984 | 0.3866458 | 0.3574615 | 0.720746 | 0.969395 |
| rab12 | 254.8665993 | 0.075384619 | 0.1348407 | 0.5590645 | 0.576118 | 0.950611 |
| mgat4a | 886.6367556 | -0.050130028 | 0.0933641 | -0.53693 | 0.591316 | 0.954193 |
| shank3a | 33.09961325 | 0.379319475 | 0.3626457 | 1.0459782 | 0.295571 | 0.852234 |
| nup210 | 1167.219254 | -0.04032178 | 0.0857623 | -0.470157 | 0.638243 | 0.959231 |
| czib | 407.2204015 | -0.048932593 | 0.1150074 | -0.425473 | 0.670492 | 0.965257 |
| fam162a | 338.3949072 | -0.047007974 | 0.1221656 | -0.384789 | 0.700394 | 0.967998 |
| hrc | 10.62539425 | 0.004436727 | 0.5970158 | 0.0074315 | 0.994071 | NA |
| inpp4aa | 1083.873957 | -0.055199909 | 0.0836622 | -0.659795 | 0.509385 | 0.936123 |
| abtb1 | 280.7318269 | 0.127541344 | 0.1301031 | 0.9803099 | 0.326933 | 0.872658 |
| GPR45 | 15.71244239 | -0.045139889 | 0.4982411 | -0.090598 | 0.927812 | 0.992702 |
| micul | 1134.864775 | -0.206732245 | 0.0977343 | -2.115248 | 0.034409 | 0.360397 |
| si:ch211-1e14.1 | 27.13908904 | 0.216521003 | 0.385016 | 0.5623689 | 0.573865 | 0.949988 |
| sgk2a | 81.77800914 | 0.073808063 | 0.2284951 | 0.3230181 | 0.746682 | 0.97419 |
| rasa3 | 534.9205449 | 0.052966172 | 0.1198391 | 0.4419774 | 0.658506 | 0.962545 |
| zpld1b | 22.66901054 | -0.244043796 | 0.4079679 | -0.598194 | 0.549711 | 0.946312 |
| pter | 125.2582162 | -0.185328446 | 0.1870708 | -0.990686 | 0.321839 | 0.869463 |
| cenpe | 1033.407345 | -0.05738376 | 0.0866739 | -0.662065 | 0.507929 | 0.935734 |
| sec22c | 22.86304285 | 0.250933143 | 0.4025602 | 0.6233432 | 0.533059 | 0.942969 |
| pvr12l | 66.56257121 | 0.059800798 | 0.2630487 | 0.2273373 | 0.820161 | 0.981594 |
| L0018340.1 | 389.7835903 | 0.052254344 | 0.1212738 | 0.430879 | 0.666556 | 0.964736 |
| lrrc73 | 240.3426684 | -0.044225895 | 0.1433155 | -0.308591 | 0.757632 | 0.975374 |
| cers1 | 172.9045487 | -0.04253382 | 0.1666749 | -0.25519 | 0.798576 | 0.978884 |
| rxylt1 | 81.18455043 | -0.206122687 | 0.2204325 | -0.935083 | 0.349746 | 0.880195 |
| ptrk | 1214.563157 | -0.068030005 | 0.0909099 | -0.748323 | 0.454265 | 0.920541 |
| erf | 619.5210662 | 0.020969634 | 0.1057562 | 0.1982829 | 0.842824 | 0.985174 |
| DHX35 | 234.1337237 | -0.148962174 | 0.1410897 | -1.055798 | 0.291061 | 0.846568 |
| atp2b2 | 1404.889082 | 0.095397255 | 0.0931871 | 1.0237173 | 0.305969 | 0.860027 |
| trpm4b.2 | 80.67083034 | -0.251158876 | 0.2320721 | -1.082245 | 0.279144 | 0.842806 |
| rph3aa | 31.23564681 | 0.080011891 | 0.3917089 | 0.2042637 | 0.838147 | 0.984797 |
| wnt9a | 2.514423416 | -0.557624855 | 1.2516174 | -0.445523 | 0.655942 | NA |
| srebf2 | 1585.316863 | -0.097144703 | 0.0901778 | -1.077257 | 0.281365 | 0.84357 |
| si:dkey-32n7.7 | 1.804420379 | -0.844592863 | 1.4389097 | -0.586967 | 0.557226 | NA |
| snap47 | 183.415839 | 0.149707274 | 0.1788501 | 0.8370543 | 0.402562 | 0.90084 |
| iba57 | 167.1904895 | -0.195400692 | 0.1668758 | -1.170935 | 0.241625 | 0.810499 |
| ccdc13 | 6.470450933 | 0.379577446 | 0.7818535 | 0.4854841 | 0.627333 | NA |
| wash1 | 84.64742616 | -0.147338957 | 0.211666 | -0.696092 | 0.486371 | 0.930833 |
| isyl | 456.9787139 | 0.026543302 | 0.1086329 | 0.2443394 | 0.806968 | 0.980279 |
| arfgef1 | 1021.820347 | -0.112468201 | 0.0888054 | -1.266456 | 0.20535 | 0.773635 |
| abcg1 | 101.4411171 | 0.128609192 | 0.2066679 | 0.622299 | 0.533745 | 0.943276 |
| si:ch211-214j24.15 | 21.01696122 | -1.271556361 | 0.4745739 | -2.679364 | 0.007376 | 0.135568 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| lrrec58b | 376.0722632 | 0.261092952 | 0.12512 | 2.0867409 | 0.036912 | 0.376038 |
| si:ch211-15d5.11 | 308.9317735 | 0.059395799 | 0.1233896 | 0.4813679 | 0.630255 | 0.957354 |
| zgc:153913 | 406.7661447 | 0.341238776 | 0.1476984 | 2.310375 | 0.020867 | 0.27277 |
| PLEKHB1 | 244.7664527 | 0.269978069 | 0.1486714 | 1.8159385 | 0.06938 | 0.514708 |
| bbs4 | 196.0825932 | 0.275358142 | 0.1872519 | 1.4705227 | 0.14142 | 0.68201 |
| adpgk | 400.3264793 | 0.294704688 | 0.1200936 | 2.4539586 | 0.014129 | 0.214731 |
| elmo2 | 1396.522027 | 0.063410276 | 0.0793091 | 0.7995335 | 0.423981 | 0.908025 |
| chd4a | 3604.463414 | 0.009867249 | 0.0828437 | 0.1191068 | 0.905191 | 0.990702 |
| kalrn | 1089.560276 | 0.041673672 | 0.0925416 | 0.4503236 | 0.652477 | 0.960708 |
| slc25a15a | 100.8905036 | -0.171362835 | 0.1999312 | -0.857109 | 0.391385 | 0.897688 |
| pip4k2ab | 14.30298387 | 0.191076288 | 0.5261103 | 0.3631867 | 0.716465 | 0.96909 |
| rlf | 481.0726299 | -0.221394506 | 0.1061667 | -2.085348 | 0.037038 | 0.376547 |
| si:ch211-166g5.4 | 18.34764839 | -0.178813309 | 0.4913294 | -0.363938 | 0.715905 | 0.96909 |
| pigx | 119.3775342 | -0.009546521 | 0.2059248 | -0.046359 | 0.963024 | 0.995927 |
| creb312 | 473.0468069 | 0.165162303 | 0.1070878 | 1.5423068 | 0.122999 | 0.65095 |
| syt7a | 43.64128729 | 0.364398733 | 0.295508 | 1.2331264 | 0.217529 | 0.784786 |
| dyrklaa | 1128.235421 | -0.005085291 | 0.0921374 | -0.055192 | 0.955985 | 0.994543 |
| perp | 3567.657838 | 0.052803529 | 0.0715747 | 0.7377405 | 0.460672 | 0.921978 |
| vps41 | 591.7173361 | -0.08741657 | 0.1014723 | -0.861482 | 0.388973 | 0.896295 |
| mtg2 | 171.1039561 | -0.088846209 | 0.1622626 | -0.547546 | 0.584004 | 0.952214 |
| klh135 | 8.469643568 | 0.391010538 | 0.7373176 | 0.5303149 | 0.595894 | NA |
| DGKI | 358.2745278 | 0.108503825 | 0.1269358 | 0.854793 | 0.392666 | 0.897688 |
| ppplr9ala | 299.978821 | 0.005518719 | 0.1317127 | 0.0418997 | 0.966579 | 0.996315 |
| map2k4a | 40.67993243 | 0.225658752 | 0.3080671 | 0.7324987 | 0.463864 | 0.922875 |
| uba5 | 420.1758116 | 0.02850171 | 0.1127282 | 0.2528357 | 0.800395 | 0.979377 |
| hipkla | 70.14752558 | -0.170985895 | 0.2353335 | -0.726569 | 0.46749 | 0.924328 |
| bud23 | 235.9735584 | -0.03981546 | 0.1374809 | -0.289607 | 0.772117 | 0.975687 |
| coro2bb | 60.32656473 | -0.009440199 | 0.2601242 | -0.036291 | 0.97105 | 0.996315 |
| antxr1c | 552.702651 | 0.114097019 | 0.1018996 | 1.1197009 | 0.262841 | 0.830166 |
| si:ch211-133n4.10 | 2.237463168 | 2.473652019 | 1.6243684 | 1.5228393 | 0.127799 | NA |
| skor2 | 236.0430323 | -0.115459757 | 0.1487397 | -0.776254 | 0.437599 | 0.914896 |
| aadac | 72.44904257 | 0.040204889 | 0.275338 | 0.1460202 | 0.883905 | 0.988706 |
| gfml | 806.3076546 | 0.085297178 | 0.1064889 | 0.8009959 | 0.423134 | 0.907185 |
| ddx21 | 1538.179379 | -0.265783215 | 0.0924492 | -2.874911 | 0.004041 | 0.087626 |
| bop1 | 589.1105288 | -0.239070088 | 0.1052552 | -2.271338 | 0.023127 | 0.291648 |
| VIT | 1193.050536 | 0.124145105 | 0.0986257 | 1.2587495 | 0.208121 | 0.775404 |
| hpse | 195.2311269 | -0.183826589 | 0.1554793 | -1.182322 | 0.237078 | 0.80591 |
| nrxn1b | 311.1925045 | 0.04108027 | 0.1424527 | 0.2883783 | 0.773057 | 0.975687 |
| galnt11 | 780.8602808 | 0.078648388 | 0.0928068 | 0.8474424 | 0.396749 | 0.899672 |
| lnpa | 106.3246664 | 0.051387008 | 0.1992317 | 0.2579259 | 0.796464 | 0.97852 |
| tead3b | 46.01744752 | -0.192304117 | 0.2804983 | -0.68558 | 0.492978 | 0.931926 |
| nuak2 | 267.076245 | -0.263661607 | 0.1396113 | -1.888541 | 0.058953 | 0.475038 |
| clp1 | 182.8664059 | 0.159851276 | 0.1594475 | 1.0025325 | 0.316086 | 0.866931 |
| mat2al | 242.3258718 | -0.528564522 | 0.1397447 | -3.782357 | 0.000155 | 0.006997 |
| gtf2a11 | 16.04815392 | 0.871280869 | 0.4895117 | 1.7798981 | 0.075093 | 0.533746 |
| zmp:0000000711 | 454.6377607 | 0.070851631 | 0.1105763 | 0.6407486 | 0.521686 | 0.939056 |
| ccny | 75.7474762 | -0.113097967 | 0.2342055 | -0.482901 | 0.629166 | 0.957354 |
| fhod3a | 587.7802303 | 0.181325258 | 0.1039445 | 1.7444429 | 0.081082 | 0.551495 |
| ppmlh | 362.244988 | -0.044023033 | 0.1191711 | -0.36941 | 0.711822 | 0.969006 |
| atp23 | 169.2541319 | 0.217309655 | 0.1747806 | 1.243328 | 0.213747 | 0.78213 |
| nrm | 119.6012583 | -0.032355659 | 0.2028888 | -0.159475 | 0.873295 | 0.987846 |
| rrebl1a | 536.3198499 | -0.27067384 | 0.1024937 | -2.640882 | 0.008269 | 0.147176 |
| pde8b | 14.30701698 | 0.205699504 | 0.5110876 | 0.4024741 | 0.687335 | 0.966376 |
| trim3a | 348.2615528 | -0.090596226 | 0.1200357 | -0.754744 | 0.450403 | 0.918761 |

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| syngap1a | 339.4715064 | 0.152030983 | 0.1737151 | 0.8751741 | 0.381479 | 0.895192 |
| vps72a | 559.4251573 | 0.056690586 | 0.1038078 | 0.5461113 | 0.584989 | 0.952436 |
| usp8 | 1370.72376 | -0.155352476 | 0.0941602 | -1.649875 | 0.098969 | 0.598346 |
| cdk12 | 990.7603804 | 0.026732053 | 0.0996261 | 0.2683239 | 0.78845 | 0.976703 |
| osbpl6 | 11.62654491 | -0.482616522 | 0.5634408 | -0.856552 | 0.391692 | 0.897688 |
| rbm45 | 17.1866806 | -0.404607028 | 0.4675796 | -0.865322 | 0.386862 | 0.89551 |
| pdella | 18.13430866 | 0.634709893 | 0.4493525 | 1.4124988 | 0.157803 | 0.709035 |
| cox19 | 96.96363217 | 0.128428599 | 0.2076979 | 0.6183433 | 0.536349 | 0.943336 |
| mt-nd1 | 33221.42279 | 0.093155491 | 0.0723143 | 1.2882026 | 0.197675 | 0.762928 |
| mt-nd2 | 22548.7548 | 0.024613477 | 0.1019747 | 0.2413684 | 0.80927 | 0.980642 |
| mt-co1 | 256080.8098 | 0.002460716 | 0.066161 | 0.0371929 | 0.970331 | 0.996315 |
| mt-co2 | 68688.27516 | -0.029315883 | 0.0646942 | -0.453146 | 0.650444 | 0.960708 |
| mt-atp8 | 3700.989045 | 0.005765716 | 0.3480236 | 0.016567 | 0.986782 | 0.997062 |
| mt-atp6 | 43698.99309 | -0.091730027 | 0.0910063 | -1.007953 | 0.313477 | 0.865132 |
| mt-co3 | 76946.86712 | -0.026262516 | 0.0713983 | -0.367831 | 0.712999 | 0.96909 |
| mt-nd3 | 4292.730446 | 0.181300037 | 0.0940786 | 1.9271125 | 0.053966 | 0.45506 |
| mt-nd41 | 8138.164985 | 0.168322103 | 0.0861474 | 1.9538855 | 0.050715 | 0.44139 |
| mt-nd4 | 22302.67422 | 0.01919201 | 0.0797367 | 0.2406922 | 0.809794 | 0.980648 |
| mt-nd5 | 19288.20675 | 0.037052307 | 0.0837392 | 0.4424728 | 0.658147 | 0.962545 |
| mt-nd6 | 4058.217009 | -0.090863539 | 0.2078337 | -0.437193 | 0.661971 | 0.964543 |
| mt-cyb | 62928.38624 | 0.049119227 | 0.0922794 | 0.5322879 | 0.594527 | 0.954434 |
| kctd8 | 496.1055271 | -0.140037946 | 0.114301 | -1.225168 | 0.220512 | 0.787502 |
| slc24a4b | 8.858614761 | 0.196456089 | 0.649829 | 0.3023197 | 0.762408 | NA |
| ccdc15 | 16.35744632 | 0.267146513 | 0.4783729 | 0.5584483 | 0.576538 | 0.950611 |
| zgc:158482 | 175.4547186 | -0.058411141 | 0.1619938 | -0.360576 | 0.718416 | 0.96909 |
| fut9b | 84.2749206 | -0.034396057 | 0.2482946 | -0.138529 | 0.889822 | 0.989291 |
| psk5a | 101.2429675 | -0.162537102 | 0.2015729 | -0.806344 | 0.420044 | 0.90651 |
| tcf15 | 34.75399781 | 0.56922885 | 0.331879 | 1.7151698 | 0.086314 | 0.563258 |
| adam19b | 335.1696613 | 0.171943727 | 0.1253284 | 1.3719453 | 0.17008 | 0.727199 |
| si:ch211-193c2.2 | 5.651352308 | -1.053804975 | 0.833442 | -1.264401 | 0.206086 | NA |
| adamts12 | 267.4133802 | 0.481081583 | 0.1354113 | 3.5527443 | 0.000381 | 0.014224 |
| gtf2h3 | 156.6938977 | -0.152480828 | 0.1631713 | -0.934483 | 0.350055 | 0.880195 |
| kisslr1b | 3.750735178 | 0.343820837 | 1.0779658 | 0.3189534 | 0.749762 | NA |
| zgc:153044 | 26.06386693 | 0.049962308 | 0.3993007 | 0.1251245 | 0.900425 | 0.990121 |
| sftpb1b | 66.338965 | 0.064185804 | 0.2366455 | 0.2712319 | 0.786213 | 0.976471 |
| SLC6A13 | 25.0586808 | 0.577001353 | 0.3897445 | 1.4804605 | 0.13875 | 0.677277 |
| puraa | 117.3926947 | 0.289392217 | 0.1857887 | 1.5576419 | 0.119318 | 0.643589 |
| BX901974.1 | 1.038053482 | 0.018230632 | 1.9186971 | 0.0095016 | 0.992419 | NA |
| scol | 294.1675737 | 0.028611805 | 0.1338755 | 0.2137195 | 0.830766 | 0.982994 |
| fancb | 29.08138829 | -0.277986523 | 0.3571175 | -0.778417 | 0.436323 | 0.914408 |
| arfgap2 | 1090.704837 | 0.07873126 | 0.0955996 | 0.8235519 | 0.410194 | 0.902747 |
| napaa | 481.3662828 | -0.014544574 | 0.1111873 | -0.130811 | 0.895924 | 0.989866 |
| rsph4a | 53.53959762 | 0.047288518 | 0.2747777 | 0.1720974 | 0.863361 | 0.985841 |
| srebf1 | 79.36207206 | -0.111293031 | 0.2457974 | -0.452784 | 0.650705 | 0.960708 |
| zswim7 | 22.40375149 | -0.340616928 | 0.4220173 | -0.807116 | 0.4196 | 0.90651 |
| dnajc25 | 123.3154313 | 0.293886707 | 0.1829917 | 1.6060114 | 0.108271 | 0.620153 |
| ywhag1 | 777.2952417 | 0.095933457 | 0.1041662 | 0.9209656 | 0.357068 | 0.883467 |
| zgc:154075 | 260.2919548 | -0.440765639 | 0.1344015 | -3.27947 | 0.00104 | 0.031984 |
| prpf4 | 458.130057 | -0.153536348 | 0.1141939 | -1.344523 | 0.178779 | 0.739486 |
| tmem232 | 7.005556698 | 0.293822161 | 0.7464943 | 0.3936027 | 0.693874 | NA |
| kcmf1 | 423.3822939 | -0.048582259 | 0.1256725 | -0.386578 | 0.699068 | 0.967998 |
| BX470189.1 | 160.8804296 | 0.085629499 | 0.1591671 | 0.537985 | 0.590587 | 0.954193 |
| ftr80 | 0.316103113 | 0.005883447 | 3.3519121 | 0.0017553 | 0.9986 | NA |
| si:dkey-172m14.2 | 36.08510355 | 0.361397836 | 0.3541347 | 1.0205095 | 0.307487 | 0.861088 |

| | | | | | | |
|--------------------|--------------|---------------|------------|------------|-----------|-----------|
| fam167aa | 6. 65593274 | -0. 745853789 | 0. 7517668 | -0. 992135 | 0. 321132 | NA |
| cep57 | 39. 18962761 | 0. 09495955 | 0. 3269118 | 0. 2904746 | 0. 771453 | 0. 975687 |
| zglpl | 2. 284665674 | 0. 821641665 | 1. 3203789 | 0. 6222772 | 0. 53376 | NA |
| pomt1 | 287. 0931751 | -0. 049065854 | 0. 1312778 | -0. 373756 | 0. 708586 | 0. 968664 |
| card9 | 18. 1839342 | -0. 414888261 | 0. 4562239 | -0. 909396 | 0. 363141 | 0. 885944 |
| snopc4 | 137. 9484854 | -0. 094581548 | 0. 1981437 | -0. 477338 | 0. 633121 | 0. 957356 |
| plcl1 | 56. 67714015 | 0. 220530718 | 0. 2735042 | 0. 8063157 | 0. 420061 | 0. 90651 |
| myoz3a | 106. 2449689 | -0. 002713663 | 0. 2300919 | -0. 011794 | 0. 99059 | 0. 997679 |
| shisallb | 86. 24510159 | 0. 006480293 | 0. 2208381 | 0. 0293441 | 0. 97659 | 0. 996762 |
| parvg | 22. 88373724 | 0. 219508166 | 0. 4015315 | 0. 5466774 | 0. 5846 | 0. 952411 |
| snx18a | 534. 7341864 | 0. 018012679 | 0. 103413 | 0. 174182 | 0. 861722 | 0. 985841 |
| hspb3 | 25. 55259461 | -0. 453475536 | 0. 3930866 | -1. 153628 | 0. 248653 | 0. 81797 |
| tomm7 | 498. 7987604 | 0. 012124121 | 0. 1091142 | 0. 1111141 | 0. 911526 | 0. 991066 |
| si:dkey-3h3. 3 | 25. 85815716 | 0. 01761434 | 0. 4057381 | 0. 0434131 | 0. 965372 | 0. 996257 |
| wwtr1 | 39. 69624638 | 0. 013628585 | 0. 3190848 | 0. 0427115 | 0. 965932 | 0. 996315 |
| tank | 78. 12494054 | -0. 199861844 | 0. 2280624 | -0. 876347 | 0. 380841 | 0. 895192 |
| arid3c | 79. 2787653 | 0. 193607599 | 0. 2238228 | 0. 865004 | 0. 387037 | 0. 895735 |
| trpc6b | 11. 78362296 | -0. 44183588 | 0. 5560761 | -0. 79456 | 0. 426869 | 0. 910366 |
| itpkcb | 574. 2783937 | 0. 044297211 | 0. 1116789 | 0. 3966479 | 0. 691627 | 0. 967305 |
| si:rp71-68n21. 9 | 64. 76952282 | -0. 265165583 | 0. 2436717 | -1. 088208 | 0. 276503 | 0. 839541 |
| pigl | 106. 1135237 | 0. 077689697 | 0. 1902712 | 0. 4083103 | 0. 683046 | 0. 965476 |
| zgc:158640 | 39. 69617606 | -0. 344199562 | 0. 3021749 | -1. 139074 | 0. 254672 | 0. 823484 |
| urp2 | 34. 05515525 | -0. 055562612 | 0. 3291172 | -0. 168823 | 0. 865936 | 0. 986517 |
| CABZ01088428. 1 | 16. 39454598 | -0. 290672461 | 0. 4917476 | -0. 591101 | 0. 554453 | 0. 947449 |
| cabz01076234. 2 | 15. 8095329 | -0. 077184751 | 0. 4922883 | -0. 156788 | 0. 875412 | 0. 987881 |
| ifngr2 | 490. 5488858 | 0. 249406124 | 0. 1044452 | 2. 3879133 | 0. 016944 | 0. 240499 |
| clpxb | 590. 610273 | 0. 018974764 | 0. 1017695 | 0. 1864485 | 0. 852093 | 0. 985174 |
| spila | 37. 8108859 | 0. 388872598 | 0. 3167796 | 1. 2275808 | 0. 219604 | 0. 786189 |
| CABZ01064472. 1 | 123. 04374 | -0. 064320013 | 0. 1827993 | -0. 351861 | 0. 724942 | 0. 970402 |
| ggcx | 559. 936623 | 0. 168430191 | 0. 100642 | 1. 6735584 | 0. 094217 | 0. 583986 |
| zgc:158432 | 11. 57078072 | -0. 671887338 | 0. 5691217 | -1. 180569 | 0. 237774 | 0. 806474 |
| si:dkeyp-27c8. 1 | 0. 31759079 | 1. 807926197 | 3. 579045 | 0. 5051421 | 0. 613459 | NA |
| zgc:171844 | 47. 84203799 | -0. 004881931 | 0. 3024068 | -0. 016144 | 0. 98712 | 0. 997136 |
| zmp:0000001127 | 1. 106743675 | 0. 427540854 | 3. 8920321 | 0. 1098503 | 0. 912528 | NA |
| CABZ01060891. 1 | 7. 049077015 | 0. 440847734 | 0. 7281322 | 0. 6054501 | 0. 54488 | NA |
| CABZ01083448. 1 | 306. 7641962 | 0. 210562917 | 0. 1283743 | 1. 6402268 | 0. 100958 | 0. 604004 |
| cntnap3 | 491. 9955425 | 0. 015017194 | 0. 119922 | 0. 1252247 | 0. 900346 | 0. 990121 |
| si:ch211-229c8. 13 | 1. 550520356 | -1. 831174474 | 1. 7752598 | -1. 031497 | 0. 302308 | NA |
| ppargcla | 124. 2658678 | 0. 101729168 | 0. 1901687 | 0. 5349416 | 0. 59269 | 0. 954434 |
| tbata | 19. 98229064 | 0. 555122251 | 0. 4474928 | 1. 2405166 | 0. 214784 | 0. 782493 |
| tle2c | 190. 2655716 | -0. 067865556 | 0. 1724834 | -0. 393461 | 0. 693979 | 0. 96736 |
| riox1 | 355. 1815432 | -0. 182879095 | 0. 1247918 | -1. 465474 | 0. 142792 | 0. 684998 |
| il21 | | 0 NA | NA | NA | NA | NA |
| nmrk2 | 877. 1008228 | 0. 772314776 | 0. 0944471 | 8. 1772243 | 2. 90E-16 | 1. 60E-13 |
| jund | 549. 2016151 | -0. 014943088 | 0. 1011856 | -0. 14768 | 0. 882595 | 0. 988415 |
| lcn15 | 123. 095363 | 0. 363476652 | 0. 2058888 | 1. 7654025 | 0. 077496 | 0. 542062 |
| scospondin | 47. 42979725 | 0. 392047371 | 0. 2910933 | 1. 3468099 | 0. 178041 | 0. 738995 |
| CU469531. 1 | 0. 870416506 | -1. 929882401 | 2. 2178997 | -0. 87014 | 0. 384224 | NA |
| gltpd2 | 27. 51938283 | -0. 403182397 | 0. 3697027 | -1. 090558 | 0. 275467 | 0. 839541 |
| MAN1C1 | 19. 50674084 | -0. 275706823 | 0. 4876921 | -0. 56533 | 0. 57185 | 0. 949494 |
| ints9 | 202. 44705 | 0. 035466218 | 0. 1441594 | 0. 2460208 | 0. 805666 | 0. 979893 |
| lyn | 45. 92590196 | 0. 373319855 | 0. 2852234 | 1. 3088681 | 0. 190579 | 0. 755212 |
| elp5 | 201. 3409926 | -0. 042348603 | 0. 1515811 | -0. 279379 | 0. 779954 | 0. 976146 |
| rab8a | 79. 63212194 | 0. 028873297 | 0. 2296817 | 0. 1257101 | 0. 899961 | 0. 990121 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| sstr1b | 62.63498067 | 0.107962245 | 0.2578339 | 0.4187279 | 0.675415 | 0.965257 |
| EVA1A | 1.803389528 | -0.31515553 | 1.5317887 | -0.205743 | 0.836991 | NA |
| zcchc2 | 265.2784314 | -0.158958364 | 0.1332814 | -1.192652 | 0.233006 | 0.80134 |
| sh3glla | 235.6188295 | 0.088187639 | 0.1389691 | 0.6345847 | 0.525699 | 0.940145 |
| slc6a5 | 767.5643371 | 0.267277509 | 0.1199484 | 2.2282707 | 0.025862 | 0.310878 |
| femla | 108.6012166 | -0.179314912 | 0.1894871 | -0.946317 | 0.343987 | 0.878434 |
| atp5ifla | 1243.44126 | -0.166005895 | 0.090352 | -1.837323 | 0.066162 | 0.502802 |
| ar | 46.95040886 | -0.042914956 | 0.290313 | -0.147823 | 0.882482 | 0.988344 |
| nitr7b | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| gtf3c5 | 148.7225048 | 0.032594107 | 0.1816785 | 0.1794054 | 0.857619 | 0.985703 |
| zgc:103697 | 273.9131944 | -0.162554138 | 0.1327207 | -1.224784 | 0.220657 | 0.787641 |
| gas1b | 261.6738305 | -0.019539878 | 0.1396547 | -0.139916 | 0.888727 | 0.989291 |
| ftr23 | 40.72806375 | -0.181153388 | 0.3050236 | -0.5939 | 0.552579 | 0.947265 |
| myhzl.1 | 175097.9459 | 0.409291906 | 0.0892684 | 4.5849609 | 4.54E-06 | 0.000369 |
| si:dkey-31e10.1 | 10.75052383 | 0.596216055 | 0.6055969 | 0.9845097 | 0.324865 | NA |
| myhzl.2 | 64889.44047 | 0.438056053 | 0.08948 | 4.8955771 | 9.80E-07 | 9.89E-05 |
| csk | 915.0916117 | 0.074791571 | 0.0905681 | 0.8258045 | 0.408915 | 0.90171 |
| myhzl.3 | 16991.919 | 0.682894619 | 0.08871 | 7.6980583 | 1.38E-14 | 6.66E-12 |
| CABZ01084793.1 | 222.8789157 | 0.006659484 | 0.145217 | 0.0458588 | 0.963423 | 0.995927 |
| gck | 154.0038036 | 1.233136352 | 0.185156 | 6.6599846 | 2.74E-11 | 7.13E-09 |
| si:ch211-230g14.3 | 8.67979177 | -0.377936211 | 0.6601057 | -0.572539 | 0.566957 | NA |
| ece2a | 57.08917572 | 0.275503817 | 0.2742121 | 1.0047106 | 0.315036 | 0.866054 |
| si:cabz01007802.1 | 211.9304549 | 0.099972532 | 0.1511946 | 0.6612178 | 0.508473 | 0.93575 |
| tmem119b | 238.2935879 | 0.092345152 | 0.1382001 | 0.6681988 | 0.504007 | 0.93532 |
| agbl4 | 33.48012953 | -0.05746331 | 0.3304684 | -0.173884 | 0.861956 | 0.985841 |
| sirt1 | 626.7783671 | 0.059111355 | 0.0989593 | 0.5973302 | 0.550287 | 0.946549 |
| BX664721.2 | | 0 NA | NA | NA | NA | NA |
| wbp4 | 141.3784382 | 0.058201213 | 0.1728109 | 0.3367913 | 0.736274 | 0.972535 |
| CT573494.1 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| psmb11b | 0.499972362 | -2.44370697 | 3.0013188 | -0.814211 | 0.415524 | NA |
| tcnba | 826.2375199 | 0.097128089 | 0.0903377 | 1.0751667 | 0.2823 | 0.843666 |
| atf5a | 1142.173322 | -0.190150861 | 0.0910158 | -2.089208 | 0.036689 | 0.374386 |
| si:ch211-198o12.4 | 1.344727791 | 0.097265354 | 1.731498 | 0.0561741 | 0.955203 | NA |
| tafa5l | 178.3118176 | 0.106619467 | 0.1548815 | 0.6883939 | 0.491205 | 0.931926 |
| cfap45 | 66.53801539 | -0.02222937 | 0.2485426 | -0.089439 | 0.928733 | 0.992702 |
| CABZ01040999.1 | 1.305159095 | -0.702694412 | 1.6729937 | -0.420022 | 0.674469 | NA |
| CABZ01079818.1 | 4.519419941 | -0.099591983 | 0.9320512 | -0.106852 | 0.914906 | NA |
| f11r.2 | 96.90156562 | 0.494564076 | 0.2082019 | 2.3754062 | 0.01753 | 0.24549 |
| CFAP77 | 30.5005775 | -0.327919576 | 0.348466 | -0.941037 | 0.346686 | 0.8794 |
| gkap1 | 575.0854926 | -0.114684856 | 0.1083403 | -1.058562 | 0.289799 | 0.846246 |
| opn7d | 7.672242239 | 0.283556518 | 0.718644 | 0.3945716 | 0.693159 | NA |
| nful | 408.0012952 | 0.007991297 | 0.1136676 | 0.0703041 | 0.943952 | 0.993364 |
| nppc | 77.91549846 | 0.05355134 | 0.2287964 | 0.2340567 | 0.814941 | 0.981081 |
| si:ch211-194e1.7 | 4.811775238 | 0.485549871 | 0.8636247 | 0.5622232 | 0.573964 | NA |
| ppplr15b | 106.4482676 | -0.396348368 | 0.1919196 | -2.065179 | 0.038906 | 0.386986 |
| spaca9 | | 0 NA | NA | NA | NA | NA |
| ch25h11.2 | 7.776421401 | -0.54968565 | 0.7161515 | -0.767555 | 0.442752 | NA |
| si:dkey-24l11.2 | 130.8960488 | -0.256660918 | 0.1766035 | -1.453318 | 0.146136 | 0.691942 |
| tnfsf11 | 9.141540013 | 0.479070665 | 0.6201419 | 0.7725178 | 0.439808 | NA |
| slc39a6 | 574.5441706 | 0.0852894 | 0.1064887 | 0.8009244 | 0.423175 | 0.907185 |
| nmba | 11.01926073 | 0.386319141 | 0.6948666 | 0.5559616 | 0.578237 | NA |
| pimr180 | 0.50625413 | -0.940106488 | 2.8357787 | -0.331516 | 0.740255 | NA |
| arrdcla | 198.0822568 | 0.083366426 | 0.1576457 | 0.5288213 | 0.596929 | 0.954913 |
| tprgll | 23.05070627 | -0.146297306 | 0.4608463 | -0.317454 | 0.750899 | 0.97419 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| malt3 | 65.27916933 | 0.117482258 | 0.2608808 | 0.4503293 | 0.652473 | 0.960708 |
| chchd7 | 173.1774636 | 0.194124103 | 0.1597655 | 1.2150561 | 0.224345 | 0.79161 |
| ehmt1a | 367.0581167 | -0.051453031 | 0.1200027 | -0.428766 | 0.668094 | 0.964736 |
| si:dkey-16p6.4 | 0.678375468 | -2.878459328 | 2.4926399 | -1.154783 | 0.248179 | NA |
| whrnb | 92.6380882 | 0.296084404 | 0.2081447 | 1.422493 | 0.154883 | 0.704624 |
| hes2.2 | 58.40233711 | 0.059063874 | 0.2630476 | 0.2245369 | 0.82234 | 0.982189 |
| ing5b | 55.2149824 | -0.063379336 | 0.2642357 | -0.239859 | 0.810439 | 0.980868 |
| uqccl | 892.9515758 | -0.005370928 | 0.1184069 | -0.04536 | 0.96382 | 0.995927 |
| pak2a | 1124.131758 | 0.104560248 | 0.0944734 | 1.1067693 | 0.268394 | 0.833634 |
| trib2 | 641.1534036 | 0.269715455 | 0.110677 | 2.4369606 | 0.014811 | 0.222891 |
| dpepl | 124.66743 | -1.036786726 | 0.1939778 | -5.344872 | 9.05E-08 | 1.28E-05 |
| crb3b | 79.59146722 | 0.005387538 | 0.2498667 | 0.0215616 | 0.982798 | 0.996944 |
| spg7 | 950.0992347 | 0.014303463 | 0.0899998 | 0.1589277 | 0.873726 | 0.987881 |
| pimr188 | 0.97357257 | 1.035850083 | 1.9870616 | 0.5212974 | 0.60216 | NA |
| cdh15 | 66.56064879 | 0.281056968 | 0.2532591 | 1.1097606 | 0.267102 | 0.833191 |
| taf4a | 191.2670699 | 0.004140901 | 0.1611906 | 0.0256895 | 0.979505 | 0.996866 |
| tmem44 | 12.21256804 | -0.123922742 | 0.6310578 | -0.196373 | 0.844318 | 0.985174 |
| klf9 | 239.2624013 | -0.08757923 | 0.1910348 | -0.458447 | 0.646632 | 0.960362 |
| pld3 | 86.68552983 | 0.07008255 | 0.2259219 | 0.3102069 | 0.756404 | 0.975374 |
| def8 | 496.7384843 | 0.124177811 | 0.115479 | 1.0753279 | 0.282228 | 0.843666 |
| fzd10 | 391.5105376 | 0.189965943 | 0.1217793 | 1.5599195 | 0.118779 | 0.642608 |
| ccni | 5663.507645 | -0.09408099 | 0.0717424 | -1.311372 | 0.189732 | 0.754269 |
| stx2b | 120.5536557 | 0.360326548 | 0.1930899 | 1.8661077 | 0.062026 | 0.486324 |
| b3gnt21 | 106.8084019 | 0.064215624 | 0.2191797 | 0.2929816 | 0.769536 | 0.975687 |
| mb12 | 88.59542267 | -1.690467372 | 0.2514234 | -6.723587 | 1.77E-11 | 4.87E-09 |
| MBL2 (1 of many) | 18.82378599 | 0.262570938 | 0.4422727 | 0.5936856 | 0.552722 | 0.947265 |
| tmem150aa | 46.46710588 | -0.236348009 | 0.285089 | -0.829032 | 0.407086 | 0.901305 |
| CRACR2A | 44.89180861 | -0.191727406 | 0.2876312 | -0.666574 | 0.505044 | 0.935724 |
| cb1n12 | 52.01155963 | 0.020001417 | 0.2979523 | 0.0671296 | 0.946479 | 0.99381 |
| zgc:64051 | 21.19556495 | 0.013311006 | 0.4287142 | 0.0310487 | 0.975231 | 0.996762 |
| trim110 | 38.0185529 | -0.074745456 | 0.3310206 | -0.225803 | 0.821355 | 0.981845 |
| cngbla | 202.8265356 | -0.03535211 | 0.1463232 | -0.241603 | 0.809088 | 0.980642 |
| plcb3 | 559.7523114 | -0.179973632 | 0.1015928 | -1.77152 | 0.076474 | 0.538876 |
| luzp2 | 650.7433976 | 0.013144798 | 0.1005165 | 0.1307726 | 0.895955 | 0.989866 |
| si:ch211-151h10.2 | 3.474601019 | -0.401616604 | 0.9912138 | -0.405177 | 0.685348 | NA |
| nanos3 | 4.363195296 | 0.197165335 | 0.9752159 | 0.2021761 | 0.839779 | NA |
| rwdd | 316.0115614 | 0.039088636 | 0.120744 | 0.3237316 | 0.746141 | 0.97419 |
| kcne4 | 104.1908115 | -0.251945357 | 0.2150868 | -1.171366 | 0.241452 | 0.810468 |
| lrch4 | 354.8950367 | 0.049655269 | 0.1265439 | 0.3923956 | 0.694766 | 0.96736 |
| prosl | 251.9993385 | -0.036490777 | 0.151412 | -0.241003 | 0.809553 | 0.980642 |
| vamp5 | 356.7835709 | -0.053749392 | 0.126609 | -0.424531 | 0.671179 | 0.965257 |
| csflb | 38.25800781 | 0.678652677 | 0.3192766 | 2.1255946 | 0.033537 | 0.357045 |
| grhpra | 52.8463285 | -0.173892194 | 0.2681365 | -0.648521 | 0.516648 | 0.938543 |
| tomm5 | 595.7809142 | 0.003880236 | 0.1423958 | 0.0272497 | 0.978261 | 0.996762 |
| si:ch211-203b8.6 | 80.67793039 | 0.124786834 | 0.2242346 | 0.5565013 | 0.577868 | 0.951024 |
| ptx3a | 551.415947 | 0.413214407 | 0.1198387 | 3.4480871 | 0.000565 | 0.019382 |
| si:ch211-240b21.2 | 3.306524912 | 0.317669912 | 1.0901531 | 0.2913993 | 0.770746 | NA |
| GRB14 | 20.45225604 | -0.445159486 | 0.4307195 | -1.033525 | 0.301358 | 0.856944 |
| cyp2x10.2 | 1.803430813 | -0.264503508 | 1.4521142 | -0.182151 | 0.855465 | NA |
| slc7a4 | 15.6717024 | 0.327516183 | 0.4971165 | 0.6588318 | 0.510004 | 0.936253 |
| lamc2 | 112.747283 | 0.196787481 | 0.2304 | 0.8541123 | 0.393043 | 0.897878 |
| eif3k | 1020.753546 | -0.129307775 | 0.0930704 | -1.389355 | 0.164725 | 0.720954 |
| cyp2x12 | 23.9837081 | -0.495553174 | 0.4005058 | -1.237318 | 0.215969 | 0.783484 |
| TMEM208 | 302.4146952 | -0.070580185 | 0.1245129 | -0.56685 | 0.570816 | 0.949072 |

| | | | | | | |
|---------------------|-------------|--------------|-----------|-----------|----------|----------|
| SLC03A1 (1 of many) | 368.9578056 | 0.174507485 | 0.1180164 | 1.4786716 | 0.139228 | 0.677963 |
| zgc:171509 | 2.79202997 | -1.229213255 | 1.2269429 | -1.00185 | 0.316416 | NA |
| mrps14 | 285.4070272 | -0.037590106 | 0.1385993 | -0.271214 | 0.786226 | 0.976471 |
| astn1 | 1520.632051 | 0.002697931 | 0.08054 | 0.033498 | 0.973277 | 0.996315 |
| si:dkey-21n10.3 | 0 | NA | NA | NA | NA | NA |
| mmab | 132.1916463 | -0.157501965 | 0.175941 | -0.895198 | 0.370681 | 0.890626 |
| si:ch211-132b12.3 | 0 | NA | NA | NA | NA | NA |
| lmlbb | 283.3827831 | -0.047657932 | 0.125591 | -0.379469 | 0.704339 | 0.968134 |
| si:dkey-154p10.3 | 95.99792365 | -0.134832103 | 0.2107609 | -0.63974 | 0.522342 | 0.939056 |
| nfkbie | 180.2388652 | -0.394085261 | 0.1772041 | -2.223906 | 0.026155 | 0.311744 |
| angpt12b | 370.0422338 | 0.131083056 | 0.1286254 | 1.0191074 | 0.308152 | 0.861088 |
| ralgps1 | 18.36193044 | -0.071617245 | 0.4366543 | -0.164014 | 0.86972 | 0.987304 |
| zgc:158427 | 0.474778155 | 0.852397662 | 2.898154 | 0.2941175 | 0.768668 | NA |
| si:ch211-132b12.7 | 581.3149793 | 0.500559878 | 0.112031 | 4.4680469 | 7.89E-06 | 0.000589 |
| foxglc | 22.89862652 | -0.007506095 | 0.4050212 | -0.018533 | 0.985214 | 0.996944 |
| pglyrp5 | 36.5286113 | -0.203807914 | 0.3276679 | -0.621995 | 0.533945 | 0.943276 |
| slc6a18 | 19.07635738 | 0.281677396 | 0.4527284 | 0.6221774 | 0.533825 | 0.943276 |
| tns2b | 413.3194402 | 0.2479224 | 0.1209006 | 2.0506298 | 0.040303 | 0.392394 |
| cep126 | 30.45209591 | -0.131483724 | 0.3485583 | -0.377222 | 0.706009 | 0.968412 |
| znf131 | 426.9979248 | 0.008901015 | 0.118397 | 0.0751794 | 0.940072 | 0.992857 |
| yap1 | 1755.83752 | 0.099228219 | 0.0795084 | 1.248022 | 0.212023 | 0.77986 |
| tbcb | 1081.532652 | -0.078053688 | 0.0834033 | -0.935858 | 0.349346 | 0.880195 |
| six5 | 77.67367774 | -0.039350455 | 0.2286321 | -0.172113 | 0.863349 | 0.985841 |
| six9 | 17.49558058 | -0.484658794 | 0.5015042 | -0.96641 | 0.333839 | 0.87516 |
| vgl141 | 220.4378826 | -0.155712671 | 0.1545534 | -1.007501 | 0.313694 | 0.865132 |
| ptges1 | 665.8086555 | 0.152426129 | 0.1035134 | 1.4725257 | 0.140879 | 0.681252 |
| foxl2b | 41.23486665 | -0.02437944 | 0.3121045 | -0.078113 | 0.937738 | 0.99279 |
| ttc9b | 25.47680327 | 0.182988733 | 0.3891237 | 0.4702586 | 0.63817 | 0.959196 |
| si:ch211-153j24.3 | 17.53020071 | 0.484095681 | 0.4562941 | 1.060929 | 0.288722 | 0.845979 |
| si:ch211-195h23.3 | 22.5874849 | 0.008194397 | 0.4270379 | 0.0191889 | 0.98469 | 0.996944 |
| si:dkey-56m19.5 | 3210.36761 | 0.084234363 | 0.0725548 | 1.1609754 | 0.245652 | 0.815431 |
| h3f3b.1 | 3023.064544 | -0.114411221 | 0.0719828 | -1.589425 | 0.111964 | 0.627242 |
| si:ch1073-429i10.3 | 6022.000909 | -0.147090954 | 0.0867077 | -1.6964 | 0.08981 | 0.573799 |
| gucd1 | 332.4474417 | -0.092968185 | 0.1294118 | -0.71839 | 0.472517 | 0.924838 |
| CABZ01112732.1 | 9.359685756 | 0.213015616 | 0.6286886 | 0.3388253 | 0.734741 | NA |
| tmem91 | 18.53991097 | 0.365322359 | 0.453596 | 0.8053914 | 0.420594 | 0.90651 |
| tnnt3b | 40912.08163 | 0.262920995 | 0.0861464 | 3.0520267 | 0.002273 | 0.058601 |
| otog | 149.4792558 | 0.236344658 | 0.1697281 | 1.3924896 | 0.163774 | 0.71945 |
| aopep | 132.2352867 | 0.073345298 | 0.1748947 | 0.4193683 | 0.674947 | 0.965257 |
| zgc:136254 | 4.091282548 | 0.103892687 | 0.9769415 | 0.1063448 | 0.915309 | NA |
| dnah3 | 17.20156976 | 0.152249858 | 0.4669832 | 0.3260285 | 0.744403 | 0.974094 |
| si:dkey-94e7.2 | 136.0124801 | 0.140883101 | 0.195747 | 0.7197203 | 0.471697 | 0.924838 |
| gpx4a | 1810.390997 | -0.286887315 | 0.2702954 | -1.061384 | 0.288515 | 0.845979 |
| map7d2a | 439.2176646 | 0.090587069 | 0.1125736 | 0.804692 | 0.420997 | 0.90651 |
| netol | 102.1917249 | 0.279232188 | 0.2006646 | 1.3915369 | 0.164063 | 0.71945 |
| CABZ01100185.1 | 178.9114519 | 0.021689506 | 0.1594156 | 0.1360563 | 0.891777 | 0.989291 |
| cyp2y3 | 162.7731669 | -1.847497451 | 0.2135669 | -8.650675 | 5.12E-18 | 3.37E-15 |
| gbgt114 | 297.7763757 | 0.10988115 | 0.1299621 | 0.8454864 | 0.397839 | 0.899672 |
| crybb1 | 19586.08882 | -0.163828002 | 0.0989148 | -1.656253 | 0.097671 | 0.596644 |
| chs1 | 265.1338413 | -1.072471308 | 0.1375599 | -7.796395 | 6.37E-15 | 3.23E-12 |
| hapln1b | 649.8506218 | 0.118027318 | 0.1073931 | 1.0990216 | 0.271759 | 0.836643 |
| v2rh14 | 3.85389 | 0.92204345 | 0.9952918 | 0.9264051 | 0.354235 | NA |
| BX530037.1 | 0.817563152 | -0.628689195 | 2.3745149 | -0.264765 | 0.79119 | NA |
| si:dkey-47k20.4 | 1.641260976 | 0.568773532 | 1.4684935 | 0.3873177 | 0.698521 | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| elov18a | 42.38144169 | 0.232916815 | 0.317025 | 0.7346953 | 0.462525 | 0.922698 |
| htr5ab | 50.29242766 | -0.159849977 | 0.300081 | -0.532689 | 0.594249 | 0.954434 |
| rbm33a | 1370.557968 | -0.172625163 | 0.0819884 | -2.105482 | 0.035249 | 0.365357 |
| olfcq19 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| shha | 488.9013685 | -0.060252978 | 0.1093971 | -0.550773 | 0.581789 | 0.95187 |
| slc16a1b | 367.3097505 | -0.00073159 | 0.1187104 | -0.006163 | 0.995083 | 0.998694 |
| tmem51a | 109.0074621 | 0.033199201 | 0.2159882 | 0.1537084 | 0.87784 | 0.987881 |
| olfcd3 | 1.837037515 | -0.248740973 | 1.4062673 | -0.17688 | 0.859602 | NA |
| glisla | 14.44678672 | -0.345028233 | 0.505675 | -0.682312 | 0.495042 | 0.931926 |
| rnf44 | 52.2401838 | 0.202007581 | 0.2732249 | 0.7393454 | 0.459697 | 0.921978 |
| CU302253.1 | 177.9024685 | -1.295990743 | 0.1824743 | -7.10232 | 1.23E-12 | 4.18E-10 |
| rabggtb | 564.9558405 | 0.112958098 | 0.1104053 | 1.0231222 | 0.30625 | 0.860027 |
| vimr1 | 818.6664903 | 0.097618888 | 0.1358682 | 0.7184824 | 0.47246 | 0.924838 |
| naa80 | 32.76390463 | -0.46726841 | 0.3653457 | -1.278976 | 0.200906 | 0.766855 |
| CU326366.2 | 1.003989955 | -2.202606988 | 1.9969604 | -1.10298 | 0.270036 | NA |
| cnot11 | 364.291307 | -0.141173044 | 0.1314537 | -1.073938 | 0.282851 | 0.844367 |
| atmin | 54.69840719 | -0.203230259 | 0.2582087 | -0.787078 | 0.431236 | 0.912495 |
| dalrd3 | 941.3251439 | 0.001915208 | 0.0888625 | 0.0215525 | 0.982805 | 0.996944 |
| si:ch211-181d7.3 | | 0 NA | NA | NA | NA | NA |
| sptbn4a | 389.566182 | 0.18000349 | 0.1224716 | 1.4697564 | 0.141628 | 0.682394 |
| rab8b | 487.0480394 | 0.039121823 | 0.1046116 | 0.3739722 | 0.708425 | 0.968664 |
| cd1511 | 552.6494641 | 0.042218916 | 0.1011809 | 0.4172615 | 0.676487 | 0.965257 |
| si:ch211-281124.3 | 447.0618513 | -0.160676846 | 0.1318086 | -1.219017 | 0.222838 | 0.789115 |
| lpar5b | 10.43476761 | -0.998008309 | 0.5902064 | -1.690948 | 0.090847 | NA |
| rsflb.1 | 767.3485622 | -0.102403071 | 0.0956375 | -1.070742 | 0.284285 | 0.844697 |
| taf10 | 622.8323713 | -0.048249513 | 0.1028152 | -0.469284 | 0.638867 | 0.959659 |
| fam214b | 732.0208116 | 0.18531146 | 0.0929094 | 1.9945401 | 0.046093 | 0.42177 |
| rhoga | 3.605215567 | 0.513695185 | 0.9867095 | 0.5206144 | 0.602635 | NA |
| dnlz | 123.8906665 | 0.137901928 | 0.1808143 | 0.7626716 | 0.445659 | 0.917154 |
| irgq2 | 39.85943527 | -0.349037417 | 0.3254505 | -1.072475 | 0.283507 | 0.84466 |
| or104-2 | | 0 NA | NA | NA | NA | NA |
| or105-1 | | 0 NA | NA | NA | NA | NA |
| or106-1 | 0.481032184 | -2.398473301 | 2.80721 | -0.854398 | 0.392885 | NA |
| zgc:152951 | 30.6529373 | 0.052663745 | 0.3597289 | 0.1463984 | 0.883607 | 0.988706 |
| iqcg | 5.118800562 | 1.096225225 | 0.8675081 | 1.2636484 | 0.206356 | NA |
| ctrl | 420.5818188 | -0.193208803 | 0.2776476 | -0.695878 | 0.486505 | 0.930833 |
| crfbl | 70.29661129 | -0.223115835 | 0.2382631 | -0.936426 | 0.349054 | 0.880195 |
| chmp2ba | 15.58914046 | -0.254199856 | 0.5158157 | -0.492811 | 0.622146 | 0.957354 |
| kctd4 | 331.010858 | -0.036885042 | 0.126286 | -0.292076 | 0.770229 | 0.975687 |
| psenen | 501.0245717 | -0.090092327 | 0.1209007 | -0.745176 | 0.456165 | 0.921215 |
| gpr85 | 775.6474638 | -0.014124032 | 0.0986553 | -0.143166 | 0.886159 | 0.988936 |
| lysmd4 | 128.6185691 | 0.233333853 | 0.1808539 | 1.2901789 | 0.196989 | 0.761944 |
| or108-1 | 0.333314908 | -1.858695402 | 3.5126701 | -0.52914 | 0.596708 | NA |
| tmem168a | 276.3685845 | -0.051733226 | 0.1342318 | -0.385402 | 0.69994 | 0.967998 |
| ifrd1 | 2220.177551 | 0.2316788 | 0.0770276 | 3.0077388 | 0.002632 | 0.065465 |
| fam174b | 215.7396991 | -0.094795038 | 0.1453719 | -0.652086 | 0.514345 | 0.937216 |
| nidla | 1974.897275 | 0.326952805 | 0.0838696 | 3.898345 | 9.69E-05 | 0.004764 |
| crfb4 | 47.98709896 | 0.110636055 | 0.3157032 | 0.3504432 | 0.726006 | 0.970402 |
| si:dkey-14o1.20 | 1.005048545 | -0.006083169 | 1.9358873 | -0.003142 | 0.997493 | NA |
| ksr1a | 53.97604986 | -0.009866802 | 0.263909 | -0.037387 | 0.970176 | 0.996315 |
| cuedcla | 611.3141235 | -0.000862045 | 0.1016188 | -0.008483 | 0.993232 | 0.998554 |
| gmnc | 8.400895965 | -0.756050537 | 0.6581355 | -1.148776 | 0.250648 | NA |
| maspl | 92.72956078 | 0.210973074 | 0.2128266 | 0.9912909 | 0.321544 | 0.869201 |
| EIF2AK2 | 6.813700786 | -0.47427364 | 0.7470528 | -0.63486 | 0.52552 | NA |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| rxfp21 | 19.26506409 | 0.406179958 | 0.4279711 | 0.9490827 | 0.342579 | 0.878434 |
| spry4 | 810.2541264 | 0.138830366 | 0.1122743 | 1.2365282 | 0.216262 | 0.783589 |
| cox5b2 | 114.0116383 | 0.055938724 | 0.2035059 | 0.2748752 | 0.783412 | 0.97627 |
| CR384085.1 | 1.451497761 | 0.290766955 | 1.6521281 | 0.1759954 | 0.860298 | NA |
| map41 | 1762.825564 | 0.118419777 | 0.0754689 | 1.5691195 | 0.11662 | 0.639148 |
| si:ch211-250k18.5 | 0.959146752 | 0.977549673 | 2.0106641 | 0.4861825 | 0.626838 | NA |
| exosc8 | 183.9374648 | 0.00561904 | 0.1567061 | 0.0358572 | 0.971396 | 0.996315 |
| si:ch211-244o22.2 | 473.8621398 | 0.019502249 | 0.1060641 | 0.1838723 | 0.854114 | 0.985174 |
| tnks1bp1 | 159.016009 | -0.442057484 | 0.1674756 | -2.639533 | 0.008302 | 0.14763 |
| mespab | 0.50625413 | -0.940106488 | 2.8357787 | -0.331516 | 0.740255 | NA |
| plcg2 | 53.53417855 | -0.131946618 | 0.269001 | -0.490506 | 0.623776 | 0.957354 |
| sparta | 40.35794341 | -0.252473877 | 0.3042764 | -0.829752 | 0.406679 | 0.901305 |
| vsir | 80.56013392 | -0.066727623 | 0.21876 | -0.305027 | 0.760346 | 0.975374 |
| slc6a17 | 61.13332595 | 0.092936257 | 0.250068 | 0.371644 | 0.710158 | 0.968928 |
| BX324132.1 | 1.802691997 | -1.439918492 | 1.4686844 | -0.980414 | 0.326882 | NA |
| BX548044.1 | 1.13982768 | 0.359745903 | 1.9566936 | 0.183854 | 0.854128 | NA |
| tlr7 | 1.297015045 | -0.037963565 | 1.8363812 | -0.020673 | 0.983506 | NA |
| spata21 | 80.61748787 | -0.102584528 | 0.2251514 | -0.455625 | 0.64866 | 0.960708 |
| pimr149 | | 0 NA | NA | NA | NA | NA |
| BX548044.2 | 0.816144499 | 1.890298486 | 2.2559176 | 0.8379289 | 0.402071 | NA |
| h2afva | 2078.988396 | -0.110428843 | 0.0815584 | -1.353985 | 0.175741 | 0.736411 |
| purba | 2013.478522 | 0.130340274 | 0.0728105 | 1.7901292 | 0.073433 | 0.528705 |
| blocls3 | 17.56027049 | 0.38391878 | 0.4531591 | 0.8472052 | 0.396881 | 0.899672 |
| zgc:172139 | 18.07100473 | -0.240121421 | 0.4506662 | -0.532814 | 0.594162 | 0.954434 |
| dclrelb | 452.0377689 | 0.090028323 | 0.1115945 | 0.8067453 | 0.419813 | 0.90651 |
| zgc:66024 | 10.66119886 | -0.311732468 | 0.5877 | -0.530428 | 0.595815 | NA |
| zgc:66024 | 0.964851341 | -0.019994509 | 2.0736065 | -0.009642 | 0.992307 | NA |
| fam83ha | 96.99383435 | -0.016200469 | 0.2257074 | -0.071776 | 0.94278 | 0.993364 |
| rnf183 | 496.8693224 | -0.238005065 | 0.1099004 | -2.165643 | 0.030339 | 0.336652 |
| si:ch211-163121.10 | 19.27136604 | -0.05887469 | 0.4443016 | -0.132511 | 0.89458 | 0.989716 |
| f2r11.1 | 39.87240303 | -0.292214751 | 0.3175901 | -0.9201 | 0.35752 | 0.884033 |
| gbp4 | 24.77668333 | -0.704554365 | 0.3879223 | -1.816226 | 0.069336 | 0.514708 |
| il2rga | 10.06600831 | -0.939811214 | 0.6320024 | -1.487037 | 0.137005 | NA |
| si:dkey-98f17.5 | 45.72665655 | 0.326027313 | 0.2953077 | 1.1040258 | 0.269582 | 0.834705 |
| si:dkey-61p9.7 | 7.22984606 | -0.60965712 | 0.7296858 | -0.835506 | 0.403433 | NA |
| nap114b | 1204.906509 | -0.015563016 | 0.0839805 | -0.185317 | 0.85298 | 0.985174 |
| si:ch211-250m6.4 | 0.847902465 | 0.655335913 | 2.102784 | 0.3116516 | 0.755305 | NA |
| fance | 80.91714745 | 0.14450182 | 0.2342258 | 0.6169338 | 0.537278 | 0.943336 |
| si:ch211-250m6.7 | 9.219677085 | -0.52430988 | 0.6810677 | -0.769835 | 0.441398 | NA |
| zgc:153031 | 199.5578477 | -0.211196116 | 0.1454816 | -1.451703 | 0.146584 | 0.692967 |
| tspan13a | 185.8204349 | -0.417526201 | 0.1688783 | -2.47235 | 0.013423 | 0.207707 |
| mrpl14 | 322.1738056 | -0.105835732 | 0.1442731 | -0.733579 | 0.463205 | 0.922698 |
| klhl41a | 50.69350088 | 0.197494908 | 0.2801936 | 0.7048516 | 0.480903 | 0.92776 |
| sostdcla | 183.3924216 | 0.26343937 | 0.1770883 | 1.4876159 | 0.136852 | 0.673303 |
| mettl5 | 305.2335233 | -0.098275657 | 0.1261683 | -0.778925 | 0.436024 | 0.914408 |
| nriplb | 741.2551642 | -0.096718569 | 0.0963484 | -1.003842 | 0.315455 | 0.866773 |
| nos1 | 53.80622349 | -0.227428359 | 0.2698568 | -0.842774 | 0.399355 | 0.900683 |
| zgc:153012 | 230.8272016 | -0.224444378 | 0.1657783 | -1.353883 | 0.175774 | 0.736411 |
| si:ch73-42k18.1 | 2.087198782 | -0.685701579 | 1.3572948 | -0.505197 | 0.61342 | NA |
| ppplr35 | 30.69836166 | -0.601218627 | 0.3546284 | -1.695348 | 0.090009 | 0.574248 |
| map2k2b | 183.6563977 | 0.117792399 | 0.1616602 | 0.7286421 | 0.466221 | 0.923908 |
| rad51c | 30.25203736 | 0.249916584 | 0.3929921 | 0.6359329 | 0.52482 | 0.939846 |
| umod11 | 19.52656778 | 0.103574165 | 0.4328382 | 0.2392907 | 0.81088 | 0.981081 |
| si:ch211-137a8.2 | 86.97822277 | -0.234933877 | 0.2157877 | -1.088727 | 0.276274 | 0.839541 |

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| cyp1b1 | 48.47360781 | 0.242698582 | 0.2774252 | 0.8748254 | 0.381669 | 0.895192 |
| si:ch211-218m3.11 | 0 NA | NA | NA | NA | NA | NA |
| xaf1 | 7.438488335 | 0.199835099 | 0.7110263 | 0.2810516 | 0.778671 | NA |
| atp5meb | 2789.672405 | 0.031245621 | 0.1095799 | 0.28514 | 0.775537 | 0.975687 |
| zgc:113983 | 21.86409952 | 0.360801714 | 0.4734839 | 0.7620147 | 0.446051 | 0.917154 |
| BX897692.1 | 0.81902083 | -3.15978573 | 2.3136362 | -1.365723 | 0.172026 | NA |
| si:ch211-264e16.1 | 77.48166753 | -0.003861917 | 0.2354339 | -0.016403 | 0.986913 | 0.997073 |
| si:ch211-219a15.4 | 14.97056978 | 0.592428117 | 0.5060022 | 1.1708015 | 0.241679 | 0.810541 |
| frmd7 | 6.351420399 | -0.141520162 | 0.7438248 | -0.19026 | 0.849105 | NA |
| nripla | 545.6781919 | -0.009488063 | 0.1120397 | -0.084685 | 0.932512 | 0.992702 |
| si:ch211-261n11.7 | 8.249328175 | 0.448658168 | 0.7080373 | 0.6336646 | 0.5263 | NA |
| zgc:153372 | 93.43610875 | 0.203606937 | 0.2162279 | 0.9416313 | 0.346381 | 0.879249 |
| zgc:153759 | 3.010900983 | -0.316816742 | 1.0769331 | -0.294184 | 0.768617 | NA |
| pdlim4 | 238.7107413 | 0.248029491 | 0.1390005 | 1.7843786 | 0.074362 | 0.531227 |
| lim2.1 | 785.1027588 | 0.026512848 | 0.0980325 | 0.2704495 | 0.786814 | 0.976596 |
| bsx | 56.53327945 | -0.151969947 | 0.256071 | -0.593468 | 0.552868 | 0.947265 |
| glol | 959.664558 | 0.005590664 | 0.0969683 | 0.0576545 | 0.954024 | 0.994271 |
| glceb | 759.4349476 | 0.215282059 | 0.0929655 | 2.3157205 | 0.020574 | 0.270609 |
| jhy | 18.63252281 | 0.129075988 | 0.4461081 | 0.2893379 | 0.772323 | 0.975687 |
| btbd9 | 463.3393145 | -0.136243238 | 0.1147919 | -1.186871 | 0.235278 | 0.804375 |
| gabral | 91.12417471 | 0.013781001 | 0.2255155 | 0.0611089 | 0.951272 | 0.99381 |
| zgc:158862 | 21.3441267 | 0.016299031 | 0.4206661 | 0.0387458 | 0.969093 | 0.996315 |
| hspa8 | 47677.67138 | -0.144269867 | 0.0809696 | -1.781778 | 0.074785 | 0.532583 |
| zgc:153631 | 172.3590876 | -0.224848105 | 0.1599615 | -1.405639 | 0.159831 | 0.712089 |
| pimr129 | 0.663441495 | -1.490281006 | 2.4117839 | -0.617916 | 0.53663 | NA |
| h2afx1 | 10285.78486 | -0.127540053 | 0.0813471 | -1.56785 | 0.116916 | 0.639958 |
| hist2h21 | 2103.830846 | -0.081324046 | 0.1005689 | -0.80864 | 0.418722 | 0.906406 |
| pcyox11 | 552.430994 | 0.047939091 | 0.1058422 | 0.4529297 | 0.650599 | 0.960708 |
| tle3b | 1382.182094 | 0.018607517 | 0.087417 | 0.2128592 | 0.831437 | 0.983245 |
| si:ch211-147a11.3 | 172.3118812 | 0.120133893 | 0.1556171 | 0.7719837 | 0.440124 | 0.916107 |
| eps8b | 5.595396212 | 0.676061857 | 0.829405 | 0.8151167 | 0.415006 | NA |
| ifnphi2 | 0 NA | NA | NA | NA | NA | NA |
| prdx4 | 1075.465624 | -0.133357972 | 0.0871087 | -1.530938 | 0.125785 | 0.654803 |
| nphp4 | 159.2305895 | -0.056424029 | 0.1638607 | -0.344341 | 0.73059 | 0.97149 |
| elnb | 467.6620824 | -0.07951771 | 0.1442169 | -0.551376 | 0.581376 | 0.951731 |
| cyp7a1 | 224.5440523 | -0.71587595 | 0.1738793 | -4.117086 | 3.84E-05 | 0.00218 |
| adcyla | 8.666410843 | 0.104194586 | 0.6425795 | 0.1621505 | 0.871187 | NA |
| admb | 210.699942 | 0.178590662 | 0.1500591 | 1.1901352 | 0.233993 | 0.802633 |
| rxfp3.3a1 | 13.12506079 | 0.107312634 | 0.5234068 | 0.2050272 | 0.837551 | 0.984665 |
| acss21 | 30.72478126 | -0.324761658 | 0.3442589 | -0.943365 | 0.345494 | 0.878434 |
| skor1a | 256.545871 | 0.01172529 | 0.1398618 | 0.0838348 | 0.933188 | 0.992702 |
| plac811 | 23.27101669 | -0.074156415 | 0.3977024 | -0.186462 | 0.852082 | 0.985174 |
| pimr51 | 0 NA | NA | NA | NA | NA | NA |
| akipl | 27.34428626 | -0.009069716 | 0.36069 | -0.025145 | 0.979939 | 0.996879 |
| si:ch211-242e8.1 | 140.722817 | 0.128733683 | 0.1716576 | 0.7499444 | 0.453288 | 0.920041 |
| agpat4 | 153.9914386 | -0.216514452 | 0.1631638 | -1.326976 | 0.184517 | 0.747376 |
| chtf8 | 99.17112207 | -0.377133569 | 0.2000387 | -1.885303 | 0.059389 | 0.476605 |
| wu:fk65c09 | 3.666637559 | -1.469815592 | 1.1273042 | -1.303832 | 0.192291 | NA |
| serpinf1 | 855.4707317 | 0.225478879 | 0.1074442 | 2.0985663 | 0.035855 | 0.369078 |
| ranbp3b | 1174.451401 | 0.045197392 | 0.084908 | 0.5323105 | 0.594511 | 0.954434 |
| lgals914 | 0.984220606 | -1.041956579 | 2.232304 | -0.466763 | 0.64067 | NA |
| btg3 | 554.1480819 | -0.224649785 | 0.1057636 | -2.124075 | 0.033664 | 0.357045 |
| nufip2 | 1062.870709 | 0.198928663 | 0.083719 | 2.376148 | 0.017494 | 0.24517 |
| cry3a | 6954.986209 | 0.035628495 | 0.0663248 | 0.5371823 | 0.591142 | 0.954193 |

| | | | | | | |
|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| mrm3b | 109.2683847 | 0.033726765 | 0.2048998 | 0.1646013 | 0.869258 | 0.987274 |
| ints2 | 355.9033889 | -0.008872238 | 0.1159028 | -0.076549 | 0.938982 | 0.992857 |
| agrp | 64.77679783 | 0.079932895 | 0.2698876 | 0.2961711 | 0.767099 | 0.975687 |
| atp6v0d1 | 3255.621356 | 0.039488155 | 0.0793339 | 0.4977461 | 0.618663 | 0.957354 |
| col2ala | 79168.19202 | 0.13179626 | 0.0875824 | 1.5048256 | 0.132369 | 0.6667 |
| gls2a | 45.04648794 | 1.032988161 | 0.2990583 | 3.4541368 | 0.000552 | 0.019206 |
| tmcol | 681.8876866 | 0.115770075 | 0.1008891 | 1.1474982 | 0.251176 | 0.820469 |
| aldh9a1a.1 | 5130.11041 | -0.314867769 | 0.0859011 | -3.66547 | 0.000247 | 0.010149 |
| napbb | 118.4865269 | -0.372158888 | 0.185781 | -2.003213 | 0.045154 | 0.417766 |
| zgc:112962 | 233.3328569 | 0.023370972 | 0.1405024 | 0.1663386 | 0.86789 | 0.987245 |
| si:dkeyp-82a1.4 | 0.832927207 | 1.89113355 | 2.1260675 | 0.8894983 | 0.373735 | NA |
| fgfr4 | 1800.888164 | 0.099442666 | 0.0761483 | 1.3059079 | 0.191584 | 0.755886 |
| fam89b | 103.8615115 | 0.480648475 | 0.2096359 | 2.292778 | 0.021861 | 0.280334 |
| znrd2 | 284.658379 | -0.004889899 | 0.1297357 | -0.037691 | 0.969934 | 0.996315 |
| ikzf2 | 46.83820408 | -0.046481539 | 0.3008122 | -0.15452 | 0.8772 | 0.987881 |
| dbn1 | 227.1687431 | -0.163997947 | 0.1460091 | -1.123204 | 0.261351 | 0.829527 |
| unc93b1 | 45.70383669 | -0.259868727 | 0.3106756 | -0.836463 | 0.402894 | 0.90084 |
| timm10 | 470.2958481 | 0.138339813 | 0.1069079 | 1.2940097 | 0.195662 | 0.761077 |
| kcnh5b | 43.87737067 | 0.231524921 | 0.2882101 | 0.8033198 | 0.42179 | 0.90651 |
| ppp2r5eb | 1167.827281 | 0.041294052 | 0.0850101 | 0.4857548 | 0.627141 | 0.957354 |
| si:ch211-216123.2 | 518.8720192 | -0.064179684 | 0.1070322 | -0.59963 | 0.548753 | 0.946312 |
| fhdc3 | 231.3007591 | 0.058857691 | 0.1354907 | 0.4344041 | 0.663995 | 0.964736 |
| mstnb | 55.18038215 | 0.025189097 | 0.2836265 | 0.0888108 | 0.929232 | 0.992702 |
| vwc2l | 3.59056033 | -0.256432997 | 1.0172173 | -0.252093 | 0.800969 | NA |
| ppplr15a | 2763.71524 | -0.281893299 | 0.0862637 | -3.267809 | 0.001084 | 0.032921 |
| grikla | 254.024749 | 0.139314226 | 0.1581737 | 0.8807675 | 0.378444 | 0.895192 |
| aars | 3929.327937 | -0.09763932 | 0.0696616 | -1.401623 | 0.161028 | 0.714313 |
| map3k7c1 | 22.89328525 | 0.033679199 | 0.4040087 | 0.0833625 | 0.933563 | 0.992702 |
| pex11b | 133.2205172 | 0.294053673 | 0.1754958 | 1.6755593 | 0.093825 | 0.582691 |
| rit1 | 192.1754531 | 0.119567241 | 0.1479859 | 0.8079636 | 0.419112 | 0.906406 |
| tmem135 | 409.4087618 | 0.207205142 | 0.1157585 | 1.7899782 | 0.073457 | 0.528705 |
| tafa5a | 254.6531691 | 0.065830411 | 0.1309331 | 0.5027789 | 0.61512 | 0.95688 |
| si:dkey-73n10.1 | 187.2103034 | -0.248059048 | 0.163351 | -1.518565 | 0.128872 | 0.659982 |
| cerk | 102.2578469 | 0.176054984 | 0.2051598 | 0.8581358 | 0.390817 | 0.897643 |
| gramd4a | 24.4849413 | -0.138277855 | 0.4069854 | -0.339761 | 0.734036 | 0.971993 |
| vps4b | 1360.402298 | -0.042381617 | 0.0809257 | -0.52371 | 0.60048 | 0.956045 |
| ubtd2 | 468.2697662 | 0.006721664 | 0.1066128 | 0.0630474 | 0.949729 | 0.99381 |
| celsrla | 710.1514235 | -0.146907763 | 0.1067109 | -1.376689 | 0.168608 | 0.725919 |
| cyp27a1.2 | 1.155163996 | -0.396716192 | 1.7478367 | -0.226976 | 0.820443 | NA |
| si:dkey-242h9.3 | 40.16740971 | 0.065030796 | 0.3436021 | 0.1892619 | 0.849888 | 0.985174 |
| zgc:172339 | 13.7916916 | 0.240416246 | 0.506196 | 0.474947 | 0.634825 | 0.9578 |
| zgc:163030 | 414.1657162 | 0.124572543 | 0.1358504 | 0.9169831 | 0.359152 | 0.884751 |
| mycbpap | 21.44865211 | 0.340655202 | 0.4087037 | 0.8335017 | 0.404562 | 0.901305 |
| ebf1b | 102.302726 | -0.188965115 | 0.1966867 | -0.960742 | 0.336682 | 0.876088 |
| zgc:172120 | 41.28519345 | 0.184958952 | 0.3134162 | 0.5901385 | 0.555098 | 0.947449 |
| taarl5 | | 0 NA | NA | NA | NA | NA |
| stx7l | 78.39743961 | -0.307167741 | 0.2252382 | -1.363746 | 0.172647 | 0.731348 |
| taarl4i | | 0 NA | NA | NA | NA | NA |
| taarl4l | 0.831198824 | 0.593716313 | 2.0278563 | 0.2927803 | 0.76969 | NA |
| taarl0 | 0.647689638 | -2.824814845 | 2.5064236 | -1.12703 | 0.25973 | NA |
| c6ast1 | 2.504646853 | -0.171240561 | 1.2078337 | -0.141775 | 0.887258 | NA |
| zgc:153738 | 21.13059119 | 0.171614402 | 0.4119925 | 0.4165474 | 0.677009 | 0.965257 |
| ttc32 | 151.7267132 | 0.221863892 | 0.175386 | 1.2650034 | 0.20587 | 0.773784 |
| pdia5 | 860.9206344 | -0.082709645 | 0.0899618 | -0.919387 | 0.357893 | 0.884398 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| si:ch211-244b2.3 | 13.88772606 | -0.768264243 | 0.5276698 | -1.455956 | 0.145405 | 0.690663 |
| matn3a | 1606.120267 | 0.072360268 | 0.1238496 | 0.5842591 | 0.559046 | 0.948478 |
| rxfp3.3a3 | 7.911757483 | 0.869204811 | 0.6849794 | 1.2689503 | 0.204459 | NA |
| aftpha | 611.9477397 | 0.056997052 | 0.1033334 | 0.5515839 | 0.581233 | 0.951731 |
| uacaa | 191.6638543 | -0.190059422 | 0.1577635 | -1.204711 | 0.228315 | 0.795541 |
| zpaxl | 7.933963037 | 0.263161145 | 0.6829414 | 0.3853349 | 0.699989 | NA |
| mixl1 | 8.481785945 | 1.272756241 | 0.6659725 | 1.9111243 | 0.055989 | NA |
| chrn4a | 219.0516272 | -0.233117064 | 0.1563869 | -1.490643 | 0.136055 | 0.672589 |
| rec8b | 1.54286122 | -0.921930898 | 1.6254026 | -0.567202 | 0.570577 | NA |
| metap2a | 89.73492973 | 0.359571929 | 0.2186233 | 1.6447101 | 0.10003 | 0.601211 |
| erich3 | 18.17941964 | 0.223294969 | 0.4702072 | 0.4748863 | 0.634868 | 0.9578 |
| si:ch211-196h16.5 | 110.4923331 | -0.268428321 | 0.2157047 | -1.244425 | 0.213343 | 0.781631 |
| matn3b | 145.2965306 | 0.293043863 | 0.2231129 | 1.3134334 | 0.189037 | 0.753954 |
| esrra | 350.4636877 | 0.276981695 | 0.1232253 | 2.2477664 | 0.024591 | 0.302262 |
| wdr35 | 316.5167852 | -0.053808102 | 0.1214524 | -0.443039 | 0.657738 | 0.962538 |
| si:dkey-182i3.11 | 0.31598276 | 0.005883445 | 3.3523626 | 0.001755 | 0.9986 | NA |
| kbtbd4 | 202.1206599 | -0.009195063 | 0.1445755 | -0.0636 | 0.949288 | 0.99381 |
| ighmbp2 | 127.1284709 | -0.178497126 | 0.1774457 | -1.005926 | 0.314451 | 0.865529 |
| pimr132 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| trmt5 | 162.6147237 | 0.051432932 | 0.1649873 | 0.3117388 | 0.755239 | 0.975318 |
| elov17a | 630.9284284 | -0.029531686 | 0.0977591 | -0.302086 | 0.762586 | 0.975374 |
| tsen15 | 141.2507068 | -0.146319627 | 0.1819836 | -0.804026 | 0.421382 | 0.90651 |
| pimr109 | 0.681873518 | 0.003772382 | 2.2906421 | 0.0016469 | 0.998686 | NA |
| bbc3 | 306.4119471 | -0.499310522 | 0.1306446 | -3.8219 | 0.000132 | 0.006147 |
| ercc8 | 211.8470594 | -0.150525565 | 0.1426029 | -1.055557 | 0.29117 | 0.846582 |
| ndufaf2 | 185.8773911 | 0.136961398 | 0.1547303 | 0.885162 | 0.376069 | 0.894658 |
| gabpa | 562.5130799 | -0.084608796 | 0.1097163 | -0.77116 | 0.440612 | 0.916336 |
| bida | 154.3912881 | -0.093582362 | 0.1632281 | -0.573322 | 0.566426 | 0.948739 |
| acot16 | 74.06145895 | 0.111419365 | 0.2365703 | 0.4709779 | 0.637657 | 0.958872 |
| ahsg2 | 12.54833337 | 1.20496748 | 0.5515193 | 2.1848146 | 0.028902 | 0.329785 |
| insl5b | 2.310327993 | -0.396093506 | 1.2810772 | -0.309188 | 0.757179 | NA |
| bcl6ab | 336.5428493 | 0.086580832 | 0.1208857 | 0.7162204 | 0.473855 | 0.924993 |
| moxd11 | 110.4899034 | 0.208243373 | 0.1973912 | 1.0549778 | 0.291435 | 0.847104 |
| upf3a | 798.3763493 | 0.129497584 | 0.0983416 | 1.3168133 | 0.187901 | 0.752442 |
| osbp19 | 848.471458 | 0.079060622 | 0.0934709 | 0.8458318 | 0.397647 | 0.899672 |
| tmem177 | 235.3484631 | 0.154280169 | 0.1435259 | 1.0749289 | 0.282407 | 0.843666 |
| snx9b | 742.8582809 | 0.057320315 | 0.0993265 | 0.5770896 | 0.563879 | 0.948739 |
| si:ch211-203k16.3 | 45.71635686 | 0.441968804 | 0.2945333 | 1.5005734 | 0.133466 | 0.667982 |
| pomcb | 13.84119086 | 0.491157895 | 0.5422829 | 0.9057227 | 0.365083 | 0.886714 |
| ill5ra | 1.822370991 | -0.282870896 | 1.4492794 | -0.19518 | 0.845252 | NA |
| oxall | 650.7562399 | -0.011778736 | 0.1017171 | -0.115799 | 0.907812 | 0.990702 |
| tmem199 | 84.09614275 | -0.275359352 | 0.2272865 | -1.211507 | 0.225701 | 0.793245 |
| efr3bb | 33.14079413 | 0.705417158 | 0.3414635 | 2.0658643 | 0.038841 | 0.386536 |
| fam169b | 7.128558941 | -0.080601784 | 0.7910343 | -0.101894 | 0.918841 | NA |
| si:ch73-122g19.1 | 2.825381424 | -1.708118189 | 1.2313843 | -1.387153 | 0.165395 | NA |
| vps53 | 599.4839381 | 0.107360918 | 0.0973313 | 1.1030465 | 0.270007 | 0.834705 |
| mus81 | 142.0142574 | -0.173053366 | 0.1744753 | -0.99185 | 0.321271 | 0.868938 |
| nkx3.3 | 86.70509342 | 0.042393448 | 0.2225424 | 0.190496 | 0.84892 | 0.985174 |
| si:dkey-12e7.1 | 146.3406243 | -0.046000096 | 0.1706162 | -0.269611 | 0.787459 | 0.976596 |
| drgx | 112.8391193 | -0.041814604 | 0.2106242 | -0.198527 | 0.842633 | 0.985174 |
| trip6 | 269.759244 | 0.051627205 | 0.1305432 | 0.3954797 | 0.692489 | 0.96736 |
| tmem72 | 15.86246548 | -0.12050743 | 0.4785467 | -0.25182 | 0.801181 | 0.979377 |
| FP102052.1 | 57.93287848 | 0.0530801 | 0.2622593 | 0.2023955 | 0.839608 | 0.984979 |
| zgc:114045 | 350.7033982 | 0.038504236 | 0.1212669 | 0.3175165 | 0.750852 | 0.97419 |

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|------------------|-------------|--------------|-----------|-----------|----------|----------|
| bcl6b | 222.4055643 | 0.115897821 | 0.1442842 | 0.8032609 | 0.421824 | 0.90651 |
| tbc1d24 | 997.908775 | 0.086023469 | 0.0983097 | 0.8750256 | 0.38156 | 0.895192 |
| zgc:153115 | 780.2996739 | 0.162305492 | 0.1020322 | 1.5907277 | 0.111671 | 0.627242 |
| adgr12a | 1172.214482 | -0.017342271 | 0.08733 | -0.198583 | 0.842589 | 0.985174 |
| ppp3r1b | 2629.51893 | 0.073188221 | 0.0797628 | 0.9175739 | 0.358842 | 0.884602 |
| spa17 | 418.6840294 | 0.157136232 | 0.1083775 | 1.4498974 | 0.147087 | 0.693916 |
| CR847571.1 | 0.657349104 | 1.487939685 | 2.418178 | 0.6153144 | 0.538347 | NA |
| zgc:153142 | 0 NA | NA | NA | NA | NA | NA |
| nrn11a | 184.856708 | 0.004939965 | 0.1617658 | 0.0305378 | 0.975638 | 0.996762 |
| crep | 81.00652941 | -0.041399377 | 0.2227098 | -0.185889 | 0.852532 | 0.985174 |
| sh2d4ba | 8.26543575 | -0.366286805 | 0.6682937 | -0.548093 | 0.583628 | NA |
| zgc:162608 | 546.42305 | 0.177336734 | 0.140484 | 1.2623267 | 0.206831 | 0.774452 |
| tnfsf12 | 90.19222126 | 0.381980002 | 0.2122485 | 1.7996832 | 0.071911 | 0.524516 |
| si:dkey-242g16.2 | 93.66306763 | 0.154959523 | 0.2181269 | 0.7104098 | 0.47745 | 0.926857 |
| pard6a | 488.9589273 | -0.032366927 | 0.1039563 | -0.311351 | 0.755534 | 0.975318 |
| zgc:158868 | 14.87222931 | -0.210125897 | 0.5035291 | -0.417306 | 0.676454 | 0.965257 |
| si:ch211-125e6.5 | 6.452957147 | 0.519574703 | 0.7458149 | 0.6966536 | 0.48602 | NA |
| mxtx1 | 0.489712128 | -0.887840729 | 2.693685 | -0.329601 | 0.741702 | NA |
| cnga4 | 28.27720203 | 0.104178269 | 0.3634099 | 0.2866688 | 0.774366 | 0.975687 |
| mtgl | 84.72340198 | 0.102036965 | 0.2241325 | 0.4552528 | 0.648927 | 0.960708 |
| tmem88b | 45.86055389 | 0.169770532 | 0.2872198 | 0.5910822 | 0.554465 | 0.947449 |
| itga2.1 | 28.87201722 | -0.275888013 | 0.358883 | -0.768741 | 0.442047 | 0.916336 |
| zswim8 | 1527.310326 | 0.050775172 | 0.0931933 | 0.5448369 | 0.585866 | 0.952941 |
| si:dkeyp-114g9.1 | 3.808785141 | -0.91111685 | 0.9985922 | -0.912401 | 0.361557 | NA |
| lrrc4.1 | 1138.037536 | 0.059814443 | 0.0912427 | 0.655553 | 0.512112 | 0.936253 |
| pln | 82.38014358 | -0.031452081 | 0.2541863 | -0.123736 | 0.901524 | 0.990121 |
| zgc:194990 | 94.53557636 | 0.285249424 | 0.2165455 | 1.3172722 | 0.187747 | 0.752195 |
| gkup | 157.1075584 | -0.158841104 | 0.1626179 | -0.976775 | 0.32868 | 0.872945 |
| cx34.5 | 2.618169958 | 1.567522295 | 1.2369838 | 1.2672132 | 0.205079 | NA |
| coll7a1a | 6464.610833 | 0.4282877 | 0.0858836 | 4.9868402 | 6.14E-07 | 6.63E-05 |
| trim23 | 279.7743872 | 0.201989907 | 0.1439114 | 1.4035717 | 0.160446 | 0.71328 |
| grpel2 | 1143.286712 | 0.051369057 | 0.0818458 | 0.6276322 | 0.530245 | 0.942209 |
| nhp2 | 542.5344236 | -0.08174867 | 0.1043757 | -0.783215 | 0.433501 | 0.913667 |
| tmie | 142.5549645 | -0.218416219 | 0.1805264 | -1.209885 | 0.226323 | 0.793959 |
| hsbpla | 892.9273089 | -0.007064778 | 0.0920592 | -0.076742 | 0.938829 | 0.992857 |
| nkain2 | 112.439202 | -0.000800373 | 0.1930569 | -0.004146 | 0.996692 | 0.998936 |
| slbp2 | 1.84135345 | 2.16383757 | 1.5572676 | 1.3895091 | 0.164678 | NA |
| tp53i11a | 118.199546 | 0.032729921 | 0.182553 | 0.17929 | 0.85771 | 0.985703 |
| slc26a4 | 9.629717685 | -0.532062163 | 0.6529968 | -0.814801 | 0.415186 | NA |
| plscr3b | 1544.665588 | 0.027879528 | 0.081044 | 0.3440049 | 0.730843 | 0.971497 |
| tnk1 | 404.4411241 | -0.254035356 | 0.1229041 | -2.06694 | 0.03874 | 0.38611 |
| cfap58 | 19.78621305 | -0.254340075 | 0.4637123 | -0.548487 | 0.583358 | 0.952214 |
| neur11aa | 33.44930075 | 0.228216879 | 0.327732 | 0.6963522 | 0.486208 | 0.930833 |
| ptgdsa | 163.2636147 | -0.007885136 | 0.158021 | -0.049899 | 0.960203 | 0.995388 |
| dachd | 830.7316398 | -0.086321691 | 0.0875602 | -0.985855 | 0.324204 | 0.870928 |
| lpar6b | 41.53990122 | -0.577087768 | 0.2989262 | -1.930536 | 0.05354 | 0.453409 |
| pimr128 | 2.654869111 | 0.707032785 | 1.1823403 | 0.5979943 | 0.549844 | NA |
| dbh | 81.77973379 | 0.089049263 | 0.234164 | 0.3802859 | 0.703733 | 0.968134 |
| gja5b | 8.456931846 | 0.293573226 | 0.6702955 | 0.4379758 | 0.661404 | NA |
| gja8a | 99.35190472 | 0.057831914 | 0.2009075 | 0.2878534 | 0.773459 | 0.975687 |
| zgc:113314 | 60.19066804 | -0.1935238 | 0.2588723 | -0.747565 | 0.454723 | 0.920902 |
| si:dkey-6n21.13 | 35.93716348 | 0.299729536 | 0.3226289 | 0.9290225 | 0.352877 | 0.881552 |
| rnaseka | 313.7804699 | -0.1866809 | 0.1294236 | -1.442402 | 0.149189 | 0.696454 |
| alox12 | 556.062179 | -0.025128813 | 0.1014354 | -0.247732 | 0.804342 | 0.979643 |

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|------------------|-------------|--------------|-----------|-----------|----------|----------|
| cox7a1 | 36.29366154 | -0.006510065 | 0.3641466 | -0.017878 | 0.985737 | 0.996944 |
| igsf9bb | 21.58374776 | 0.175955382 | 0.4091399 | 0.4300617 | 0.667151 | 0.964736 |
| khdrbs2 | 652.3791112 | -0.027765045 | 0.1256876 | -0.220905 | 0.825166 | 0.982196 |
| mhclzca | 85.28104817 | 0.230202473 | 0.2270675 | 1.0138061 | 0.310675 | 0.862927 |
| chsy3 | 668.3806273 | 0.195607509 | 0.1004409 | 1.9474892 | 0.051476 | 0.444687 |
| frem1a | 528.4275269 | 0.292731189 | 0.1040581 | 2.8131521 | 0.004906 | 0.102006 |
| spint2 | 2090.620943 | 0.029675725 | 0.0789895 | 0.3756922 | 0.707146 | 0.968664 |
| slc13a3 | 149.0279041 | -0.132162048 | 0.1972393 | -0.670059 | 0.50282 | 0.935304 |
| ghrh | 1.236658278 | 1.362380035 | 1.954156 | 0.6971706 | 0.485696 | NA |
| traf1 | 17.43183024 | -0.361949207 | 0.4674727 | -0.774268 | 0.438772 | 0.915997 |
| dab2ipa | 45.61738018 | -0.30210352 | 0.302778 | -0.997772 | 0.31839 | 0.867746 |
| spryd7b | 303.8712972 | -0.058839932 | 0.1590805 | -0.369875 | 0.711476 | 0.969006 |
| tmem223 | 138.2986412 | -0.057372796 | 0.1716428 | -0.334257 | 0.738186 | 0.972535 |
| tmem179b | 49.81431502 | -0.561152825 | 0.2805513 | -2.000179 | 0.045481 | 0.418148 |
| arl2 | 262.4218415 | 0.045900741 | 0.1309769 | 0.350449 | 0.726002 | 0.970402 |
| sumf2 | 107.8222889 | 0.139816812 | 0.1908415 | 0.7326331 | 0.463782 | 0.922875 |
| phkglb | 162.605733 | 0.444465814 | 0.1632218 | 2.7230782 | 0.006468 | 0.122855 |
| spag1b | 63.47650079 | -0.281954566 | 0.2506441 | -1.12492 | 0.260623 | 0.828546 |
| hs6st3b | 3.152604936 | 0.154343508 | 1.044796 | 0.147726 | 0.882559 | NA |
| abhd11 | 189.4129179 | 0.065868999 | 0.1569426 | 0.4197013 | 0.674704 | 0.965257 |
| cldnh | 1372.201987 | -0.206193744 | 0.0852101 | -2.419827 | 0.015528 | 0.228768 |
| si:dkey-88e18.2 | 3.41581341 | 0.392263494 | 1.0398581 | 0.3772279 | 0.706004 | NA |
| zgc:136892 | 110.1963134 | 0.067138965 | 0.188137 | 0.3568621 | 0.721195 | 0.969602 |
| mett127 | 34.583953 | 0.165997478 | 0.3378581 | 0.4913231 | 0.623198 | 0.957354 |
| bbs10 | 39.56923721 | -0.026177016 | 0.3290484 | -0.079554 | 0.936592 | 0.992702 |
| aqp3b | 8.056297746 | 0.049720713 | 0.7512999 | 0.0661796 | 0.947235 | NA |
| vps29 | 798.8225799 | -0.021216945 | 0.0933315 | -0.227329 | 0.820168 | 0.981594 |
| gpn3 | 108.7496975 | 0.161035656 | 0.1970946 | 0.8170474 | 0.413901 | 0.905864 |
| ube2glb | 682.0522556 | 0.074591545 | 0.0982022 | 0.7595708 | 0.447511 | 0.917154 |
| zgc:153981 | 131.9388419 | 0.102080466 | 0.1732504 | 0.5892077 | 0.555722 | 0.947621 |
| si:dkey-238c7.16 | 248.0861253 | 0.195509702 | 0.1559405 | 1.2537459 | 0.209934 | 0.777416 |
| gtf3c4 | 153.5394497 | -0.091623568 | 0.1721595 | -0.532202 | 0.594586 | 0.954434 |
| si:dkey-30c15.2 | 30.38128125 | 0.733637612 | 0.3563275 | 2.0588857 | 0.039505 | 0.390393 |
| si:dkey-8e10.2 | 0.840668913 | 0.571309826 | 2.0205965 | 0.2827432 | 0.777374 | NA |
| galt | 149.3152384 | -0.060022332 | 0.1649153 | -0.363959 | 0.715889 | 0.96909 |
| atgl2 | 98.0781863 | -0.017483079 | 0.2258604 | -0.077407 | 0.9383 | 0.99279 |
| zgc:162780 | 106.7142731 | -0.106513276 | 0.1932378 | -0.551203 | 0.581494 | 0.951731 |
| zgc:162396 | 275.1663485 | -0.345225821 | 0.1285802 | -2.684907 | 0.007255 | 0.134075 |
| atoh7 | 57.14506953 | -0.07827345 | 0.2557948 | -0.306001 | 0.759604 | 0.975374 |
| CR388165.1 | 1.181176088 | -0.433914662 | 1.8067623 | -0.240161 | 0.810205 | NA |
| muc13a | 126.707283 | -0.374628205 | 0.1866876 | -2.006712 | 0.04478 | 0.416612 |
| kcnh3 | 37.42737556 | -0.112050515 | 0.3112285 | -0.360027 | 0.718827 | 0.969092 |
| zgc:153151 | 22.51245584 | -0.424786474 | 0.4431383 | -0.958587 | 0.337767 | 0.876395 |
| mucms1 | 40.64799282 | -0.092157861 | 0.3450738 | -0.267067 | 0.789417 | 0.977148 |
| zgc:114181 | 2041.110676 | 0.396849098 | 0.0799176 | 4.96573 | 6.84E-07 | 7.28E-05 |
| tmem222a | 311.5820176 | 0.12690696 | 0.1275656 | 0.9948366 | 0.319816 | 0.86809 |
| tmem150c | 63.62021724 | 0.177623531 | 0.2407812 | 0.7376968 | 0.460699 | 0.921978 |
| kif13a | 244.1522633 | -0.019045393 | 0.1375213 | -0.138491 | 0.889853 | 0.989291 |
| si:ch211-214c7.4 | 700.4902806 | -0.106596621 | 0.095824 | -1.112421 | 0.265957 | 0.831945 |
| chrn5b | 3.331169679 | 0.021389598 | 1.0675661 | 0.0200359 | 0.984015 | NA |
| zgc:109889 | 1520.053446 | 0.004083129 | 0.077669 | 0.0525709 | 0.958074 | 0.99467 |
| snx30 | 295.9280119 | -0.039738554 | 0.1387249 | -0.286456 | 0.774529 | 0.975687 |
| taokla | 1264.151874 | -0.03413498 | 0.078825 | -0.433047 | 0.66498 | 0.964736 |
| zgc:162331 | 143.5784003 | 0.148509357 | 0.1858907 | 0.7989069 | 0.424344 | 0.908312 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| paln2 | 13.63487924 | -0.158796405 | 0.5277135 | -0.300914 | 0.76348 | 0.975374 |
| ckmt2a | 4959.898664 | 0.259296626 | 0.084106 | 3.0829729 | 0.002049 | 0.054397 |
| atf7ip | 3298.888232 | -0.116504161 | 0.0706178 | -1.649785 | 0.098987 | 0.598346 |
| mrps18c | 346.8662963 | -0.018445738 | 0.1449454 | -0.12726 | 0.898735 | 0.990121 |
| si:ch211-255g12.8 | 7.476152468 | 0.053872031 | 0.6905741 | 0.0780105 | 0.93782 | NA |
| tat | 170.372951 | -0.883270766 | 0.1775125 | -4.975823 | 6.50E-07 | 6.94E-05 |
| empl | 127.4424198 | 0.243396744 | 0.1869111 | 1.3022063 | 0.192846 | 0.756795 |
| vegfc | 45.00740984 | 0.224307955 | 0.2967302 | 0.7559322 | 0.44969 | 0.918526 |
| tmem160 | 88.00362617 | -0.21017599 | 0.2104851 | -0.998531 | 0.318022 | 0.867746 |
| ppp6r2b | 65.68669519 | -0.105437578 | 0.2449644 | -0.43042 | 0.66689 | 0.964736 |
| chrnbl | 346.0418865 | 0.357096169 | 0.1272974 | 2.8052118 | 0.005028 | 0.103574 |
| si:dkey-121j17.6 | 54.65263565 | 0.103849866 | 0.2767131 | 0.375298 | 0.707439 | 0.968664 |
| fgf11a | 10.36232198 | -0.226672378 | 0.6459556 | -0.35091 | 0.725656 | NA |
| adra2c | 77.90461462 | 0.174392393 | 0.2401141 | 0.7262896 | 0.467661 | 0.924328 |
| maipl | 299.0156061 | 0.025156394 | 0.1344139 | 0.1871561 | 0.851538 | 0.985174 |
| tyw5 | 161.9507568 | -0.126276081 | 0.178199 | -0.708624 | 0.478558 | 0.926978 |
| chid1 | 307.8370433 | -0.088566119 | 0.1290587 | -0.686247 | 0.492558 | 0.931926 |
| tmem230b | 258.0486091 | -0.185525023 | 0.1419671 | -1.306817 | 0.191275 | 0.755886 |
| her8.2 | 144.6052186 | -0.066175678 | 0.1707034 | -0.387665 | 0.698264 | 0.967998 |
| nicn1 | 26.18544624 | 0.735398824 | 0.3930057 | 1.8712168 | 0.061315 | 0.482931 |
| pcgf6 | 71.99215721 | -0.324333218 | 0.2379868 | -1.36282 | 0.172939 | 0.731956 |
| col7a11 | 397.5116496 | 0.251750374 | 0.1153305 | 2.1828607 | 0.029046 | 0.330497 |
| si:ch211-261n11.5 | 412.7672713 | -0.141750804 | 0.1155906 | -1.226317 | 0.220079 | 0.786751 |
| lrguk | 8.872531182 | 0.290409394 | 0.6591425 | 0.4405867 | 0.659512 | NA |
| lgi2b | 195.542246 | 0.251125293 | 0.1492819 | 1.682222 | 0.092526 | 0.579378 |
| efhb | 5.905468051 | 0.059617435 | 0.8725437 | 0.068326 | 0.945526 | NA |
| prmt6 | 132.9794096 | 0.125747377 | 0.1729978 | 0.7268729 | 0.467304 | 0.924328 |
| si:ch211-113e8.5 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| cdc34a | 755.5782891 | 0.06720127 | 0.0930316 | 0.722349 | 0.47008 | 0.924787 |
| vwa10.2 | 12.80299242 | -0.267940801 | 0.5312024 | -0.504404 | 0.613977 | 0.95688 |
| foxi2 | 40.0170108 | -0.191476005 | 0.3057069 | -0.626339 | 0.531093 | 0.942209 |
| zbbx | 7.479452094 | 0.860282611 | 0.7006484 | 1.2278378 | 0.219508 | NA |
| glis3 | 43.23725775 | -0.11469612 | 0.3169127 | -0.361917 | 0.717414 | 0.96909 |
| rpz3 | 65.50008709 | -0.013232998 | 0.2416712 | -0.054756 | 0.956333 | 0.994543 |
| mpg | 32.40412012 | -0.04719529 | 0.343338 | -0.13746 | 0.890667 | 0.989291 |
| mavs | 170.3459606 | -0.040845415 | 0.1695212 | -0.240946 | 0.809597 | 0.980642 |
| hbba2 | 1.163885225 | 0.470408 | 1.7459696 | 0.2694251 | 0.787603 | NA |
| hbaa2 | 0.488104098 | -2.415107183 | 2.7936704 | -0.864493 | 0.387317 | NA |
| pou4f2 | 1024.072773 | -0.134371853 | 0.0901222 | -1.490996 | 0.135963 | 0.672424 |
| fnkc5a | 10.80584993 | 0.1130536 | 0.610691 | 0.1851241 | 0.853132 | NA |
| cul5a | 246.3190419 | 0.017102316 | 0.1396367 | 0.1224772 | 0.902521 | 0.990121 |
| mos | 5.727264766 | -0.427955906 | 0.8297999 | -0.515734 | 0.60604 | NA |
| slc35f2 | 119.726388 | -0.109762307 | 0.1853951 | -0.592045 | 0.55382 | 0.947449 |
| capn5b | 8.486334832 | 0.730450538 | 0.6963802 | 1.0489248 | 0.294213 | NA |
| ckba | 686.1866735 | -0.116325573 | 0.1074847 | -1.082253 | 0.27914 | 0.842806 |
| mtmr11 | 501.9958015 | -0.099461243 | 0.1045924 | -0.950941 | 0.341634 | 0.878134 |
| si:dkey-189g17.2 | 15.33347315 | 0.342958816 | 0.5022628 | 0.6828274 | 0.494716 | 0.931926 |
| etv5a | 927.8157328 | 0.078602307 | 0.0866343 | 0.9072885 | 0.364254 | 0.886494 |
| syngap1b | 574.625482 | 0.011711781 | 0.1026433 | 0.1141018 | 0.909157 | 0.990702 |
| caln2 | 6.195252999 | -0.301951635 | 0.7873074 | -0.383524 | 0.701331 | NA |
| nectin1a | 91.72964205 | -0.217171591 | 0.2110878 | -1.028821 | 0.303564 | 0.857769 |
| gig2j | 0.522329263 | 0.999930388 | 2.8066578 | 0.3562709 | 0.721638 | NA |
| nitrlb | 0.332645115 | 0.005883744 | 3.2924249 | 0.0017871 | 0.998574 | NA |
| flot2b | 1348.917877 | -0.093007696 | 0.0876718 | -1.060862 | 0.288753 | 0.845979 |

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|------------------|-------------|--------------|-----------|-----------|----------|----------|
| fbxo40.1 | 73.97535295 | -0.086342302 | 0.2310832 | -0.373642 | 0.708671 | 0.968664 |
| pus71 | 88.7852316 | -0.331622806 | 0.2142629 | -1.547738 | 0.121685 | 0.648399 |
| rec114 | 1.187378788 | 0.431861727 | 1.803976 | 0.2393944 | 0.8108 | NA |
| tmc6a | 3.268175202 | 0.515645311 | 1.2167851 | 0.4237768 | 0.671729 | NA |
| dyn112a | 1441.572987 | 0.033859836 | 0.0906305 | 0.373603 | 0.7087 | 0.968664 |
| crygm2d5 | 3649.580376 | -0.06328533 | 0.086728 | -0.729699 | 0.465574 | 0.923865 |
| zgc:154058 | 49.30434585 | 0.581359011 | 0.2882967 | 2.0165304 | 0.043745 | 0.410733 |
| znf1124 | 275.8858987 | -0.237984875 | 0.1265997 | -1.879821 | 0.060132 | 0.478687 |
| si:dkey-228114.1 | 0 | NA | NA | NA | NA | NA |
| crygm2d12 | 8890.706629 | 0.107220692 | 0.0730877 | 1.4670134 | 0.142372 | 0.684315 |
| si:ch211-198k9.6 | 15.07488042 | -0.046050154 | 0.4997144 | -0.092153 | 0.926577 | 0.992702 |
| sstr2b | 11.7343678 | -0.656632713 | 0.5776562 | -1.136719 | 0.255656 | 0.824285 |
| zdhhc18a | 354.6573424 | -0.074851607 | 0.1169923 | -0.639799 | 0.522303 | 0.939056 |
| ostml | 257.8805057 | -0.115438203 | 0.1460214 | -0.790557 | 0.429203 | 0.911406 |
| dnalil | 36.42725187 | 0.012877055 | 0.3223046 | 0.0399531 | 0.968131 | 0.996315 |
| crygm2d17 | 14100.41529 | 0.126513018 | 0.0675978 | 1.8715566 | 0.061268 | 0.482931 |
| procal | 112.1100872 | 0.203848988 | 0.1882306 | 1.0829747 | 0.27882 | 0.842767 |
| crygm2d15 | 8135.636159 | 0.002798789 | 0.1056559 | 0.0264897 | 0.978867 | 0.996762 |
| crygm2d11 | 8064.059927 | 0.065504518 | 0.0850966 | 0.7697668 | 0.441438 | 0.916336 |
| si:ch211-117n7.7 | 148.7272169 | -1.092369336 | 0.1735573 | -6.293998 | 3.09E-10 | 6.72E-08 |
| rragca | 730.0901981 | -0.00110735 | 0.094454 | -0.011724 | 0.990646 | 0.997679 |
| sfxn4 | 171.1481195 | -0.145350993 | 0.1563913 | -0.929406 | 0.352679 | 0.881552 |
| rhbd12 | 202.9075272 | -0.124506745 | 0.1432842 | -0.86895 | 0.384875 | 0.89551 |
| pnpla4 | 13.44740148 | -0.448538357 | 0.5197187 | -0.863041 | 0.388115 | 0.89625 |
| CU571382.1 | 0.347458735 | -1.908042286 | 3.4571486 | -0.551912 | 0.581009 | NA |
| kctd12.1 | 184.9403524 | 0.263321151 | 0.1563933 | 1.6837111 | 0.092238 | 0.57849 |
| acod1 | 85.45155409 | -0.058433532 | 0.2283307 | -0.255916 | 0.798015 | 0.978793 |
| zgc:162944 | 718.7294395 | -0.119828288 | 0.103119 | -1.162039 | 0.24522 | 0.815227 |
| nitrlb | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| mrpl30 | 645.944491 | -0.126208792 | 0.1146884 | -1.10045 | 0.271136 | 0.835995 |
| lipt2 | 23.60469994 | -0.067573718 | 0.4218701 | -0.160177 | 0.872742 | 0.987846 |
| txndc9 | 1319.618233 | -0.013401153 | 0.0838171 | -0.159886 | 0.872971 | 0.987846 |
| pnisr | 2219.491246 | -0.00593901 | 0.0826565 | -0.071852 | 0.94272 | 0.993364 |
| coq3 | 261.7284302 | -0.132951115 | 0.1645861 | -0.807791 | 0.419211 | 0.906406 |
| grxcrib | 9.149280724 | -0.046954564 | 0.6385293 | -0.073535 | 0.94138 | NA |
| sox1a | 559.8833902 | 0.001392574 | 0.1192662 | 0.0116762 | 0.990684 | 0.997679 |
| zgc:113030 | 78.32959638 | -0.054063068 | 0.2369092 | -0.228202 | 0.819489 | 0.981594 |
| snul3a | 346.8431575 | -0.109062931 | 0.1335982 | -0.81635 | 0.4143 | 0.906237 |
| cldna | 115.0541829 | -0.007598869 | 0.1952891 | -0.038911 | 0.968961 | 0.996315 |
| sphk2 | 448.7857384 | -0.077949084 | 0.1054235 | -0.73939 | 0.45967 | 0.921978 |
| CR392036.1 | 1.293012095 | 2.68170335 | 1.8621377 | 1.4401209 | 0.149833 | NA |
| pimr152 | 0 | NA | NA | NA | NA | NA |
| CABZ01071903.1 | 134.4995945 | 0.148689258 | 0.1914485 | 0.776654 | 0.437363 | 0.914595 |
| si:dkey-33c12.12 | 289.7531129 | 0.153165961 | 0.1298205 | 1.1798284 | 0.238068 | 0.807196 |
| gtf2f2a | 603.4169838 | -0.020563551 | 0.1022902 | -0.201031 | 0.840674 | 0.985092 |
| hmga2 | 195.0527953 | 0.153034159 | 0.1725923 | 0.8866801 | 0.375251 | 0.894316 |
| ska3 | 178.5512798 | -0.226032506 | 0.1663639 | -1.358663 | 0.174253 | 0.734375 |
| cox17 | 827.8933865 | 0.033883158 | 0.1235105 | 0.2743343 | 0.783828 | 0.97627 |
| plala | 133.2822879 | 0.202209508 | 0.1936226 | 1.0443486 | 0.296324 | 0.853286 |
| hsd3b1 | 9.579500747 | 1.158698935 | 0.6642222 | 1.7444447 | 0.081082 | NA |
| prkceb | 24.95212199 | -0.279941121 | 0.3852243 | -0.726696 | 0.467412 | 0.924328 |
| CABZ01053976.1 | 150.332927 | -0.009935964 | 0.1861562 | -0.053374 | 0.957434 | 0.99467 |
| parp4 | 331.4056202 | -0.23754578 | 0.1283803 | -1.850329 | 0.064266 | 0.496018 |
| dnm2a | 508.1996862 | -0.050924851 | 0.1175377 | -0.433264 | 0.664823 | 0.964736 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| ppap2d | 668.54982 | 0.13322011 | 0.0946389 | 1.4076682 | 0.159229 | 0.710139 |
| tdp2a | 0.515095711 | 0.926015374 | 2.6527421 | 0.3490785 | 0.72703 | NA |
| p2ry13 | 3.931139784 | 1.288570441 | 0.9863179 | 1.3064454 | 0.191401 | NA |
| p2ry12 | 6.757961806 | 2.039088693 | 0.7999539 | 2.5490077 | 0.010803 | NA |
| itga6b | 923.4132982 | 0.067186843 | 0.10744 | 0.6253427 | 0.531746 | 0.942359 |
| eef1a112 | 326.2290302 | 0.287221287 | 0.1253549 | 2.2912648 | 0.021948 | 0.281271 |
| kcnq5b | 117.8755251 | -0.011106835 | 0.1837217 | -0.060455 | 0.951794 | 0.993864 |
| kcnq5a | 8.669940135 | 0.693819915 | 0.6478101 | 1.0710236 | 0.284159 | NA |
| pdlim2 | 484.4180056 | -0.030308521 | 0.1107835 | -0.273583 | 0.784405 | 0.97627 |
| zgc:162936 | 59.90703802 | -0.338955189 | 0.2569105 | -1.319351 | 0.187052 | 0.751002 |
| sh2b3 | 1.946594704 | -0.468402419 | 1.4036711 | -0.333698 | 0.738607 | NA |
| il21r.1 | 16.08949083 | -0.438557374 | 0.4728721 | -0.927433 | 0.353702 | 0.881976 |
| alox5b.3 | 10.21739478 | 0.433081887 | 0.6081032 | 0.7121849 | 0.47635 | NA |
| pcsk7 | 365.3531206 | -0.116909615 | 0.1221839 | -0.956834 | 0.338651 | 0.877373 |
| lingo2b | 332.0505502 | 0.132714402 | 0.124443 | 1.0664677 | 0.286212 | 0.845942 |
| mygl | 643.6640381 | -0.164766297 | 0.1017787 | -1.618867 | 0.105476 | 0.614157 |
| cd281 | 97.8331574 | 0.167299159 | 0.1995047 | 0.8385724 | 0.401709 | 0.90084 |
| lman1 | 678.9204105 | 0.046959429 | 0.0998196 | 0.4704429 | 0.638039 | 0.959194 |
| cspg5a | 4494.175852 | 0.013160467 | 0.0912159 | 0.1442782 | 0.885281 | 0.988936 |
| nkd3 | 1.646484154 | -0.008692931 | 1.423537 | -0.006107 | 0.995128 | NA |
| arid6 | 155.257074 | -0.872520223 | 0.1697921 | -5.138755 | 2.77E-07 | 3.40E-05 |
| bnc2 | 575.1688679 | -0.084831187 | 0.0984679 | -0.861511 | 0.388956 | 0.896295 |
| dpy19111 | 39.09617653 | 0.326879856 | 0.3315021 | 0.9860567 | 0.324105 | 0.870928 |
| dnajb14 | 143.6355132 | 0.18750798 | 0.1670575 | 1.1224158 | 0.261686 | 0.82979 |
| si:ch211-145b13.6 | 17.89314989 | -0.27125193 | 0.4837121 | -0.560771 | 0.574953 | 0.950119 |
| txnipb | 614.5796625 | 0.065484058 | 0.1010639 | 0.6479469 | 0.517019 | 0.938543 |
| rcn1 | 753.3299452 | 0.210505055 | 0.0914955 | 2.3007159 | 0.021408 | 0.276496 |
| hce212 | 14.4636594 | 0.522687553 | 0.5074895 | 1.0299474 | 0.303035 | 0.85729 |
| sesn2 | 378.5623538 | -0.046094403 | 0.1147489 | -0.401698 | 0.687906 | 0.966493 |
| dmrt2b | 21.34687366 | -0.035902067 | 0.4260563 | -0.084266 | 0.932845 | 0.992702 |
| pimr173 | 0.513487682 | -0.887846295 | 2.6557956 | -0.334305 | 0.738149 | NA |
| taf15 | 5968.46764 | -0.062583138 | 0.0716894 | -0.872976 | 0.382676 | 0.895192 |
| cyp3c4 | 54.12826079 | -0.758801958 | 0.2680378 | -2.830951 | 0.004641 | 0.097899 |
| dchsla | 335.8547835 | -0.066356667 | 0.1228749 | -0.540034 | 0.589173 | 0.953345 |
| tmem41aa | 311.7805941 | -0.014801617 | 0.1255232 | -0.117919 | 0.906132 | 0.990702 |
| ehhadh | 260.5340787 | -0.506304924 | 0.1377068 | -3.676689 | 0.000236 | 0.009795 |
| rgs8 | 534.7623893 | 0.21569257 | 0.1138257 | 1.894937 | 0.058101 | 0.472597 |
| rbp2a | 1038.371233 | -0.06018515 | 0.0968919 | -0.621158 | 0.534496 | 0.943336 |
| AL935184.1 | | 0 NA | NA | NA | NA | NA |
| zgc:162344 | 83.89469742 | 0.066317738 | 0.215038 | 0.3084001 | 0.757778 | 0.975374 |
| zgc:153920 | 11.28376416 | 0.271645324 | 0.5688332 | 0.4775483 | 0.632972 | 0.957356 |
| dars | 2322.469395 | -0.124971726 | 0.0855616 | -1.460606 | 0.144124 | 0.688216 |
| celf4 | 315.4277403 | 0.093702829 | 0.1405744 | 0.6665712 | 0.505046 | 0.935724 |
| eny2 | 357.0125548 | -0.131895461 | 0.1294211 | -1.019118 | 0.308147 | 0.861088 |
| rgs4 | 706.368004 | -0.05158639 | 0.0950565 | -0.542692 | 0.587342 | 0.953319 |
| zgc:173548 | 29.13350404 | 0.006210629 | 0.3667712 | 0.0169333 | 0.98649 | 0.996965 |
| sfrp2 | 337.8690089 | 0.206551168 | 0.124426 | 1.6600323 | 0.096908 | 0.593269 |
| tdrd6 | 17.25138518 | 0.996597061 | 0.5072542 | 1.9646898 | 0.04945 | 0.436093 |
| foxgld | 157.8520293 | 0.191909913 | 0.1751316 | 1.095804 | 0.273165 | 0.838141 |
| arfipl | 250.4911098 | -0.011672356 | 0.1350964 | -0.0864 | 0.931148 | 0.992702 |
| adorala | 3.207571219 | -1.493640465 | 1.2715492 | -1.174662 | 0.24013 | NA |
| si:dkey-69o16.5 | 154.4798454 | -0.307959804 | 0.1705403 | -1.805789 | 0.070951 | 0.521075 |
| si:ch211-262i1.5 | 105.0411144 | 0.121591137 | 0.191544 | 0.6347947 | 0.525562 | 0.94013 |
| gfer | 249.4549748 | -0.180131756 | 0.1337362 | -1.346918 | 0.178007 | 0.738995 |

| | | | | | | |
|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| si:ch211-163c2.2 | 1.21367287 | 0.460988657 | 1.8129472 | 0.2542758 | 0.799282 | NA |
| pitx3 | 276.6321136 | -0.079425595 | 0.1362141 | -0.583094 | 0.55983 | 0.948478 |
| si:dkey-13ml.5 | 3.723288649 | 0.51596056 | 1.0861176 | 0.4750504 | 0.634751 | NA |
| lrp8 | 1269.887702 | -0.039719512 | 0.080134 | -0.495664 | 0.620132 | 0.957354 |
| actr2b | 71.6702779 | 0.16708263 | 0.2395668 | 0.6974366 | 0.48553 | 0.930406 |
| abcb11b | 150.2766634 | 0.420661557 | 0.1780286 | 2.3628873 | 0.018133 | 0.250046 |
| nbeaa | 2206.613955 | 0.028289874 | 0.0956093 | 0.2958903 | 0.767314 | 0.975687 |
| rspo3 | 133.2770133 | -0.15707883 | 0.1883028 | -0.834182 | 0.404178 | 0.901305 |
| atp5flb | 20637.15837 | -0.00546216 | 0.087874 | -0.062159 | 0.950436 | 0.99381 |
| phf10 | 312.0578623 | -0.100187153 | 0.1236751 | -0.810083 | 0.417892 | 0.906293 |
| mett16 | 77.27168901 | 0.374465257 | 0.2236301 | 1.6744854 | 0.094035 | 0.583414 |
| KCNV1 | 5.015641243 | -0.172486191 | 0.9003949 | -0.191567 | 0.848081 | NA |
| sytl1 | 95.58186427 | 0.043992294 | 0.2032493 | 0.216445 | 0.828641 | 0.982721 |
| selenos | 1068.339217 | -0.02055644 | 0.0903636 | -0.227486 | 0.820046 | 0.981594 |
| lcor1 | 629.5461064 | 0.151448352 | 0.1029957 | 1.4704335 | 0.141444 | 0.68201 |
| si:ch211-168d1.3 | 57.76525226 | 0.067752907 | 0.2624603 | 0.2581453 | 0.796295 | 0.978498 |
| six7 | 1062.633823 | 0.173458046 | 0.0903189 | 1.9205065 | 0.054794 | 0.458525 |
| dek | 561.4262778 | -0.03946209 | 0.1040671 | -0.379199 | 0.70454 | 0.968134 |
| ncapg | 818.7650003 | -0.116690907 | 0.0911327 | -1.280451 | 0.200387 | 0.766727 |
| opn5 | 6.758610648 | 0.206192222 | 0.7218808 | 0.2856319 | 0.77516 | NA |
| nit1 | 71.46136023 | -0.125985787 | 0.2419109 | -0.520794 | 0.60251 | 0.956045 |
| ctcl | 383.038159 | -0.282553477 | 0.1136704 | -2.485726 | 0.012929 | 0.202578 |
| rhoh | 0.964730988 | -0.018658301 | 1.9582344 | -0.009528 | 0.992398 | NA |
| stkl1ip | 352.4243814 | -0.166136689 | 0.1203982 | -1.379893 | 0.16762 | 0.7248 |
| ptpn23a | 937.3486433 | 0.020553026 | 0.1152312 | 0.1783634 | 0.858438 | 0.985773 |
| si:dkey-22111.6 | 41.54040974 | -0.048638931 | 0.302841 | -0.160609 | 0.872402 | 0.987846 |
| nfxl1 | 273.3530369 | -0.11270715 | 0.1402212 | -0.803781 | 0.421523 | 0.90651 |
| rpp25l | 71.12340888 | 0.043354387 | 0.2376281 | 0.1824464 | 0.855232 | 0.985174 |
| astela | 3.334976464 | 0.32506539 | 1.0447486 | 0.3111422 | 0.755693 | NA |
| si:dkey-84o3.3 | 1.695213209 | -1.193025259 | 1.5279745 | -0.780789 | 0.434927 | NA |
| RETSAT | 25.18384643 | -0.551533809 | 0.38784 | -1.422065 | 0.155007 | 0.704624 |
| si:ch211-191i18.2 | 60.96162638 | 0.326399072 | 0.2666187 | 1.2242169 | 0.22087 | 0.787641 |
| cart4 | 93.61265833 | 0.135430922 | 0.2147104 | 0.6307609 | 0.528197 | 0.941768 |
| magila | 779.675528 | -0.009908095 | 0.1281335 | -0.077326 | 0.938364 | 0.99279 |
| cygb2 | 236.3795781 | -0.017500682 | 0.1429424 | -0.122432 | 0.902557 | 0.990121 |
| jtb | 704.7360361 | 0.099763729 | 0.0961861 | 1.0371952 | 0.299645 | 0.855745 |
| nfyc | 1763.929858 | -0.029761589 | 0.0838535 | -0.354924 | 0.722647 | 0.970375 |
| tuba813 | 1252.269397 | 0.122118408 | 0.0839555 | 1.4545608 | 0.145791 | 0.691641 |
| tgm2a | 317.8746423 | 0.270702577 | 0.1299206 | 2.0835997 | 0.037197 | 0.37758 |
| vamp3 | 1015.361349 | -0.123459381 | 0.0873186 | -1.413896 | 0.157393 | 0.708089 |
| stox2a | 1550.991776 | 0.04205615 | 0.0777297 | 0.5410563 | 0.588469 | 0.953319 |
| ubr2 | 1215.735616 | -0.012249919 | 0.0876568 | -0.139749 | 0.888859 | 0.989291 |
| tnfrsflb | 99.35535424 | -0.19479214 | 0.1984792 | -0.981423 | 0.326384 | 0.87218 |
| zgc:153499 | 0.31598276 | 0.005883445 | 3.3523626 | 0.001755 | 0.9986 | NA |
| sod3a | 93.62103698 | -0.081378951 | 0.2500388 | -0.325465 | 0.744829 | 0.974094 |
| si:ch211-225p5.8 | 82.38187839 | 0.571241565 | 0.2238257 | 2.5521718 | 0.010705 | 0.179263 |
| gria2a | 1427.936494 | 0.030754567 | 0.0779567 | 0.3945084 | 0.693206 | 0.96736 |
| PLEKHH3 | 637.4085054 | 0.04381474 | 0.1008263 | 0.4345568 | 0.663884 | 0.964736 |
| zp3d.2 | 2.118166602 | -0.667368935 | 1.3153398 | -0.507374 | 0.611893 | NA |
| dyrk1b | 1600.720344 | 0.022746772 | 0.0873075 | 0.2605362 | 0.79445 | 0.977937 |
| si:dkey-13e3.1 | | 0 NA | NA | NA | NA | NA |
| si:zfos-2070c2.1 | | 0 NA | NA | NA | NA | NA |
| etnk2 | 3.987448907 | 0.48046754 | 0.9516837 | 0.5048605 | 0.613657 | NA |
| slc41a1 | 37.7097983 | 0.20288765 | 0.3197898 | 0.6344407 | 0.525793 | 0.940223 |

| si:ch211-120e1.1 | 0 NA | NA | NA | NA | NA | |
|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| pou3f2a | 291.5755177 | 0.11406118 | 0.1255832 | 0.9082519 | 0.363745 | 0.886174 |
| fam43b | 139.3862718 | -0.167803685 | 0.1772934 | -0.946475 | 0.343907 | 0.878434 |
| nhsa | 47.7054273 | 0.008255583 | 0.2777929 | 0.0297185 | 0.976292 | 0.996762 |
| cdk6 | 49.60508536 | 0.103886231 | 0.2818134 | 0.3686348 | 0.7124 | 0.969087 |
| zgc:158258 | 80.28941987 | -0.36156563 | 0.2533488 | -1.427145 | 0.153538 | 0.702578 |
| aldh1l2 | 592.4576518 | -0.014859965 | 0.1134019 | -0.131038 | 0.895745 | 0.989814 |
| polh | 202.1218974 | -0.008729759 | 0.1488013 | -0.058667 | 0.953217 | 0.994157 |
| kn11 | 318.641882 | -0.262315783 | 0.1255812 | -2.088815 | 0.036724 | 0.374517 |
| suz12a | 427.9836269 | 0.074786479 | 0.1158216 | 0.6457039 | 0.518471 | 0.938765 |
| crlf3 | 418.4348785 | -0.163223516 | 0.1137445 | -1.435001 | 0.151287 | 0.699449 |
| spock3 | 2865.847063 | 0.125496888 | 0.0739087 | 1.6979996 | 0.089508 | 0.572876 |
| tut4 | 55.26571057 | -0.227051956 | 0.2683655 | -0.846055 | 0.397522 | 0.899672 |
| casp8l2 | 28.26786858 | 0.01166195 | 0.4147828 | 0.0281158 | 0.97757 | 0.996762 |
| mettl14 | 191.713369 | -0.090791151 | 0.1647221 | -0.551178 | 0.581512 | 0.951731 |
| hist1h2a3 | 24.10159304 | 0.024549577 | 0.4377783 | 0.0560776 | 0.95528 | 0.994543 |
| sft2d3 | 222.5417825 | 0.155745051 | 0.1482998 | 1.0502041 | 0.293624 | 0.849594 |
| si:ch211-113a14.22 | 11.40266164 | 1.17091719 | 0.5939957 | 1.9712554 | 0.048695 | 0.433734 |
| CR354435.1 | 13.80273161 | 0.584392624 | 0.5797533 | 1.0080023 | 0.313453 | 0.865132 |
| BX942819.1 | 5.584943345 | -0.361075493 | 0.853063 | -0.423269 | 0.672099 | NA |
| cald1a | 645.2495464 | 0.102576112 | 0.1026546 | 0.9992358 | 0.31768 | 0.867607 |
| irge4 | 2.788240727 | 0.441142802 | 1.2657093 | 0.3485341 | 0.727439 | NA |
| arl8bb | 106.7338605 | 0.07714212 | 0.1947416 | 0.3961255 | 0.692012 | 0.96733 |
| si:dkey-245p14.4 | 53.48961772 | -0.120211661 | 0.2827793 | -0.425108 | 0.670758 | 0.965257 |
| clrn2 | 39.08122992 | 0.443198264 | 0.339387 | 1.3058786 | 0.191594 | 0.755886 |
| muc5.1 | 1376.354423 | 0.1535183 | 0.0912934 | 1.6815919 | 0.092648 | 0.57957 |
| hoxc1a | 147.0714875 | 0.039699028 | 0.1775383 | 0.2236083 | 0.823062 | 0.982189 |
| hoxc4a | 333.973953 | -0.249169463 | 0.1192357 | -2.089723 | 0.036643 | 0.374263 |
| hoxc3a | 461.724629 | 0.013679195 | 0.1069734 | 0.1278747 | 0.898248 | 0.990121 |
| hoxc5a | 205.6983993 | -0.017402541 | 0.1536628 | -0.113251 | 0.909831 | 0.990702 |
| or134-1 | 3.81309782 | -0.912658793 | 0.9725951 | -0.938375 | 0.348052 | NA |
| hoxc6a | 236.1535358 | 0.086053923 | 0.1367864 | 0.6291118 | 0.529276 | 0.942209 |
| or137-3 | 4.727879373 | -0.835689022 | 0.9156709 | -0.912652 | 0.361426 | NA |
| hoxc8a | 316.4008191 | -0.023036415 | 0.1381029 | -0.166806 | 0.867523 | 0.987231 |
| hoxc10a | 37.24240559 | -0.219532049 | 0.3124622 | -0.702587 | 0.482313 | 0.928726 |
| hoxc11a | 34.64961375 | -0.018541798 | 0.3599252 | -0.051516 | 0.958915 | 0.995095 |
| hoxc12a | 21.55103707 | -0.476350951 | 0.4509472 | -1.056334 | 0.290816 | 0.846568 |
| hoxc13a | 4.495253329 | -0.750129482 | 0.8905347 | -0.842336 | 0.3996 | NA |
| cx39.4 | 18.83546562 | 0.340677739 | 0.4411298 | 0.7722846 | 0.439946 | 0.916082 |
| smim12 | 297.0584407 | 0.043501983 | 0.1301679 | 0.3341991 | 0.738229 | 0.972535 |
| inkala | 261.2758016 | -0.202076303 | 0.1433001 | -1.410161 | 0.158492 | 0.709224 |
| cx30.9 | 6.595008859 | 0.59786581 | 0.7576264 | 0.7891301 | 0.430036 | NA |
| casp6l2 | 1.34044285 | 2.725103408 | 1.8428697 | 1.4787282 | 0.139213 | NA |
| kat7a | 429.3648785 | 0.083229971 | 0.1077597 | 0.7723663 | 0.439898 | 0.916082 |
| ccl35.2 | 0.812928439 | -0.504524747 | 2.2480137 | -0.224431 | 0.822422 | NA |
| krtcap2 | 471.1788209 | -0.12636082 | 0.1067479 | -1.183731 | 0.23652 | 0.805854 |
| nudt7 | 50.85484687 | -0.097119481 | 0.2883862 | -0.336769 | 0.736291 | 0.972535 |
| foxf2b | 91.82624333 | -0.552704262 | 0.2092149 | -2.641802 | 0.008247 | 0.147053 |
| flad1 | 445.4671608 | 0.044273864 | 0.1120549 | 0.3951088 | 0.692763 | 0.96736 |
| tspan4b | 199.8521615 | 0.096570412 | 0.1555591 | 0.6207958 | 0.534734 | 0.943336 |
| tlr19 | 1.00508983 | 0.079172592 | 1.9360604 | 0.0408937 | 0.967381 | NA |
| COQ10A | 229.6979733 | 0.470601255 | 0.1474673 | 3.191224 | 0.001417 | 0.040718 |
| urocl | 441.006718 | 0.322170813 | 0.1262503 | 2.5518417 | 0.010716 | 0.179263 |
| serpinb112 | 12.2621942 | -0.106984006 | 0.5561764 | -0.192356 | 0.847463 | 0.985174 |

| | | | | | | |
|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| alg2 | 210.6178724 | -0.171763105 | 0.1610784 | -1.066332 | 0.286273 | 0.845942 |
| mala | 0 NA | | NA | NA | NA | NA |
| wdyhv1 | 0 NA | | NA | NA | NA | NA |
| inkalb | 80.62751604 | -0.094667976 | 0.2249214 | -0.420894 | 0.673833 | 0.965257 |
| abitramp | 80.74071725 | 0.085446039 | 0.2333816 | 0.3661215 | 0.714274 | 0.96909 |
| ccnd2b | 29.32245847 | 0.102362283 | 0.3917795 | 0.2612752 | 0.79388 | 0.977937 |
| mtmr7b | 675.4185625 | 0.101508244 | 0.104962 | 0.9670949 | 0.333497 | 0.874933 |
| si:dkey-61f9.1 | 2.388945101 | 0.575163589 | 1.4392443 | 0.3996289 | 0.68943 | NA |
| zgc:162816 | 143.3539324 | -0.284789222 | 0.1747744 | -1.629467 | 0.103214 | 0.609625 |
| nkd31 | 0 NA | | NA | NA | NA | NA |
| zgc:153157 | 70.01982457 | -0.078249835 | 0.2429862 | -0.322034 | 0.747427 | 0.97419 |
| d114 | 273.3879399 | -0.010842181 | 0.1345129 | -0.080603 | 0.935757 | 0.992702 |
| chac1 | 0 NA | | NA | NA | NA | NA |
| s100v1 | 680.2652998 | -0.208217273 | 0.0926821 | -2.246575 | 0.024667 | 0.302262 |
| si:dkey-222b8.1 | 73.32528252 | -0.192201455 | 0.2429493 | -0.791118 | 0.428875 | 0.911406 |
| chtopb | 19.96431334 | -0.198682318 | 0.4283548 | -0.463827 | 0.642772 | 0.959994 |
| fip111b | 1236.062442 | -0.127134882 | 0.0816882 | -1.556343 | 0.119627 | 0.644641 |
| ino80 | 531.7975924 | -0.024626239 | 0.1021756 | -0.241019 | 0.809541 | 0.980642 |
| vps18 | 514.0042049 | -0.08941423 | 0.1074732 | -0.831967 | 0.405427 | 0.901305 |
| rhov | 114.1667494 | 0.117325041 | 0.1937065 | 0.6056846 | 0.544724 | 0.945438 |
| vapb | 901.4757978 | 0.106400996 | 0.0938387 | 1.1338717 | 0.256848 | 0.825036 |
| rpl22 | 7889.813363 | -0.249856648 | 0.080555 | -3.101692 | 0.001924 | 0.051979 |
| atp6v1c2 | 14.36582932 | -0.092464077 | 0.5000378 | -0.184914 | 0.853296 | 0.985174 |
| zdhhc17 | 161.1296638 | 0.000439973 | 0.160283 | 0.002745 | 0.99781 | 0.999174 |
| si:ch211-113g11.6 | 1106.647659 | 0.15791887 | 0.0884629 | 1.785143 | 0.074238 | 0.530917 |
| slc39a9 | 601.2204091 | 0.045477971 | 0.1179517 | 0.3855643 | 0.699819 | 0.967998 |
| grk4 | 958.3681094 | -0.024010089 | 0.0929232 | -0.258386 | 0.796109 | 0.978498 |
| tspan5b | 92.02500453 | 0.192213722 | 0.205733 | 0.9342874 | 0.350156 | 0.880195 |
| saraf | 365.4144834 | 0.019890434 | 0.124165 | 0.1601936 | 0.872729 | 0.987846 |
| gchl | 268.5437119 | 0.184108775 | 0.1299066 | 1.4172395 | 0.156413 | 0.706639 |
| pla2g12a | 206.2037496 | 0.286197514 | 0.1546049 | 1.8511544 | 0.064147 | 0.495295 |
| tmem245 | 254.3798965 | 0.120218096 | 0.1365549 | 0.8803645 | 0.378662 | 0.895192 |
| zgc:153292 | 110.7370659 | -0.230924302 | 0.1897128 | -1.217231 | 0.223516 | 0.789816 |
| zgc:154061 | 60.62591695 | -0.073180187 | 0.2499655 | -0.292761 | 0.769705 | 0.975687 |
| e2f3 | 328.7122434 | -0.089830655 | 0.1206881 | -0.744321 | 0.456682 | 0.921215 |
| si:dkey-13n23.3 | 16.81531401 | -0.443334359 | 0.4682803 | -0.946729 | 0.343777 | 0.878434 |
| lactb11b | 204.5880163 | 0.525260289 | 0.1517422 | 3.4615317 | 0.000537 | 0.018831 |
| sh3rf1 | 555.0932166 | 0.184728037 | 0.1044378 | 1.7687847 | 0.07693 | 0.540058 |
| tarbp2 | 385.0117349 | 0.07506892 | 0.1132101 | 0.6630938 | 0.50727 | 0.935734 |
| arf5 | 3131.038915 | 0.005733984 | 0.0778103 | 0.0736918 | 0.941256 | 0.992857 |
| parp6b | 591.0271349 | 0.088754052 | 0.1034211 | 0.8581813 | 0.390792 | 0.897643 |
| khdrbs1b | 5002.729423 | -0.028273991 | 0.0667078 | -0.423849 | 0.671676 | 0.965257 |
| dnajc2 | 324.5543814 | 0.198545463 | 0.1249111 | 1.5894943 | 0.111949 | 0.627242 |
| amn1 | 102.1345309 | -0.201575616 | 0.2063693 | -0.976771 | 0.328682 | 0.872945 |
| tspan13b | 326.7929835 | 0.059082138 | 0.1306497 | 0.452218 | 0.651112 | 0.960708 |
| agr2 | 1807.195404 | -0.177393363 | 0.0763856 | -2.32234 | 0.020215 | 0.267195 |
| zgc:195001 | 682.4879503 | 0.355709515 | 0.1030268 | 3.4525932 | 0.000555 | 0.019228 |
| cenps | 78.81305331 | 0.087384885 | 0.218667 | 0.3996254 | 0.689432 | 0.966763 |
| rbp7b | 29.61326064 | 0.597080828 | 0.3618342 | 1.6501503 | 0.098912 | 0.598346 |
| zgc:110783 | 171.0445245 | 0.086524744 | 0.1544012 | 0.560389 | 0.575214 | 0.950312 |
| si:dkeyp-75b4.7 | 0.471562095 | -2.373056629 | 3.0645586 | -0.774355 | 0.438721 | NA |
| hpcal4 | 446.5237578 | 0.124702697 | 0.1092939 | 1.1409852 | 0.253876 | 0.823394 |
| pdgfra | 1402.131609 | -0.081189531 | 0.0806753 | -1.006375 | 0.314235 | 0.865176 |
| FRMD7 | 14.17334013 | 0.337831497 | 0.5073221 | 0.6659112 | 0.505468 | 0.935724 |

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| bicclb | 12. 71572677 | -0. 256251277 | 0. 5354434 | -0. 478578 | 0. 632239 | 0. 957356 |
| phyhip1b | 159. 0175116 | 0. 414562148 | 0. 1749063 | 2. 3701954 | 0. 017779 | 0. 247053 |
| si:dkey-31e10. 5 | 15. 95104437 | -0. 386174261 | 0. 4938733 | -0. 78193 | 0. 434256 | 0. 914161 |
| trpc5a | 8. 717070362 | -0. 385296173 | 0. 6445686 | -0. 597758 | 0. 550001 | NA |
| trpc4a | 116. 2531158 | -0. 128848496 | 0. 1938835 | -0. 664567 | 0. 506328 | 0. 935724 |
| si:dkey-183j2. 10 | 322. 5014457 | -0. 095941135 | 0. 1206777 | -0. 79502 | 0. 426602 | 0. 910189 |
| cnpy3 | 361. 0681587 | 0. 117405524 | 0. 1170707 | 1. 0028596 | 0. 315929 | 0. 866931 |
| brpf3a | 293. 3278911 | 0. 026187158 | 0. 1313447 | 0. 1993773 | 0. 841968 | 0. 985174 |
| cacnali | 20. 52030644 | -0. 235892282 | 0. 4426708 | -0. 532884 | 0. 594114 | 0. 954434 |
| zc2hc1c | 12. 33150952 | 0. 747184385 | 0. 5496905 | 1. 3592819 | 0. 174057 | 0. 734137 |
| rippy2 | 1. 448040995 | -1. 007244037 | 1. 6721265 | -0. 602373 | 0. 546926 | NA |
| creb5b | 19. 56306 | -0. 583282206 | 0. 4662114 | -1. 251111 | 0. 210894 | 0. 778412 |
| stmn2b | 2985. 540651 | -0. 068636026 | 0. 0959376 | -0. 715424 | 0. 474347 | 0. 925115 |
| hey1 | 923. 2707968 | 0. 020846923 | 0. 1020884 | 0. 2042046 | 0. 838194 | 0. 984797 |
| arf3a | 511. 8215844 | -0. 064053962 | 0. 1105744 | -0. 579284 | 0. 562398 | 0. 948728 |
| si:dkeyp-97e7. 9 | 4. 354688277 | -0. 627318172 | 0. 9927726 | -0. 631885 | 0. 527462 | NA |
| mafbb | 189. 0824076 | -0. 120273439 | 0. 1653697 | -0. 7273 | 0. 467042 | 0. 924328 |
| grin2ab | 660. 7973926 | 0. 039127958 | 0. 1136522 | 0. 3442782 | 0. 730637 | 0. 97149 |
| top1l | 2204. 54593 | 0. 21465806 | 0. 0784908 | 2. 7348184 | 0. 006241 | 0. 120174 |
| msgnl | 3. 134574261 | -1. 460934405 | 1. 1545367 | -1. 265386 | 0. 205733 | NA |
| rnmt | 697. 145578 | -0. 034337947 | 0. 0928483 | -0. 369829 | 0. 71151 | 0. 969006 |
| ldlrad4a | 488. 0935499 | 0. 195456162 | 0. 1039331 | 1. 880596 | 0. 060027 | 0. 478654 |
| si:ch211-93g23. 2 | 49. 88543228 | -0. 051274192 | 0. 2709677 | -0. 189226 | 0. 849915 | 0. 985174 |
| nap114a | 1246. 249158 | 0. 110744935 | 0. 0862556 | 1. 2839159 | 0. 199171 | 0. 764592 |
| adap2 | 102. 8184267 | 0. 145625267 | 0. 2017526 | 0. 721801 | 0. 470417 | 0. 924838 |
| cadpsb | 2809. 90207 | 0. 026530192 | 0. 0719127 | 0. 3689221 | 0. 712186 | 0. 969006 |
| atad5a | 467. 626274 | 0. 008828406 | 0. 1049855 | 0. 0840917 | 0. 932984 | 0. 992702 |
| ppp4ca | 403. 3394371 | 0. 091731614 | 0. 1105879 | 0. 8294906 | 0. 406827 | 0. 901305 |
| inavab | 174. 4795876 | 0. 040777585 | 0. 1735497 | 0. 234962 | 0. 814238 | 0. 981081 |
| mapk3 | 1750. 916748 | 0. 074806411 | 0. 0729794 | 1. 0250348 | 0. 305347 | 0. 85982 |
| fam131bb | 14. 51353857 | 0. 327521453 | 0. 4945706 | 0. 6622339 | 0. 507821 | 0. 935734 |
| edn2 | 19. 5488479 | -0. 346201275 | 0. 4268449 | -0. 811071 | 0. 417325 | 0. 906237 |
| ggact. 3 | 161. 8286198 | -0. 147186559 | 0. 1581536 | -0. 930656 | 0. 352032 | 0. 880844 |
| ggact. 1 | 152. 5784108 | 0. 323907523 | 0. 1802307 | 1. 7971831 | 0. 072307 | 0. 525828 |
| itpk1b | 214. 0517758 | 0. 122096127 | 0. 1679062 | 0. 7271686 | 0. 467123 | 0. 924328 |
| clic5b | 646. 3236372 | -0. 130427138 | 0. 1126268 | -1. 158047 | 0. 246845 | 0. 816669 |
| mrpl35 | 254. 5033682 | 0. 035852132 | 0. 1555479 | 0. 2304893 | 0. 817712 | 0. 981594 |
| nt5clab | 44. 58712185 | 0. 028838024 | 0. 2894357 | 0. 0996354 | 0. 920634 | 0. 992118 |
| prelp | 299. 4049994 | 0. 052964609 | 0. 1277495 | 0. 4145975 | 0. 678437 | 0. 965257 |
| eno4 | 26. 92109025 | -0. 189910598 | 0. 3912472 | -0. 485398 | 0. 627394 | 0. 957354 |
| dyrk3 | 1249. 204657 | -0. 072551641 | 0. 0783753 | -0. 925695 | 0. 354604 | 0. 882105 |
| RASSF5 | 288. 6829479 | 0. 12516517 | 0. 1311948 | 0. 9540409 | 0. 340063 | 0. 87805 |
| hspal2a | 10. 94770332 | 0. 448411663 | 0. 5914232 | 0. 7581909 | 0. 448337 | NA |
| zgc:162509 | 21. 94329901 | -0. 124497506 | 0. 4015993 | -0. 310004 | 0. 756558 | 0. 975374 |
| b4galnt2. 2 | 4. 192397244 | -1. 179862503 | 1. 0612843 | -1. 111731 | 0. 266254 | NA |
| ikbke | 113. 3272305 | -0. 168236749 | 0. 2131201 | -0. 789399 | 0. 429879 | 0. 911615 |
| mrpl36 | 588. 3963599 | -0. 089466022 | 0. 1083768 | -0. 825509 | 0. 409083 | 0. 901769 |
| zgc:152986 | | 0 NA | NA | NA | NA | NA |
| vhl | 149. 7229442 | -0. 12868896 | 0. 1704753 | -0. 754884 | 0. 450319 | 0. 918761 |
| tatdn2 | 3. 807318414 | 1. 508664062 | 1. 011838 | 1. 4910135 | 0. 135958 | NA |
| grin2db | 50. 40286621 | 0. 386254318 | 0. 2921253 | 1. 3222212 | 0. 186094 | 0. 750443 |
| FAM72B | 357. 5274166 | -0. 066116254 | 0. 1201652 | -0. 550211 | 0. 582174 | 0. 952028 |
| med10 | 463. 0856048 | -0. 099703259 | 0. 1070701 | -0. 931196 | 0. 351752 | 0. 88081 |
| cacng7b | 79. 53893671 | -0. 044152133 | 0. 2270881 | -0. 194427 | 0. 845841 | 0. 985174 |

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| enpp5 | 231.2697819 | -0.102667243 | 0.165138 | -0.621706 | 0.534135 | 0.943276 |
| cacng8b | 696.8014853 | 0.214878599 | 0.0951832 | 2.2575265 | 0.023975 | 0.299022 |
| pimr60 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| ttpal | 305.9022105 | 0.053182292 | 0.1280141 | 0.415441 | 0.677819 | 0.965257 |
| prkcdB | 1040.836433 | 0.049870501 | 0.086874 | 0.5740559 | 0.56593 | 0.948739 |
| pex5 | 660.1406593 | -0.029211232 | 0.1019354 | -0.286566 | 0.774445 | 0.975687 |
| si:ch211-69g19.2 | 868.0625715 | -0.118926721 | 0.0945618 | -1.257662 | 0.208514 | 0.775404 |
| pa2g4b | 2604.582156 | -0.156506971 | 0.0808513 | -1.935738 | 0.0529 | 0.451736 |
| zbtb12.2 | 147.1563329 | 0.043077147 | 0.1748312 | 0.2463928 | 0.805378 | 0.979883 |
| si:ch211-182e10.4 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| rhol | 114.95056 | 0.560543268 | 0.2026753 | 2.7657201 | 0.00568 | 0.113103 |
| cd4-1 | 1.16278535 | -1.292219773 | 1.7937845 | -0.720387 | 0.471286 | NA |
| cxcr3.3 | 222.2303476 | -0.321203895 | 0.1586541 | -2.024555 | 0.042913 | 0.406985 |
| crip2 | 1027.38164 | 0.187785874 | 0.0846318 | 2.2188564 | 0.026496 | 0.313216 |
| slc2a9l1 | 3.636414049 | 1.432833121 | 1.0618905 | 1.3493229 | 0.177233 | NA |
| ptgr2 | 169.0781557 | -0.110300605 | 0.1665457 | -0.662284 | 0.507789 | 0.935734 |
| psmd6 | 2214.310549 | 0.005836631 | 0.074716 | 0.0781176 | 0.937735 | 0.99279 |
| fam3a | 339.2633263 | 0.003988895 | 0.1175943 | 0.0339208 | 0.97294 | 0.996315 |
| ifnphi3 | 2.572655968 | 1.532766764 | 1.4518113 | 1.0557617 | 0.291077 | NA |
| fezf2 | 335.8555254 | -0.008764664 | 0.1227259 | -0.071417 | 0.943066 | 0.993364 |
| clqtnf12 | 170.9807275 | 0.090955756 | 0.1766262 | 0.5149617 | 0.60658 | 0.956718 |
| sdf4 | 1094.035494 | 0.141221153 | 0.0917897 | 1.5385288 | 0.123919 | 0.652391 |
| dkk3b | 148.7109446 | 0.124075108 | 0.170047 | 0.7296517 | 0.465603 | 0.923865 |
| CR759887.1 | 0.802320445 | 1.849899411 | 2.4175996 | 0.7651802 | 0.444164 | NA |
| cdipt | 790.294492 | 0.046814466 | 0.0925262 | 0.5059589 | 0.612886 | 0.95688 |
| ncalda | 1369.452843 | 0.050114712 | 0.0774033 | 0.6474492 | 0.517341 | 0.938592 |
| si:dkey-80c24.1 | 0.499972362 | -2.44370697 | 3.0013188 | -0.814211 | 0.415524 | NA |
| nxph3 | 9.918472624 | -0.290774584 | 0.6079131 | -0.478316 | 0.632425 | NA |
| kbtbd8 | 207.3921086 | 0.223743845 | 0.143141 | 1.5631014 | 0.118029 | 0.641526 |
| s100v2 | 589.6103978 | 0.089752661 | 0.1049708 | 0.8550253 | 0.392537 | 0.897688 |
| thap7 | 273.2614443 | -0.182349702 | 0.1365799 | -1.335114 | 0.181839 | 0.743853 |
| zgc:64022 | 50.14148748 | 0.185177614 | 0.2797375 | 0.6619692 | 0.507991 | 0.935734 |
| wu:fi42e03 | 2.492658236 | -0.163857423 | 1.1709947 | -0.13993 | 0.888715 | NA |
| prss60.3 | 46.24387426 | 0.697643556 | 0.2969921 | 2.3490304 | 0.018822 | 0.255627 |
| prss60.1 | 1.642519234 | -0.523298403 | 1.5434776 | -0.339039 | 0.734581 | NA |
| zgc:173544 | | 0 NA | NA | NA | NA | NA |
| slc25a18 | 247.4593461 | 0.34921088 | 0.1444116 | 2.4181629 | 0.015599 | 0.229092 |
| vdrb | 9.444757557 | 0.273660504 | 0.619715 | 0.4415909 | 0.658785 | NA |
| ndufa9a | 2314.48642 | 0.0440559 | 0.083743 | 0.5260844 | 0.59883 | 0.955788 |
| chrna4b | 77.35287844 | -0.3556041 | 0.2245995 | -1.583281 | 0.113357 | 0.631061 |
| cnga3a | 194.7583082 | 0.172466104 | 0.1726388 | 0.9989996 | 0.317795 | 0.867607 |
| gabra5 | 252.5318936 | 0.042255021 | 0.1366489 | 0.3092233 | 0.757152 | 0.975374 |
| dyrk4 | 313.3004975 | 0.219896658 | 0.1258535 | 1.7472429 | 0.080595 | 0.550664 |
| rnd2 | 211.5746585 | -0.172466188 | 0.1498605 | -1.150845 | 0.249796 | 0.819829 |
| pimr89 | | 0 NA | NA | NA | NA | NA |
| tmem45a | 232.890239 | -0.12494387 | 0.1392447 | -0.897297 | 0.36956 | 0.889338 |
| sft2d2a | 48.12067938 | -0.056212881 | 0.3065913 | -0.183348 | 0.854525 | 0.985174 |
| ccr11.1 | 0.991963308 | 2.204864061 | 2.1328402 | 1.033769 | 0.301244 | NA |
| si:ch211-155i14.1 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| foxgla | 518.9475521 | -0.127305308 | 0.1043064 | -1.220494 | 0.222278 | 0.788551 |
| her4.3 | 120.2858453 | -0.159292982 | 0.1969907 | -0.808632 | 0.418727 | 0.906406 |
| irgfl | 9.283543499 | 1.308723082 | 0.6630074 | 1.9739193 | 0.048391 | NA |
| cyp2x9 | 185.1770687 | -0.567107728 | 0.1568068 | -3.616601 | 0.000298 | 0.011781 |
| rln3a | 64.55362177 | 0.225546491 | 0.2550302 | 0.8843912 | 0.376485 | 0.89493 |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| gjd2b | 210.9684887 | 0.355672838 | 0.1476227 | 2.4093374 | 0.015982 | 0.233052 |
| znf770 | 451.8953262 | 0.015618187 | 0.1209707 | 0.1291072 | 0.897273 | 0.990121 |
| jupa | 3241.413237 | -0.112756679 | 0.0692104 | -1.629186 | 0.103274 | 0.609625 |
| lrrc15 | 51.44468502 | 0.155994309 | 0.2681032 | 0.5818442 | 0.560672 | 0.948728 |
| grebl | 129.6617614 | -0.040654881 | 0.1818459 | -0.223568 | 0.823094 | 0.982189 |
| eaf1 | 280.4564303 | 0.028890813 | 0.1466761 | 0.1969701 | 0.843851 | 0.985174 |
| pmvk | 56.3482554 | 0.074140234 | 0.2669669 | 0.2777132 | 0.781233 | 0.97627 |
| zgc:109744 | 98.87610394 | 0.112387735 | 0.2048849 | 0.5485409 | 0.583321 | 0.952214 |
| opal | 1664.739764 | 0.004666655 | 0.0751792 | 0.0620737 | 0.950504 | 0.99381 |
| znf516 | 666.7125206 | -0.007708808 | 0.1046727 | -0.073647 | 0.941291 | 0.992857 |
| ccka | 110.8227357 | 0.235736973 | 0.1897683 | 1.2422356 | 0.21415 | 0.782493 |
| si:ch211-156118.6 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| pax7b | 171.9320481 | 0.042911246 | 0.1774371 | 0.2418392 | 0.808905 | 0.980642 |
| cnp | 2034.827657 | -0.058858368 | 0.0732156 | -0.803905 | 0.421452 | 0.90651 |
| ndufb5 | 1632.322829 | 0.006920899 | 0.0826259 | 0.0837619 | 0.933246 | 0.992702 |
| bpgm | 487.883743 | 0.089104512 | 0.1059908 | 0.8406814 | 0.400526 | 0.90084 |
| act16a | 1237.829332 | -0.095155851 | 0.0890954 | -1.068022 | 0.285511 | 0.845164 |
| zgc:136858 | 260.4442498 | -0.313890289 | 0.144029 | -2.179354 | 0.029305 | 0.331778 |
| rftn1a | 28.17673314 | 0.039982031 | 0.3812323 | 0.1048758 | 0.916474 | 0.991349 |
| snrka | 1156.017619 | 0.078733705 | 0.0875799 | 0.8989929 | 0.368656 | 0.888057 |
| lin52 | 134.2022293 | -0.183649417 | 0.1893051 | -0.970124 | 0.331985 | 0.874653 |
| taf13 | 696.2416592 | 0.003031863 | 0.1164337 | 0.0260394 | 0.979226 | 0.996802 |
| tnnc2 | 27705.78058 | 0.1701261 | 0.0833575 | 2.0409215 | 0.041259 | 0.397781 |
| evi5b | 262.8809133 | 0.082092787 | 0.1391271 | 0.5900559 | 0.555153 | 0.947449 |
| arid3a | 53.12042005 | -0.272860187 | 0.2700694 | -1.010334 | 0.312335 | 0.864401 |
| gamt | 2574.895028 | 0.099052982 | 0.0986932 | 1.0036456 | 0.315549 | 0.866773 |
| si:dkey-56d12.4 | 36.28032189 | 0.218990498 | 0.3266846 | 0.6703423 | 0.50264 | 0.935304 |
| dazapl | 207.0970593 | -0.026013245 | 0.1541075 | -0.168799 | 0.865954 | 0.986517 |
| trim35-20 | 7.23675999 | -0.531545098 | 0.7609191 | -0.698557 | 0.484829 | NA |
| rps15 | 7478.101461 | -0.388741647 | 0.0885643 | -4.389372 | 1.14E-05 | 0.000811 |
| si:ch211-282j17.10 | 1.021631832 | 0.046422221 | 1.8514003 | 0.0250741 | 0.979996 | NA |
| si:dkey-88n24.6 | 0.347458735 | -1.908042286 | 3.4571486 | -0.551912 | 0.581009 | NA |
| zgc:195077 | 0.846012444 | -0.57358332 | 2.1013569 | -0.272959 | 0.784885 | NA |
| si:dkey-32e6.6 | 93.43372383 | 0.200803644 | 0.2273534 | 0.8832226 | 0.377116 | 0.895192 |
| si:busml-105116.2 | 16.72195846 | 0.369401451 | 0.4660056 | 0.7926974 | 0.427954 | 0.910858 |
| bcl6aa | 376.8211137 | 0.09203215 | 0.1312827 | 0.7010225 | 0.483289 | 0.92946 |
| tmem11 | 542.4790561 | -0.179882936 | 0.1026357 | -1.752635 | 0.079665 | 0.548406 |
| smx5 | | 0 NA | NA | NA | NA | NA |
| cfap126 | 55.52116595 | -0.072472206 | 0.275859 | -0.262715 | 0.792771 | 0.977937 |
| cc125b | 280.953815 | 0.003752895 | 0.140604 | 0.0266912 | 0.978706 | 0.996762 |
| asmt2 | 148.7823242 | -0.043260467 | 0.1840396 | -0.235061 | 0.814162 | 0.981081 |
| AL953867.1 | | 0 NA | NA | NA | NA | NA |
| BX510941.1 | 0.635422286 | 2.809933352 | 2.5211574 | 1.114541 | 0.265047 | NA |
| si:ch211-262h13.5 | 9.659578842 | -0.021009179 | 0.6436475 | -0.032641 | 0.973961 | NA |
| abhd6b | 26.10122056 | 0.615520446 | 0.3760265 | 1.6369073 | 0.10165 | 0.605756 |
| si:ch211-262h13.3 | 224.5520671 | 0.111286751 | 0.1421157 | 0.7830715 | 0.433585 | 0.913667 |
| met | 148.8929928 | -0.09548901 | 0.168672 | -0.566122 | 0.571311 | 0.949418 |
| sox2 | 1366.524049 | -0.044104597 | 0.081561 | -0.540756 | 0.588676 | 0.953319 |
| dusp6 | 2046.665164 | 0.057196895 | 0.0749674 | 0.7629571 | 0.445489 | 0.917137 |
| dnajc27 | 343.1918488 | 0.111001506 | 0.1270285 | 0.8738314 | 0.38221 | 0.895192 |
| kitlga | 259.9387889 | 0.122560233 | 0.1341304 | 0.9137397 | 0.360854 | 0.885686 |
| si:ch211-284e20.8 | 476.8598989 | 0.369109763 | 0.1419403 | 2.6004578 | 0.00931 | 0.162001 |
| cpne5b | 29.30860191 | 0.022842824 | 0.3478776 | 0.0656634 | 0.947646 | 0.99381 |
| cnbpb | 3174.275457 | -0.053114287 | 0.0736687 | -0.720989 | 0.470916 | 0.924838 |

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| zgc:158296 | 208.7414739 | 0.237920167 | 0.1473971 | 1.6141439 | 0.106496 | 0.615567 |
| sox14 | 383.8433148 | 0.000558498 | 0.1178504 | 0.004739 | 0.996219 | 0.998888 |
| cart1 | 16.01062598 | 0.06509929 | 0.4844886 | 0.134367 | 0.893112 | 0.989291 |
| si:ch211-232m10.6 | 152.4244678 | 0.105846673 | 0.1829906 | 0.578427 | 0.562976 | 0.948728 |
| hcrt | 17.83242861 | 0.420199798 | 0.460824 | 0.9118445 | 0.361851 | 0.885944 |
| znf740a | 555.5160391 | -0.095164954 | 0.1007423 | -0.944638 | 0.344844 | 0.878434 |
| igfbp6a | 1.030311776 | 0.994458412 | 1.953155 | 0.5091549 | 0.610644 | NA |
| styk1a | 94.73284331 | -0.007368841 | 0.2178712 | -0.033822 | 0.973019 | 0.996315 |
| hmgalb | 2464.490992 | 0.287345219 | 0.0749892 | 3.8318208 | 0.000127 | 0.00596 |
| fam131ba | 127.3944726 | -0.266058568 | 0.1806438 | -1.472835 | 0.140795 | 0.681252 |
| pla2g4f.2 | 1.001591779 | -2.198778422 | 2.0996481 | -1.047213 | 0.295001 | NA |
| hmx2 | 93.00558086 | -0.070333663 | 0.2129629 | -0.330263 | 0.741202 | 0.973154 |
| hmx3a | 225.8184082 | -0.11593436 | 0.1435267 | -0.807755 | 0.419232 | 0.906406 |
| im:7160594 | 183.8203425 | -0.077999285 | 0.169942 | -0.458976 | 0.646251 | 0.96032 |
| pex6 | 104.960498 | -0.140777605 | 0.2127146 | -0.661814 | 0.50809 | 0.935734 |
| si:ch211-288g17.3 | 7708.80331 | 0.016440799 | 0.0681057 | 0.2414011 | 0.809244 | 0.980642 |
| si:ch211-288g17.4 | 96.4339471 | 0.295069912 | 0.2176727 | 1.3555667 | 0.175237 | 0.735698 |
| lepr | 363.8033873 | 0.159468754 | 0.1256465 | 1.2691863 | 0.204375 | 0.772273 |
| si:rp71-15k1.1 | 0.976668277 | 3.423229811 | 2.0853785 | 1.6415389 | 0.100686 | NA |
| insl5a | 15.76417996 | -2.416850968 | 0.5597812 | -4.317492 | 1.58E-05 | 0.001037 |
| furinb | 555.6771925 | -0.001462435 | 0.1141145 | -0.012816 | 0.989775 | 0.997612 |
| si:ch211-81a5.8 | 571.6183173 | 0.038752429 | 0.1046924 | 0.3701552 | 0.711267 | 0.969006 |
| si:dkey-88e12.3 | 2.097607108 | 0.193170451 | 1.3372151 | 0.1444573 | 0.885139 | NA |
| ash11 | 2036.552098 | -0.048916071 | 0.0799367 | -0.611935 | 0.540581 | 0.944631 |
| mrps21 | 188.1142261 | -0.135582616 | 0.1576013 | -0.860289 | 0.38963 | 0.896421 |
| sergef | 116.4422004 | -0.088459344 | 0.1892734 | -0.467363 | 0.64024 | 0.959994 |
| mlpha | 93.65134103 | -0.023889437 | 0.2097009 | -0.113921 | 0.9093 | 0.990702 |
| inpp4ab | 69.37282882 | -0.116524127 | 0.2575173 | -0.45249 | 0.650916 | 0.960708 |
| nuggc.1 | 3.350229215 | -1.202399941 | 1.0828358 | -1.110418 | 0.266819 | NA |
| abhd12 | 423.2433975 | 0.058152855 | 0.1211603 | 0.4799664 | 0.631251 | 0.957356 |
| ppplr3ca | 107.8551121 | 0.047994939 | 0.2024029 | 0.2371257 | 0.812559 | 0.981081 |
| pcgf5a | 23.76197494 | -0.200334603 | 0.3930893 | -0.509641 | 0.610303 | 0.95688 |
| kif20ba | 258.9299916 | -0.102841268 | 0.1391109 | -0.739275 | 0.45974 | 0.921978 |
| tuft1b | 175.1013798 | 0.15199103 | 0.1610603 | 0.9436903 | 0.345328 | 0.878434 |
| cdk5r2a | 1439.157461 | -0.034542489 | 0.0862808 | -0.400349 | 0.688899 | 0.966672 |
| ifit14 | 10.41178707 | 1.669869279 | 0.6312694 | 2.6452562 | 0.008163 | NA |
| arl6ip6 | 41.77837415 | -0.281201913 | 0.3040095 | -0.924977 | 0.354978 | 0.882321 |
| s100u | 773.8513459 | -0.165598234 | 0.096958 | -1.707937 | 0.087648 | 0.566637 |
| pbxipla | 914.8374987 | 0.208451663 | 0.097408 | 2.1399851 | 0.032356 | 0.350031 |
| nt5e | 169.5468162 | -0.135334067 | 0.175621 | -0.770603 | 0.440942 | 0.916336 |
| ptena | 2036.971067 | 0.084323863 | 0.0830053 | 1.0158859 | 0.309684 | 0.86172 |
| si:dkey-42116.1 | 0.317831496 | 1.808837541 | 3.5779923 | 0.5055454 | 0.613176 | NA |
| papss2a | 764.9497763 | -0.566809637 | 0.1033559 | -5.484058 | 4.16E-08 | 6.13E-06 |
| zgc:171679 | 310.6654632 | -0.023612525 | 0.1298798 | -0.181803 | 0.855737 | 0.985174 |
| dytn | 17.63206653 | 0.123045264 | 0.4546265 | 0.2706513 | 0.786659 | 0.976596 |
| mllt11 | 1732.261719 | 0.138350336 | 0.0791236 | 1.748535 | 0.080371 | 0.549728 |
| si:dkey-147f3.4 | 182.0922872 | 0.062702901 | 0.159707 | 0.3926122 | 0.694606 | 0.96736 |
| snx1a | 2361.183471 | -0.019305591 | 0.0712263 | -0.271046 | 0.786356 | 0.976476 |
| pnkd | 191.0842425 | 0.201041461 | 0.1691779 | 1.1883436 | 0.234698 | 0.803509 |
| si:dkey-286j15.3 | 160.863731 | 0.210923333 | 0.174386 | 1.2095197 | 0.226463 | 0.793959 |
| pex13 | 345.9781034 | 0.159941845 | 0.1229649 | 1.3007117 | 0.193357 | 0.757219 |
| smim8 | 109.5430625 | 0.204989134 | 0.1900081 | 1.0788444 | 0.280657 | 0.84355 |
| cx28.8 | 35.7503193 | 0.083738225 | 0.3158215 | 0.2651441 | 0.790898 | 0.977402 |
| zgc:153722 | 13.26278312 | 0.003785271 | 0.5355804 | 0.0070676 | 0.994361 | 0.998694 |

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| bbipl | 222.4495059 | -0.077739847 | 0.14225 | -0.546502 | 0.584721 | 0.952411 |
| ccn6 | 542.3803073 | 0.070166402 | 0.115835 | 0.6057446 | 0.544684 | 0.945438 |
| si:dkey-119m7.4 | 55.74812748 | 0.257424345 | 0.2718993 | 0.9467636 | 0.343759 | 0.878434 |
| cbx6a | 677.9325595 | 0.012469291 | 0.1002966 | 0.1243242 | 0.901059 | 0.990121 |
| si:dkey-150i13.2 | 5.474159139 | 0.608692949 | 0.8319342 | 0.7316599 | 0.464376 | NA |
| ZNF512B | 29.63542661 | -0.175140836 | 0.3533509 | -0.495657 | 0.620136 | 0.957354 |
| gtpbp2b | 124.3868589 | 0.05551762 | 0.1854474 | 0.2993712 | 0.764657 | 0.975374 |
| naal0 | 894.6124456 | -0.138184048 | 0.0895656 | -1.542825 | 0.122873 | 0.650905 |
| hps5 | 267.6538757 | -0.236482637 | 0.1380172 | -1.713429 | 0.086634 | 0.56426 |
| g6pd | 755.2051067 | -0.186880899 | 0.0944824 | -1.977944 | 0.047935 | 0.43124 |
| pthlhb | 2.814722101 | 0.121046402 | 1.2109372 | 0.0999609 | 0.920375 | NA |
| rccd1 | 58.15846771 | 0.112592007 | 0.2688488 | 0.4187931 | 0.675367 | 0.965257 |
| ldhbb | 433.1074876 | 0.033944843 | 0.1171515 | 0.2897516 | 0.772006 | 0.975687 |
| p4halb | 948.4526215 | -0.44687794 | 0.1235937 | -3.615702 | 0.0003 | 0.011799 |
| si:dkeyp-34c12.1 | 13.48928336 | -0.409148848 | 0.5585255 | -0.732552 | 0.463832 | 0.922875 |
| wipflb | 224.4465839 | 0.2546809 | 0.1507533 | 1.6893883 | 0.091145 | 0.578217 |
| adgrg7.2 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| gpr155b | 86.87631 | -0.085118102 | 0.2229555 | -0.381772 | 0.702631 | 0.968134 |
| slc35b4 | 478.4954587 | -0.193115963 | 0.1074965 | -1.796486 | 0.072417 | 0.526156 |
| adgrg7.1 | 0.31598276 | 0.005883445 | 3.3523626 | 0.001755 | 0.9986 | NA |
| actn2b | 708.8140311 | 0.104199605 | 0.0955897 | 1.0900718 | 0.275682 | 0.839541 |
| chrn3a | 88.80308448 | -0.087448746 | 0.2093728 | -0.41767 | 0.676188 | 0.965257 |
| abi3bpb | 1627.474438 | 0.252945292 | 0.0788778 | 3.2067995 | 0.001342 | 0.039088 |
| si:ch73-367f21.4 | 102.731632 | 0.362580387 | 0.211344 | 1.7155932 | 0.086237 | 0.563157 |
| si:dkey-222p3.1 | 55.04985085 | -0.042529216 | 0.2969172 | -0.143236 | 0.886104 | 0.988936 |
| wnt7bb | 116.9262735 | 0.107917823 | 0.1908343 | 0.5655054 | 0.57173 | 0.949494 |
| xirp2a | 935.1312632 | 0.266526489 | 0.1219747 | 2.1850968 | 0.028882 | 0.329785 |
| eepdl | 123.4107023 | 0.309743832 | 0.193675 | 1.5992966 | 0.109755 | 0.623766 |
| zgc:64065 | 12.06245249 | 0.233451488 | 0.5755093 | 0.4056433 | 0.685005 | 0.966146 |
| si:dkey-208m12.2 | 20.6899524 | 0.798161464 | 0.45035 | 1.7723135 | 0.076343 | 0.538373 |
| cica | 940.9218375 | 0.072487046 | 0.1122992 | 0.6454814 | 0.518615 | 0.938803 |
| pick1 | 80.34332919 | 0.032299189 | 0.2230697 | 0.1447942 | 0.884873 | 0.988838 |
| sft2d2b | 136.6039191 | -0.27324852 | 0.1803457 | -1.515138 | 0.129738 | 0.662411 |
| alkbh1 | 46.33455626 | 0.066012424 | 0.3069155 | 0.2150834 | 0.829702 | 0.982805 |
| zmp:0000001138 | 0.841338706 | -0.563977448 | 2.2263736 | -0.253317 | 0.800024 | NA |
| slc12a10.2 | 406.9700132 | 0.434005413 | 0.1209812 | 3.5873781 | 0.000334 | 0.012925 |
| pimr73 | 1.539555802 | 2.928625969 | 1.7835936 | 1.6419806 | 0.100594 | NA |
| cx40.8 | 8.524052039 | -0.200252281 | 0.6967781 | -0.287397 | 0.773808 | NA |
| cavin2b | 1373.069622 | 0.028185235 | 0.082809 | 0.3403644 | 0.733582 | 0.971993 |
| usp40 | 485.3208007 | -0.025240088 | 0.1042433 | -0.242127 | 0.808682 | 0.980642 |
| fopnl | 65.30215959 | -0.025315266 | 0.251831 | -0.100525 | 0.919928 | 0.991857 |
| sptssa | 375.2610505 | -0.170955658 | 0.1128331 | -1.51512 | 0.129742 | 0.662411 |
| tmem170b | 11.72955437 | 0.501606541 | 0.5932823 | 0.845477 | 0.397845 | 0.899672 |
| wnt4a | 101.1074989 | 0.413656004 | 0.198777 | 2.0810059 | 0.037433 | 0.378816 |
| opr11 | 225.1558453 | -0.01576756 | 0.1376275 | -0.114567 | 0.908788 | 0.990702 |
| zgc:112255 | 334.1829002 | 0.239137376 | 0.1191049 | 2.0077872 | 0.044666 | 0.41583 |
| p3h1 | 372.1147754 | 0.046934094 | 0.1171569 | 0.4006088 | 0.688708 | 0.966672 |
| rgl3a | 242.5923213 | 0.163160896 | 0.1405945 | 1.1605073 | 0.245842 | 0.815789 |
| palm3 | 93.33383537 | 0.102657257 | 0.2025196 | 0.5069003 | 0.612225 | 0.95688 |
| si:ch211-133n4.9 | 0.316103113 | 0.005883447 | 3.3519121 | 0.0017553 | 0.9986 | NA |
| hs6st3a | 9.039078749 | -0.933712259 | 0.7026031 | -1.328933 | 0.18387 | NA |
| zgc:158445 | 11.40510379 | -0.12340896 | 0.5605361 | -0.220162 | 0.825745 | 0.982196 |
| si:ch211-133n4.4 | 1521.540622 | 0.166208184 | 0.0798149 | 2.0824194 | 0.037304 | 0.377702 |
| lrfn5a | 27.89066561 | -0.001065461 | 0.4087373 | -0.002607 | 0.99792 | 0.999234 |

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| zgc:158254 | 247.6978919 | 0.063916126 | 0.1545468 | 0.4135714 | 0.679188 | 0.965257 |
| si:ch211-117c9.5 | 1079.283378 | -0.090940468 | 0.0857349 | -1.060717 | 0.288818 | 0.845979 |
| ftr58 | 8.096461696 | -0.780433464 | 0.6755984 | -1.155174 | 0.248019 | NA |
| trim35-39 | 63.68212042 | 0.079522531 | 0.2549155 | 0.3119564 | 0.755074 | 0.975234 |
| tmem79a | 34.99028879 | -0.241715944 | 0.3782832 | -0.638981 | 0.522835 | 0.939336 |
| ppplr18 | 315.9940283 | 0.084308467 | 0.1315747 | 0.6407651 | 0.521675 | 0.939056 |
| fbxo34 | 1038.227052 | -0.100249198 | 0.0887642 | -1.129388 | 0.258734 | 0.826867 |
| zmp:0000001139 | 14.35024793 | 0.462340313 | 0.5443647 | 0.8493209 | 0.395703 | 0.899378 |
| si:zfos-452g4.1 | 63.91080603 | 0.324852041 | 0.2528707 | 1.2846569 | 0.198912 | 0.764191 |
| ncoa6 | 1367.308161 | -0.047568787 | 0.1125359 | -0.422699 | 0.672515 | 0.965257 |
| samhd1 | 168.7883587 | 0.164676499 | 0.1565186 | 1.0521211 | 0.292744 | 0.848607 |
| tonsl | 181.3216616 | -0.120870727 | 0.1530595 | -0.789698 | 0.429704 | 0.911615 |
| chrn3b | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| tbcl2 | 60.94159629 | 0.244994005 | 0.256197 | 0.9562718 | 0.338935 | 0.87745 |
| gip | 2.821488783 | 0.546899828 | 1.1680579 | 0.4682129 | 0.639632 | NA |
| si:dkey-7814.5 | 2.137965949 | 0.236687056 | 1.2602923 | 0.1878033 | 0.851031 | NA |
| cbarpb | 88.43360321 | 0.163329478 | 0.2278634 | 0.7167869 | 0.473506 | 0.924993 |
| ryr3 | 2498.12695 | 0.421608607 | 0.084307 | 5.0008722 | 5.71E-07 | 6.27E-05 |
| si:ch211-212d10.2 | 264.438522 | 0.111231649 | 0.1346785 | 0.825905 | 0.408858 | 0.90171 |
| mif | 461.8818267 | -0.208770704 | 0.1103683 | -1.891581 | 0.058547 | 0.473924 |
| borcs8 | 101.3655815 | -0.000692777 | 0.2065319 | -0.003354 | 0.997324 | 0.999143 |
| abchl | 75.73865269 | 0.195983097 | 0.2229569 | 0.879018 | 0.379392 | 0.895192 |
| mgst2 | 113.1508839 | -0.191579056 | 0.1963262 | -0.97582 | 0.329154 | 0.873436 |
| aftphb | 248.6939122 | 0.105194355 | 0.1427576 | 0.7368739 | 0.461199 | 0.922161 |
| si:ch211-235e9.8 | 3565.700067 | 0.211893339 | 0.0662128 | 3.2001862 | 0.001373 | 0.039879 |
| si:ch211-197g15.7 | 28.04749763 | 0.135435566 | 0.3849247 | 0.3518495 | 0.724951 | 0.970402 |
| map4k3b | 108.2645623 | 0.113156912 | 0.1980395 | 0.5713856 | 0.567738 | 0.948739 |
| morn2 | 23.71521706 | 0.074504502 | 0.3901458 | 0.1909658 | 0.848552 | 0.985174 |
| si:ch211-197g15.10 | 0.810062152 | 0.536965757 | 2.3785369 | 0.2257546 | 0.821392 | NA |
| lrrtm2 | 503.9418728 | 0.072211793 | 0.1033341 | 0.6988188 | 0.484665 | 0.93001 |
| celf5a | 40.00234035 | 0.152529028 | 0.308339 | 0.4946797 | 0.620826 | 0.957354 |
| hsl1b11a | 348.4572104 | -0.004840731 | 0.1257079 | -0.038508 | 0.969283 | 0.996315 |
| micos13 | 563.6199437 | 0.169789839 | 0.1111939 | 1.5269708 | 0.126768 | 0.656588 |
| si:dkey-7814.11 | 0.491320158 | 0.8528132 | 2.8656354 | 0.2976 | 0.766008 | NA |
| slc7a11 | 127.04621 | 0.206063155 | 0.1923639 | 1.0712155 | 0.284073 | 0.844697 |
| si:dkey-21e2.3 | 0.802320445 | 1.849899411 | 2.4175996 | 0.7651802 | 0.444164 | NA |
| si:dkey-7814.6 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| foxq2 | 46.18729884 | -0.376637676 | 0.2871675 | -1.311561 | 0.189668 | 0.754269 |
| camk2gl | 4032.42305 | 0.079598805 | 0.0650934 | 1.2228407 | 0.22139 | 0.788076 |
| tim23a | 1170.523185 | 0.030848903 | 0.0817404 | 0.3774008 | 0.705876 | 0.968412 |
| BX247870.1 | 1.006818213 | 1.048314579 | 1.9690503 | 0.532396 | 0.594452 | NA |
| si:dkey-172o19.2 | 1.134337053 | 2.462221963 | 2.0582167 | 1.196289 | 0.231584 | NA |
| oaz1a | 6340.315165 | -0.005103405 | 0.0773082 | -0.066014 | 0.947367 | 0.99381 |
| tepsin | 76.52593411 | 0.00953679 | 0.2339937 | 0.0407566 | 0.96749 | 0.996315 |
| AL935279.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| arl3b | 910.9564896 | 0.06543805 | 0.0864199 | 0.7572107 | 0.448924 | 0.917995 |
| cks2 | 85.0056761 | -0.146642989 | 0.2215339 | -0.661944 | 0.508007 | 0.935734 |
| mier2 | 273.6105927 | -0.074671233 | 0.1341919 | -0.556451 | 0.577902 | 0.951024 |
| cybc1 | 135.757554 | -0.422826945 | 0.1818045 | -2.325723 | 0.020033 | 0.266383 |
| gna15.4 | 5.120854511 | -0.875377763 | 0.8460345 | -1.034683 | 0.300817 | NA |
| gbx1 | 144.0109491 | -0.001077454 | 0.1810322 | -0.005952 | 0.995251 | 0.998696 |
| ap3d1 | 985.2546178 | 0.047920733 | 0.0921141 | 0.5202321 | 0.602902 | 0.956045 |
| nat9 | 367.3307899 | 0.115248084 | 0.1254904 | 0.918382 | 0.358419 | 0.884398 |
| lrrc59 | 227.3812323 | -0.147183295 | 0.1390402 | -1.058566 | 0.289797 | 0.846246 |

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| tdo2a | 264.7346819 | -0.07461675 | 0.1315251 | -0.56732 | 0.570497 | 0.949061 |
| ptprc | 48.70530961 | -0.172699109 | 0.2823369 | -0.611677 | 0.540751 | 0.944633 |
| si:dkey-121a9.3 | 20.91303351 | 0.404132444 | 0.4236925 | 0.9538342 | 0.340168 | 0.87805 |
| myoz1b | 2681.00673 | 0.430965902 | 0.0891903 | 4.8319837 | 1.35E-06 | 0.000129 |
| zgc:153659 | 0 NA | NA | NA | NA | NA | NA |
| fam234a | 17.3897021 | 0.013717096 | 0.4769118 | 0.0287623 | 0.977054 | 0.996762 |
| tdrd5 | 7.178758871 | -0.36776228 | 0.7584155 | -0.484909 | 0.627741 | NA |
| crpl | 17.52883239 | 0.208304484 | 0.4537756 | 0.4590473 | 0.6462 | 0.96032 |
| crp7 | 0.665049525 | -0.08670226 | 2.5686305 | -0.033754 | 0.973073 | NA |
| crp6 | 0.339758314 | 0.005883863 | 3.2682461 | 0.0018003 | 0.998564 | NA |
| si:dkey-121a11.3 | 325.4741415 | 0.147698598 | 0.1209513 | 1.2211413 | 0.222033 | 0.788551 |
| si:ch211-234p6.5 | 116.0829239 | 0.155097603 | 0.1860822 | 0.8334896 | 0.404569 | 0.901305 |
| CU896602.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| lama3 | 97.22594757 | -0.839511089 | 0.2118474 | -3.962811 | 7.41E-05 | 0.003804 |
| zgc:154125 | 6.306608437 | 0.804624636 | 0.7890234 | 1.0197728 | 0.307836 | NA |
| lrrc39 | 191.6483674 | 0.269951059 | 0.1707776 | 1.5807168 | 0.113943 | 0.632717 |
| zbtb33 | 288.9597913 | -0.047081273 | 0.1285813 | -0.366159 | 0.714246 | 0.96909 |
| mrpl54 | 326.5361802 | -0.008364498 | 0.1254438 | -0.066679 | 0.946837 | 0.99381 |
| znf618 | 63.77113706 | -0.163904018 | 0.2461125 | -0.665972 | 0.505429 | 0.935724 |
| aox5 | 226.2527499 | 0.065647037 | 0.143105 | 0.4587334 | 0.646426 | 0.960362 |
| lnx2b | 404.0650739 | -0.200707452 | 0.117771 | -1.704218 | 0.08834 | 0.569189 |
| zgc:152948 | 45.23043171 | -0.463670375 | 0.2927806 | -1.583678 | 0.113267 | 0.631061 |
| nrros | 27.64926934 | 0.645665633 | 0.3651431 | 1.7682535 | 0.077019 | 0.540058 |
| fbxo45 | 416.122627 | 0.105649185 | 0.1128973 | 0.9357988 | 0.349377 | 0.880195 |
| olfm3a | 254.7516546 | 0.036381392 | 0.1488415 | 0.2444304 | 0.806897 | 0.980254 |
| fshr | 0 NA | NA | NA | NA | NA | NA |
| sult3st5 | 5.753004758 | -1.082598878 | 0.94477 | -1.145886 | 0.251842 | NA |
| zic6 | 102.3999643 | -0.092802653 | 0.2055945 | -0.451387 | 0.651711 | 0.960708 |
| zic3 | 964.1844996 | 0.116943969 | 0.0956325 | 1.2228474 | 0.221387 | 0.788076 |
| fh11a | 198.9973507 | 0.02010771 | 0.1771116 | 0.1135313 | 0.909609 | 0.990702 |
| excl32b.1 | 0 NA | NA | NA | NA | NA | NA |
| fam207a | 117.8692366 | -0.170600603 | 0.1879237 | -0.907818 | 0.363974 | 0.886249 |
| hs6st1b | 222.5361234 | 0.13864715 | 0.1595469 | 0.8690055 | 0.384844 | 0.89551 |
| mgat5 | 744.9843427 | 0.127166378 | 0.0939738 | 1.3532104 | 0.175988 | 0.736505 |
| krt222 | 401.8746602 | -0.039830905 | 0.1326157 | -0.300348 | 0.763911 | 0.975374 |
| insrb | 122.2467003 | -0.105916693 | 0.1873916 | -0.565216 | 0.571927 | 0.949494 |
| si:dkey-42i9.8 | 1.639291888 | -0.001819744 | 1.4395878 | -0.001264 | 0.998991 | NA |
| si:dkey-42i9.7 | 0.824205979 | 0.498048327 | 2.3641483 | 0.2106671 | 0.833147 | NA |
| josd1 | 565.7326596 | 0.093372511 | 0.1005238 | 0.9288596 | 0.352962 | 0.881552 |
| ecm2 | 243.6859471 | 0.361136858 | 0.1449765 | 2.4910026 | 0.012738 | 0.200229 |
| xrcc6 | 510.3557813 | -0.132426526 | 0.1025978 | -1.290735 | 0.196796 | 0.761944 |
| zgc:171500 | 0 NA | NA | NA | NA | NA | NA |
| CU929149.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| zgc:153675 | 237.7933194 | 0.1128549 | 0.1403054 | 0.8043515 | 0.421194 | 0.90651 |
| fb1im1 | 127.9923767 | -0.430237508 | 0.203849 | -2.11057 | 0.034809 | 0.363229 |
| dlx4b | 73.18588072 | -0.273199328 | 0.2293081 | -1.191407 | 0.233494 | 0.802097 |
| mtus1a | 178.1276446 | 0.012287875 | 0.1579561 | 0.077793 | 0.937993 | 0.99279 |
| hnf4g | 92.69922191 | -0.877005932 | 0.2406791 | -3.643881 | 0.000269 | 0.010838 |
| ppplcab | 1650.658364 | 0.026139441 | 0.0788681 | 0.3314322 | 0.740318 | 0.973082 |
| TSTD1 | 158.9991068 | 0.126925199 | 0.2105905 | 0.602711 | 0.546701 | 0.945526 |
| si:dkeyp-87e7.4 | 757.0966882 | -0.159100567 | 0.0913397 | -1.741855 | 0.081534 | 0.552315 |
| lsm5 | 192.3886095 | 0.092174145 | 0.1703872 | 0.5409686 | 0.588529 | 0.953319 |
| si:ch211-222k6.3 | 61.33806958 | 0.091993902 | 0.2580016 | 0.3565633 | 0.721419 | 0.969705 |
| urad | 63.1327361 | 0.297657923 | 0.2422366 | 1.2287899 | 0.219151 | 0.785734 |

| | | | | | | |
|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| si:ch211-222k6.1 | 26.66027806 | 0.635469108 | 0.3774938 | 1.6833895 | 0.0923 | 0.57849 |
| gtf3ab | 1.8162786 | 0.814953581 | 1.541792 | 0.5285756 | 0.5971 | NA |
| stard15 | 103.8272194 | 0.207833819 | 0.209409 | 0.9924779 | 0.320964 | 0.868715 |
| tgfbi | 6049.877645 | 0.315157908 | 0.0751384 | 4.1943678 | 2.74E-05 | 0.001635 |
| BX539307.1 | 0.966579724 | 0.959501961 | 2.1265385 | 0.4512037 | 0.651843 | NA |
| si:dkey-253d23.2 | 69.74527469 | -0.167540385 | 0.2406441 | -0.696217 | 0.486293 | 0.930833 |
| si:ch211-236g6.1 | 25.87192072 | -0.629260395 | 0.4005937 | -1.57082 | 0.116225 | 0.63841 |
| aqp8a.2 | 284.811339 | -1.079813314 | 0.1581756 | -6.826674 | 8.69E-12 | 2.53E-09 |
| TIMM21 | 106.811881 | -0.002663773 | 0.2102858 | -0.012667 | 0.989893 | 0.997612 |
| netoll | 230.6044443 | 0.024509169 | 0.1411832 | 0.1735984 | 0.862181 | 0.985841 |
| pvalb9 | 841.1408609 | 0.343468408 | 0.0974787 | 3.5235231 | 0.000426 | 0.015652 |
| si:ch211-156p11.1 | 3.471201992 | 0.686111577 | 1.1258632 | 0.6094094 | 0.542253 | NA |
| si:ch211-213a13.5 | 4.915289106 | 0.187913586 | 0.8647192 | 0.2173117 | 0.827965 | NA |
| ptgdsb.2 | | 0 NA | NA | NA | NA | NA |
| BX511034.1 | 29.00154004 | -0.068082214 | 0.3577487 | -0.190307 | 0.849068 | 0.985174 |
| BX511034.2 | 0.341486697 | 1.892317624 | 3.2124068 | 0.5890654 | 0.555817 | NA |
| drd1a | 10.03592966 | -0.445821245 | 0.6216359 | -0.717174 | 0.473267 | NA |
| zgc:171490 | | 0 NA | NA | NA | NA | NA |
| si:dkey-19a16.7 | | 0 NA | NA | NA | NA | NA |
| zgc:113298 | 12.24264247 | 0.096464489 | 0.5467862 | 0.1764209 | 0.859963 | 0.985773 |
| rrp8 | 98.55586753 | -0.131471227 | 0.2091842 | -0.628495 | 0.52968 | 0.942209 |
| si:ch73-256j6.2 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:dkey-19a16.5 | 1.909102993 | 0.89942414 | 1.4922532 | 0.6027289 | 0.546689 | NA |
| si:dkey-19a16.4 | 56.06308831 | -0.103046766 | 0.2719238 | -0.378955 | 0.704722 | 0.968134 |
| ywhag2 | 4969.955265 | 0.099649153 | 0.0689427 | 1.44539 | 0.148348 | 0.696298 |
| si:rp71-36a1.3 | 0.500282092 | 2.45023829 | 2.5970012 | 0.9434876 | 0.345432 | NA |
| si:dkey-222f2.7 | 0.831868617 | -0.546811265 | 2.1107396 | -0.259061 | 0.795588 | NA |
| smyd5 | 161.0852701 | -0.038783889 | 0.1675709 | -0.231448 | 0.816967 | 0.981594 |
| tma7 | 1330.496679 | -0.001005775 | 0.2214531 | -0.004542 | 0.996376 | 0.998902 |
| nudt22 | 163.1212096 | 0.042645992 | 0.1588053 | 0.2685427 | 0.788282 | 0.976703 |
| ctdspla | 542.1217226 | -0.096926957 | 0.1058718 | -0.915513 | 0.359923 | 0.885686 |
| atcaya | 745.6876714 | -0.168123523 | 0.0951906 | -1.766177 | 0.077366 | 0.541968 |
| mydgf | 525.528232 | -0.033255692 | 0.1190743 | -0.279285 | 0.780026 | 0.976146 |
| lox15a | 6.320950689 | 0.162674338 | 0.7828517 | 0.2077971 | 0.835387 | NA |
| zfr2 | 761.7979447 | 0.148754832 | 0.1062614 | 1.3998959 | 0.161545 | 0.715364 |
| rx1 | 950.0279109 | 0.12050282 | 0.1045656 | 1.1524139 | 0.249151 | 0.818463 |
| slco5a1a | 123.8452665 | 0.086484845 | 0.1949293 | 0.4436728 | 0.657279 | 0.962245 |
| uqcrc2b | 3936.386187 | 0.020045678 | 0.0803838 | 0.2493746 | 0.803071 | 0.979643 |
| prex2 | 424.249461 | 0.037322889 | 0.1134268 | 0.3290481 | 0.742119 | 0.973154 |
| ndc80 | 422.7847148 | -0.246471177 | 0.1129247 | -2.182615 | 0.029064 | 0.330497 |
| pimr193 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| zgc:66433 | 640.5045562 | -0.046966308 | 0.0963477 | -0.487467 | 0.625928 | 0.957354 |
| ids | 115.4880881 | -0.026898908 | 0.1885579 | -0.142656 | 0.886562 | 0.988936 |
| zgc:162941 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| ppplr9bb | 179.7177795 | -0.1107312 | 0.1776147 | -0.623435 | 0.532999 | 0.942965 |
| si:dkey-20i20.8 | 77.46088972 | -0.353138502 | 0.2210742 | -1.597376 | 0.110182 | 0.62463 |
| si:dkey-20i20.2 | 77.74543098 | -0.390457805 | 0.2391335 | -1.632803 | 0.10251 | 0.608356 |
| ankha | 70.87179659 | 0.366728915 | 0.2464109 | 1.4882818 | 0.136677 | 0.673303 |
| znfl167 | 40.94165241 | -0.128392315 | 0.3123908 | -0.410999 | 0.681073 | 0.965476 |
| si:dkey-37o8.1 | | 0 NA | NA | NA | NA | NA |
| si:ch211-207i20.3 | 63.10325655 | -0.401486315 | 0.2524421 | -1.59041 | 0.111742 | 0.627242 |
| prlh2 | 43.5431448 | -0.153379991 | 0.2930322 | -0.523424 | 0.600679 | 0.956045 |
| zgc:112977 | 26.51258027 | 0.154734534 | 0.3700799 | 0.4181112 | 0.675866 | 0.965257 |
| pimr46 | 0.365141898 | 1.973577737 | 3.3927314 | 0.5817076 | 0.560764 | NA |

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|------------------|-------------|--------------|-----------|-----------|----------|----------|
| si:ch211-253p2.2 | 101.1351159 | 0.017556316 | 0.2263611 | 0.0775589 | 0.938179 | 0.99279 |
| eef1e1 | 634.4569426 | 0.045442078 | 0.0987955 | 0.4599611 | 0.645544 | 0.96029 |
| znf1153 | 58.986307 | -0.139880336 | 0.2554076 | -0.547675 | 0.583915 | 0.952214 |
| znf1180 | 43.42754938 | 0.02127115 | 0.2961261 | 0.0718314 | 0.942736 | 0.993364 |
| adarb2 | 20.87567631 | -0.465562186 | 0.4298068 | -1.083189 | 0.278724 | 0.842736 |
| znf1162 | 29.54811591 | 0.167047064 | 0.3696332 | 0.4519266 | 0.651322 | 0.960708 |
| si:dkey-32n7.9 | 0 NA | NA | NA | NA | NA | NA |
| nrn1a | 402.6657346 | -0.041270983 | 0.1177169 | -0.350595 | 0.725892 | 0.970402 |
| itgbla | 2210.05132 | 0.203245493 | 0.072983 | 2.7848315 | 0.005356 | 0.108505 |
| si:ch73-134f24.1 | 0 NA | NA | NA | NA | NA | NA |
| znf711 | 289.0792096 | -0.21970158 | 0.1261757 | -1.741235 | 0.081642 | 0.552623 |
| glod5 | 261.9859472 | -0.029169389 | 0.1534702 | -0.190066 | 0.849258 | 0.985174 |
| zdhhc15b | 430.5505842 | 0.063718287 | 0.1097124 | 0.5807756 | 0.561392 | 0.948728 |
| rell2 | 32.14520387 | -0.127717113 | 0.3400793 | -0.375551 | 0.707251 | 0.968664 |
| dhrs7cb | 476.8206501 | 0.276275411 | 0.1060856 | 2.6042696 | 0.009207 | 0.16083 |
| trmt112 | 332.6788395 | -0.003412215 | 0.1211369 | -0.028168 | 0.977528 | 0.996762 |
| tgfb5 | 59.94996813 | 0.18939819 | 0.2812965 | 0.6733045 | 0.500754 | 0.93428 |
| pimr56 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| arl9 | 380.7176585 | -0.047083403 | 0.148636 | -0.31677 | 0.751418 | 0.97419 |
| pcdh2ab1 | 4.538831639 | 0.620690438 | 0.9228968 | 0.6725459 | 0.501236 | NA |
| CR847851.1 | 0.365141898 | 1.973577737 | 3.3927314 | 0.5817076 | 0.560764 | NA |
| sec24b | 987.5710639 | 0.003193061 | 0.115789 | 0.0275766 | 0.978 | 0.996762 |
| rasalb | 76.86023587 | -0.028631828 | 0.2210271 | -0.12954 | 0.89693 | 0.990003 |
| adgra3 | 233.5636844 | -0.180019565 | 0.1462983 | -1.230496 | 0.218511 | 0.785734 |
| tlr8b | 1.476211552 | 1.771389495 | 1.6751477 | 1.0574527 | 0.290305 | NA |
| quo | 544.2116617 | -0.183639747 | 0.1023608 | -1.794043 | 0.072806 | 0.526522 |
| heatr6 | 205.3550198 | -0.062245049 | 0.1449185 | -0.429518 | 0.667547 | 0.964736 |
| nav2a | 780.268282 | -0.054803359 | 0.0912969 | -0.600277 | 0.548322 | 0.945871 |
| mamdc2b | 71.78377583 | 0.451300646 | 0.2352419 | 1.9184532 | 0.055054 | 0.459919 |
| frmd8 | 563.6978436 | -0.078029764 | 0.0997343 | -0.782377 | 0.433993 | 0.914001 |
| col9ala | 13802.84549 | 0.152635156 | 0.0871474 | 1.7514587 | 0.079867 | 0.548745 |
| si:dkeyp-72g9.4 | 1001.038388 | 0.016200988 | 0.0941274 | 0.1721176 | 0.863345 | 0.985841 |
| rbfa | 75.87260976 | -0.369214712 | 0.2254573 | -1.637626 | 0.1015 | 0.605447 |
| cnksr2b | 622.4065287 | 0.0318254 | 0.1193649 | 0.2666228 | 0.78976 | 0.977238 |
| zgc:171551 | 9.704676296 | -0.598562596 | 0.6341418 | -0.943894 | 0.345224 | NA |
| fam149a | 32.62336689 | 0.067550686 | 0.3498911 | 0.193062 | 0.84691 | 0.985174 |
| usp7 | 1799.954761 | -0.026736377 | 0.0729954 | -0.366275 | 0.71416 | 0.96909 |
| mmrn2b | 75.08693174 | -0.108372738 | 0.2478234 | -0.437298 | 0.661895 | 0.964504 |
| vav3b | 270.1343088 | 0.018801194 | 0.1402015 | 0.1341013 | 0.893322 | 0.989291 |
| cpxmla | 489.6793825 | 0.085433041 | 0.1066085 | 0.8013716 | 0.422917 | 0.90714 |
| si:ch73-233k15.2 | 27.74127272 | 0.013101067 | 0.3948269 | 0.0331818 | 0.97353 | 0.996315 |
| si:dkey-250123.4 | 173.630153 | -0.105503384 | 0.1839061 | -0.573681 | 0.566184 | 0.948739 |
| smarcad1b | 582.4719308 | 0.030886524 | 0.0999167 | 0.3091228 | 0.757228 | 0.975374 |
| zgc:194679 | 68.84709724 | -0.201668102 | 0.2406162 | -0.838132 | 0.401957 | 0.90084 |
| nlr1 | 305.7636191 | -0.050390349 | 0.1291392 | -0.390202 | 0.696387 | 0.96736 |
| zbtb32 | 0.500161739 | 2.450146464 | 2.7711133 | 0.8841741 | 0.376602 | NA |
| gal3st3 | 166.3385702 | 0.208072861 | 0.1612986 | 1.2899855 | 0.197056 | 0.761944 |
| dok4 | 349.1872311 | 0.039810194 | 0.1202048 | 0.3311863 | 0.740504 | 0.973154 |
| myh14 | 963.6247513 | 0.027659117 | 0.0896163 | 0.3086393 | 0.757596 | 0.975374 |
| ftr95 | 1.839552787 | -3.211433563 | 1.6821863 | -1.909083 | 0.056251 | NA |
| suds3 | 542.6533432 | -0.246588048 | 0.1067175 | -2.310662 | 0.020852 | 0.27277 |
| dennd2c | 208.6708166 | -0.149116364 | 0.150525 | -0.990642 | 0.321861 | 0.869463 |
| RAP1GDS1 | 14.6750534 | 0.124844766 | 0.5257435 | 0.2374632 | 0.812297 | 0.981081 |
| prss59.2 | 2274.742095 | -0.430465284 | 0.2483857 | -1.733052 | 0.083086 | 0.555802 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| slc25a37 | 10.26393878 | 0.003699869 | 0.5800278 | 0.0063788 | 0.994911 | NA |
| ip6k1 | 892.9247289 | 0.141288461 | 0.0955155 | 1.4792199 | 0.139082 | 0.677963 |
| si:dkey-1j5.4 | 126.756371 | -0.077396872 | 0.2085561 | -0.371108 | 0.710557 | 0.968985 |
| crygm2d18 | 13572.9664 | -0.059560882 | 0.0892165 | -0.667599 | 0.50439 | 0.935541 |
| CACNA2D1 | 11.58028631 | 0.259847435 | 0.5562914 | 0.4671067 | 0.640424 | 0.959994 |
| taccl | 142.1773468 | -0.207993162 | 0.1875581 | -1.108953 | 0.26745 | 0.833239 |
| slc12a7a | 244.0001332 | -0.11777427 | 0.137719 | -0.855178 | 0.392452 | 0.897688 |
| pdzrn3a | 26.52483987 | -0.284785448 | 0.3671217 | -0.775725 | 0.437911 | 0.915258 |
| myo19 | 41.44454885 | 0.29294231 | 0.3025387 | 0.9682805 | 0.332904 | 0.874926 |
| si:ch211-113j14.1 | 110.7853336 | -0.440560926 | 0.1867159 | -2.359526 | 0.018298 | 0.251621 |
| gnal3a | 173.6541337 | -0.141007091 | 0.1589716 | -0.886996 | 0.375081 | 0.894316 |
| tnnild | 276.3873712 | -0.003114115 | 0.1395012 | -0.022323 | 0.98219 | 0.996944 |
| magi2b | 23.85971424 | 0.602866833 | 0.3942846 | 1.5290143 | 0.126261 | 0.655241 |
| tbc1d12b | 181.9874023 | 0.17236555 | 0.1500557 | 1.1486775 | 0.250689 | 0.820469 |
| tti2 | 115.6518012 | 0.044761917 | 0.1939474 | 0.2307942 | 0.817475 | 0.981594 |
| si:dkey-17e16.9 | 5.428157328 | -1.005811941 | 0.8272264 | -1.215885 | 0.224029 | NA |
| si:dkey-288i20.2 | 10.41395862 | -0.18597124 | 0.671296 | -0.277033 | 0.781755 | NA |
| cmb1 | 222.8160331 | -0.300259411 | 0.1983151 | -1.514052 | 0.130013 | 0.662595 |
| si:ch73-303b9.1 | 0.522329263 | 0.999930388 | 2.8066578 | 0.3562709 | 0.721638 | NA |
| zmp:0000000735 | 16.61552552 | -0.689204537 | 0.4939664 | -1.395246 | 0.162942 | 0.717875 |
| man1b1a | 386.7050835 | -0.049711326 | 0.1129655 | -0.440058 | 0.659895 | 0.963364 |
| zgc:194210 | 34.47149164 | -0.112311106 | 0.3560499 | -0.315436 | 0.75243 | 0.974684 |
| si:dkeyp-104h9.5 | 320.4954892 | -0.019755113 | 0.1319906 | -0.149671 | 0.881025 | 0.988111 |
| cntnap51 | 346.9006342 | 0.173173645 | 0.1261563 | 1.3726916 | 0.169848 | 0.726965 |
| WDR31 | 8.408443344 | 0.487124583 | 0.7477279 | 0.651473 | 0.514741 | NA |
| thbs2b | 155.9358468 | 0.016196517 | 0.1732478 | 0.0934876 | 0.925516 | 0.992676 |
| or131-2 | 8.259543027 | -0.576119796 | 0.6557711 | -0.878538 | 0.379652 | NA |
| scly | 33.72742187 | 0.393055421 | 0.3318779 | 1.1843376 | 0.236279 | 0.805463 |
| pax1b | 85.78001156 | 0.412818622 | 0.2216542 | 1.8624448 | 0.06254 | 0.487868 |
| zgc:174917 | 112.0530388 | -0.888823556 | 0.5331721 | -1.667048 | 0.095505 | 0.588012 |
| znf1177 | 15.59836894 | -0.770317643 | 0.5252742 | -1.466506 | 0.142511 | 0.684646 |
| L0017700.1 | 65.16824759 | 0.169045664 | 0.2648413 | 0.6382905 | 0.523285 | 0.939336 |
| RASGRF1 | 225.9318083 | 0.080194009 | 0.1467645 | 0.5464127 | 0.584782 | 0.952433 |
| senp2 | 620.8371457 | 0.131255962 | 0.0956715 | 1.3719445 | 0.170081 | 0.727199 |
| herc2 | 2354.458109 | 0.101170287 | 0.1042046 | 0.9708807 | 0.331608 | 0.874645 |
| myo9ab | 1004.784138 | 0.039017073 | 0.0910576 | 0.4284878 | 0.668296 | 0.964736 |
| si:dkey-85k7.10 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| zgc:110843 | 1037.493927 | -0.249481238 | 0.1009441 | -2.471479 | 0.013456 | 0.20803 |
| rbm15 | 454.467611 | 0.076951254 | 0.1114153 | 0.6906707 | 0.489772 | 0.931926 |
| arhgef7b | 840.5836516 | -0.062072871 | 0.0886461 | -0.700233 | 0.483782 | 0.929461 |
| hdac7b | 6.982877764 | 0.018749655 | 0.7100381 | 0.0264065 | 0.978933 | NA |
| klf7a | 30.24010068 | -0.442480467 | 0.3449685 | -1.282669 | 0.199608 | 0.764932 |
| pex26 | 177.3803412 | -0.034717192 | 0.1667022 | -0.208259 | 0.835027 | 0.984089 |
| kif13bb | 247.0565433 | 0.013608403 | 0.143517 | 0.0948209 | 0.924457 | 0.992676 |
| gas2l2 | 0.323844819 | -1.825095364 | 3.274639 | -0.557342 | 0.577293 | NA |
| tdpl | 91.38339578 | -0.306367796 | 0.2037598 | -1.503574 | 0.132691 | 0.667303 |
| rex1bd | 165.2881496 | -0.136962574 | 0.1572278 | -0.871109 | 0.383695 | 0.895192 |
| pdzrn3b | 564.3611265 | -0.095213197 | 0.1012049 | -0.940796 | 0.346809 | 0.8794 |
| gdpd2 | 666.8527573 | 0.450831616 | 0.0981478 | 4.5933962 | 4.36E-06 | 0.000361 |
| tpst1 | 788.0883728 | 0.107096249 | 0.1056641 | 1.0135533 | 0.310796 | 0.862927 |
| crygm2d6 | 5079.468778 | -0.055929102 | 0.0829809 | -0.674 | 0.500312 | 0.934224 |
| si:ch1073-165f9.2 | 42.65003126 | -0.299722501 | 0.3017638 | -0.993236 | 0.320595 | 0.868418 |
| slc41a2b | 404.1268805 | 0.09460015 | 0.1147856 | 0.8241464 | 0.409856 | 0.902506 |
| clstn3 | 2862.242729 | 0.119770274 | 0.0695686 | 1.7216143 | 0.085139 | 0.560519 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| gdf10b | 124.9022955 | -0.085177625 | 0.1934944 | -0.440207 | 0.659787 | 0.963278 |
| secisbp2 | 102.396763 | -0.401432578 | 0.1950804 | -2.05778 | 0.039611 | 0.390659 |
| dnase2 | 157.0310048 | 0.105191336 | 0.1812913 | 0.5802336 | 0.561757 | 0.948728 |
| cx47.1 | 49.78407496 | 0.206272379 | 0.3054771 | 0.6752467 | 0.499519 | 0.934006 |
| nempl | 93.38423571 | -0.139306533 | 0.2284353 | -0.609829 | 0.541975 | 0.944974 |
| inka2 | 62.66609752 | 0.461376671 | 0.2823122 | 1.6342782 | 0.1022 | 0.60761 |
| CABZ01046997.1 | 2.026250295 | -1.556805599 | 1.4182557 | -1.09769 | 0.27234 | NA |
| ptpn9b | 285.7348222 | -0.047910649 | 0.1312761 | -0.364961 | 0.715141 | 0.96909 |
| zgc:92481 | 209.0053797 | -0.735705953 | 0.1709947 | -4.302509 | 1.69E-05 | 0.001088 |
| ppip5k1b | 378.9800798 | 0.006415734 | 0.1181356 | 0.0543082 | 0.95669 | 0.994543 |
| cinp | 112.3009931 | 0.097738485 | 0.1862444 | 0.5247861 | 0.599732 | 0.956045 |
| tmem255a | 783.2181538 | 0.095750657 | 0.0895381 | 1.0693847 | 0.284896 | 0.845094 |
| si:ch211-202h22.7 | 30.11551903 | 0.188970704 | 0.3539186 | 0.5339383 | 0.593384 | 0.954434 |
| pimr213 | 13.31306075 | -2.783449086 | 0.658762 | -4.225273 | 2.39E-05 | 0.001457 |
| fam163ba | 35.76692326 | 0.031454211 | 0.3317539 | 0.0948119 | 0.924464 | 0.992676 |
| znf1085 | 14.81113372 | -0.23814744 | 0.505071 | -0.471513 | 0.637275 | 0.958872 |
| b3glcta | 274.9074951 | -0.036107599 | 0.1270637 | -0.284169 | 0.776281 | 0.975826 |
| rnf41l | 163.820911 | 0.206221378 | 0.1619534 | 1.2733379 | 0.202898 | 0.769849 |
| cntnap5a | 62.92270313 | 0.096270863 | 0.2589555 | 0.3717661 | 0.710067 | 0.968928 |
| adck2 | 162.8838724 | -0.088880016 | 0.1669021 | -0.532528 | 0.594361 | 0.954434 |
| synrg | 751.0962284 | -0.016198434 | 0.1065342 | -0.152049 | 0.879148 | 0.987881 |
| otulina | 34.95045214 | -0.355021398 | 0.3486312 | -1.018329 | 0.308521 | 0.861088 |
| gareml | 18.56615272 | 0.316092574 | 0.44615 | 0.7084895 | 0.478641 | 0.926978 |
| wnt6b | 6.89810565 | 0.806563978 | 0.7412397 | 1.0881284 | 0.276538 | NA |
| BX511021.1 | 9.746878233 | 0.650917801 | 0.6205613 | 1.0489178 | 0.294216 | NA |
| si:ch73-386h18.1 | 1342.192631 | -0.086656279 | 0.0833096 | -1.040172 | 0.29826 | 0.85401 |
| si:dkeyp-67e1.6 | 0.474898508 | 0.855240867 | 2.7202602 | 0.3143967 | 0.75322 | NA |
| prokl | 9.403542801 | 0.465050016 | 0.6185126 | 0.7518845 | 0.452121 | NA |
| cd4-2.2 | 2.962102904 | -0.669981969 | 1.1811811 | -0.567214 | 0.570569 | NA |
| slc4a7 | 149.9860512 | 0.023138014 | 0.1736455 | 0.1332485 | 0.893997 | 0.989527 |
| tox3 | 708.106701 | -0.022908291 | 0.0964007 | -0.237636 | 0.812163 | 0.981081 |
| pmch | 29.04066486 | 0.084333096 | 0.3496628 | 0.2411841 | 0.809412 | 0.980642 |
| si:ch211-160j14.2 | 48.87498722 | -0.010499289 | 0.6177817 | -0.016995 | 0.98644 | 0.996965 |
| ccdc32 | 585.4433538 | 0.039553561 | 0.0986544 | 0.4009305 | 0.688471 | 0.966672 |
| si:ch211-258f14.2 | 88.70931735 | 0.060528868 | 0.2204354 | 0.2745878 | 0.783633 | 0.97627 |
| si:dkey-202b22.5 | 7.945078938 | 0.357981033 | 0.6628787 | 0.54004 | 0.589169 | NA |
| mctp2b | 51.83370844 | 0.160168148 | 0.265641 | 0.6029497 | 0.546542 | 0.945526 |
| colgalt1 | 70.59286228 | 0.207633477 | 0.2398182 | 0.8657953 | 0.386602 | 0.89551 |
| crabp2a | 401.4695079 | 0.164296167 | 0.1125761 | 1.4594226 | 0.144449 | 0.688868 |
| pctp | 26.0446345 | 0.141372713 | 0.3766614 | 0.375331 | 0.707414 | 0.968664 |
| mntb | 472.0346673 | 0.012556838 | 0.104188 | 0.120521 | 0.90407 | 0.990291 |
| si:ch211-276k2.1 | | 0 NA | NA | NA | NA | NA |
| prickle3 | 60.85512745 | 0.119501709 | 0.2783898 | 0.4292604 | 0.667734 | 0.964736 |
| srpkla | 609.7547304 | 0.175614695 | 0.1063811 | 1.6508071 | 0.098778 | 0.598346 |
| si:ch211-23110.3 | 35.82240232 | 0.380319468 | 0.3344517 | 1.1371431 | 0.255478 | 0.823982 |
| taptla | 118.373849 | -0.176928637 | 0.2025503 | -0.873505 | 0.382388 | 0.895192 |
| crygmx12 | 11211.98118 | 0.03062628 | 0.0967873 | 0.3164287 | 0.751677 | 0.974352 |
| slc6alla | 76.43635354 | 0.505730185 | 0.2459463 | 2.0562624 | 0.039757 | 0.391511 |
| stac | 42.50976475 | -0.174014566 | 0.2933854 | -0.593126 | 0.553097 | 0.947265 |
| znf1059 | 58.82475879 | 0.046882412 | 0.2717372 | 0.1725285 | 0.863022 | 0.985841 |
| si:ch1073-159d7.7 | 16.12363355 | 0.371612167 | 0.4949844 | 0.7507554 | 0.4528 | 0.919551 |
| zgc:194275 | 1.295689006 | -0.690664441 | 1.7006876 | -0.406109 | 0.684663 | NA |
| ptgfr | 0.48448895 | 0.85344211 | 2.878836 | 0.2964539 | 0.766883 | NA |
| usp3l | 174.6830603 | 0.151262601 | 0.1595485 | 0.9480665 | 0.343096 | 0.878434 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| rbms1a | 1506.087893 | 0.069071981 | 0.0819006 | 0.8433636 | 0.399025 | 0.900619 |
| CT573248.1 | 20.85112967 | -0.368303878 | 0.422664 | -0.871387 | 0.383543 | 0.895192 |
| myt1a | 2106.223926 | -0.144543985 | 0.0796592 | -1.814529 | 0.069596 | 0.514708 |
| fastkd2 | 319.4950185 | -0.101765462 | 0.1294694 | -0.786019 | 0.431856 | 0.912787 |
| adamts12 | 47.82890894 | -0.120514967 | 0.2784437 | -0.432816 | 0.665148 | 0.964736 |
| si:dkey-91i10.2 | 173.78509 | 0.351225096 | 0.1706678 | 2.0579456 | 0.039595 | 0.390659 |
| ky | 17.27698835 | 0.496764285 | 0.4897104 | 1.0144041 | 0.31039 | 0.862656 |
| abca5 | 220.6333166 | -0.025500662 | 0.1447677 | -0.176149 | 0.860177 | 0.985773 |
| efnb2b | 177.8232922 | 0.015613248 | 0.1720879 | 0.0907283 | 0.927708 | 0.992702 |
| si:ch211-281g13.5 | 1.297376104 | -0.034812563 | 1.7279065 | -0.020147 | 0.983926 | NA |
| kctd1 | 220.1082054 | -0.113868101 | 0.1456655 | -0.78171 | 0.434385 | 0.914254 |
| calm3b | 16087.7906 | 0.023514157 | 0.068807 | 0.341741 | 0.732546 | 0.971719 |
| dlg5a | 1019.198937 | 0.024631598 | 0.0870731 | 0.2828842 | 0.777266 | 0.975826 |
| map3k14a | 317.7136242 | -0.122912416 | 0.1269984 | -0.967826 | 0.333131 | 0.874926 |
| si:dkey-234i14.15 | 0 NA | NA | NA | NA | NA | NA |
| rem2 | 27.23382058 | 0.173147503 | 0.3734617 | 0.4636285 | 0.642914 | 0.959994 |
| tas2r200.2 | 0 NA | NA | NA | NA | NA | NA |
| zgc:l71452 | 5.307043864 | -0.362911308 | 0.837682 | -0.433233 | 0.664846 | NA |
| irx5b | 211.856686 | -0.235202818 | 0.1695383 | -1.387314 | 0.165346 | 0.721223 |
| mrnip | 18.04579038 | 0.13051198 | 0.4636725 | 0.2814745 | 0.778346 | 0.975942 |
| BX511100.1 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| map6b | 51.75954516 | 0.29593038 | 0.2680954 | 1.1038248 | 0.269669 | 0.834705 |
| rnf26 | 84.36079104 | -0.119290157 | 0.2145075 | -0.556112 | 0.578134 | 0.951024 |
| antxr1b | 27.22113118 | -0.034644758 | 0.3620874 | -0.095681 | 0.923774 | 0.992628 |
| si:dkey-3d4.3 | 36.17694704 | -0.225240116 | 0.3211066 | -0.70145 | 0.483022 | 0.929338 |
| dnai2b | 13.12114382 | 0.662862849 | 0.5370897 | 1.2341752 | 0.217138 | 0.784302 |
| gpc5c | 7.826691453 | -0.053352037 | 0.7165594 | -0.074456 | 0.940648 | NA |
| stripl | 996.874455 | 0.171607015 | 0.0867347 | 1.9785275 | 0.047869 | 0.43124 |
| si:ch1073-188e1.1 | 0 NA | NA | NA | NA | NA | NA |
| tecpr1b | 168.4412125 | 0.003357687 | 0.1691514 | 0.0198502 | 0.984163 | 0.996944 |
| nim1k | 86.08919265 | 0.188975661 | 0.2152869 | 0.8777853 | 0.38006 | 0.895192 |
| tgm2b | 701.868318 | -0.038567716 | 0.0953345 | -0.404551 | 0.685807 | 0.966307 |
| si:ch211-86h15.1 | 79.86095357 | 0.060308059 | 0.2218354 | 0.2718595 | 0.78573 | 0.97627 |
| zgc:l63014 | 2.120643845 | -0.712338836 | 1.4157264 | -0.503161 | 0.614851 | NA |
| bedin3d | 52.0920163 | -0.094354214 | 0.2877678 | -0.327883 | 0.743 | 0.973486 |
| si:dkey-1h24.2 | 31.21179606 | 0.08728549 | 0.3678258 | 0.2373012 | 0.812423 | 0.981081 |
| ftr12 | 56.24011758 | 0.197970018 | 0.2572921 | 0.7694368 | 0.441634 | 0.916336 |
| frmpd2 | 57.36193736 | 0.538021019 | 0.2792212 | 1.9268634 | 0.053997 | 0.455128 |
| usp2b | 88.16588716 | -0.013330856 | 0.2268233 | -0.058772 | 0.953134 | 0.994157 |
| dnmbp | 499.0304958 | 0.006991227 | 0.1058249 | 0.0660641 | 0.947327 | 0.99381 |
| znf1161 | 45.24680252 | -0.00683509 | 0.2959698 | -0.023094 | 0.981575 | 0.996944 |
| ttc39a | 39.3619597 | -0.473928586 | 0.3053683 | -1.55199 | 0.120665 | 0.645578 |
| edem3 | 868.5833786 | 0.110932605 | 0.0881946 | 1.2578159 | 0.208458 | 0.775404 |
| kif5ba | 1862.363338 | -0.048827121 | 0.0756114 | -0.645764 | 0.518432 | 0.938765 |
| scpp7 | 0.524057646 | 2.503896172 | 2.7289583 | 0.9175282 | 0.358866 | NA |
| slc47a2.2 | 2.460512468 | 0.622636951 | 1.2614463 | 0.4935897 | 0.621596 | NA |
| c2cd3 | 214.5733733 | 0.224313714 | 0.1521349 | 1.4744397 | 0.140363 | 0.680585 |
| myo1013 | 245.0981136 | 0.041592066 | 0.1447329 | 0.2873712 | 0.773828 | 0.975687 |
| zgc:l13452 | 113.3808606 | -0.212032419 | 0.1934708 | -1.09594 | 0.273105 | 0.838141 |
| rbpjl | 2.658336168 | -1.12159655 | 1.1682715 | -0.960048 | 0.337031 | NA |
| itpr1b | 559.5003746 | -0.118822482 | 0.1103402 | -1.076874 | 0.281537 | 0.84357 |
| si:ch211-226h7.5 | 23.942247 | 0.037284005 | 0.4114816 | 0.0906092 | 0.927803 | 0.992702 |
| slitrk5b | 16.59983799 | 0.072583303 | 0.4652539 | 0.156008 | 0.876027 | 0.987881 |
| sgca | 446.7950203 | 0.293827953 | 0.1237151 | 2.3750367 | 0.017547 | 0.245562 |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| paqr4b | 68.40384453 | 0.402216111 | 0.2470606 | 1.6280057 | 0.103524 | 0.609625 |
| tnrc6b | 1357.256548 | -0.031123105 | 0.0882554 | -0.352648 | 0.724352 | 0.970402 |
| zgc:162879 | 100.6459976 | -0.097826436 | 0.2013768 | -0.485788 | 0.627118 | 0.957354 |
| birc6 | 2293.982622 | -0.022391299 | 0.108517 | -0.206339 | 0.836526 | 0.984386 |
| tasor2 | 530.4196635 | -0.084832659 | 0.1041048 | -0.814877 | 0.415143 | 0.906237 |
| gpam | 503.4052107 | 0.326616243 | 0.1149444 | 2.8415151 | 0.00449 | 0.095365 |
| fbxo4 | 38.59608396 | -0.036913654 | 0.324037 | -0.113918 | 0.909303 | 0.990702 |
| calhm2.2 | 0.481032184 | -2.398473301 | 2.80721 | -0.854398 | 0.392885 | NA |
| prokrla | 5.839500704 | 0.112838587 | 0.8057615 | 0.1400397 | 0.888629 | NA |
| si:dkey-172j4.3 | 675.0523939 | -0.02153993 | 0.1096707 | -0.196406 | 0.844293 | 0.985174 |
| arhgap32b | 631.9046536 | 0.03783775 | 0.1046058 | 0.3617174 | 0.717563 | 0.96909 |
| psk9 | 25.85602093 | 0.686550629 | 0.376743 | 1.8223315 | 0.068405 | 0.512556 |
| zgc:172253 | 78.20789536 | 0.578428347 | 0.2455098 | 2.3560294 | 0.018471 | 0.253122 |
| flna | 3704.474921 | 0.039258778 | 0.0773293 | 0.507683 | 0.611676 | 0.95688 |
| commd6 | 99.32283299 | 0.076886339 | 0.1968365 | 0.3906102 | 0.696085 | 0.96736 |
| si:dkey-1c7.3 | 0 | NA | NA | NA | NA | NA |
| zgc:110286 | 9.211674688 | 0.136227772 | 0.6952787 | 0.1959326 | 0.844663 | NA |
| SLC5A10 | 17.08429544 | -0.051525471 | 0.4826532 | -0.106755 | 0.914984 | 0.991119 |
| EIF3BB | 32.89166211 | -0.203352129 | 0.3431045 | -0.592683 | 0.553393 | 0.947265 |
| wu:fc38h03 | 270.5005694 | 0.337975595 | 0.1342177 | 2.5181143 | 0.011799 | 0.191113 |
| si:dkey-188i13.6 | 8.890570063 | -0.337270929 | 0.6468607 | -0.521397 | 0.602091 | NA |
| map3k22 | 22.36783799 | -0.481771279 | 0.4225651 | -1.140111 | 0.25424 | 0.823394 |
| zgc:172302 | 713.3380263 | 0.259472277 | 0.0999163 | 2.5968956 | 0.009407 | 0.162543 |
| rap1gap2b | 19.89415087 | 0.576323212 | 0.432432 | 1.3327486 | 0.182614 | 0.745308 |
| MDFIC | 149.935772 | 0.034873044 | 0.1655941 | 0.2105935 | 0.833204 | 0.983583 |
| si:ch211-269e2.1 | 505.0157657 | 0.111492038 | 0.1059379 | 1.0524286 | 0.292603 | 0.848607 |
| zgc:158398 | 297.9152191 | 0.004301493 | 0.1352379 | 0.0318069 | 0.974626 | 0.996579 |
| prrl2a | 2638.550769 | -0.066032248 | 0.0831932 | -0.793722 | 0.427357 | 0.91075 |
| CU138547.1 | 10.29563014 | -0.331335125 | 0.634729 | -0.52201 | 0.601663 | NA |
| pde4bb | 114.2474757 | 0.121445548 | 0.1974553 | 0.6150532 | 0.53852 | 0.943336 |
| CR376783.1 | 18.46012157 | 0.408843311 | 0.4474558 | 0.9137065 | 0.360871 | 0.885686 |
| brpf3b | 200.7524898 | 0.200121777 | 0.1596712 | 1.2533368 | 0.210083 | 0.777646 |
| serbpla | 13179.02916 | -0.145355934 | 0.0620119 | -2.344 | 0.019078 | 0.257862 |
| arhgef101b | 168.0658357 | 0.022943103 | 0.1648122 | 0.1392075 | 0.889286 | 0.989291 |
| spen | 1385.420596 | -0.023552271 | 0.0878563 | -0.268077 | 0.78864 | 0.976703 |
| rab14 | 2224.691954 | 0.038426898 | 0.0706478 | 0.5439219 | 0.586495 | 0.953319 |
| tmem237b | 218.8901145 | -0.169021392 | 0.1514624 | -1.11593 | 0.264452 | 0.830245 |
| olig3 | 93.60829631 | -0.221396596 | 0.2058491 | -1.075528 | 0.282138 | 0.843666 |
| abcb6b | 33.3252744 | -0.20522559 | 0.4033675 | -0.508781 | 0.610906 | 0.95688 |
| micu3b | 636.7832967 | 0.30025385 | 0.1056522 | 2.8419069 | 0.004484 | 0.09535 |
| gramd1bb | 18.07271313 | 0.093064231 | 0.4472805 | 0.2080668 | 0.835177 | 0.984089 |
| nckla | 474.8175422 | -0.097915076 | 0.1123808 | -0.87128 | 0.383601 | 0.895192 |
| dzip11 | 20.84723802 | 0.096841469 | 0.4128147 | 0.2345882 | 0.814528 | 0.981081 |
| si:ch1073-314i13.4 | 85.46554247 | -0.013375759 | 0.2294353 | -0.058299 | 0.953511 | 0.994213 |
| si:ch211-214e3.5 | 267.7642614 | -0.034606629 | 0.1387089 | -0.249491 | 0.802981 | 0.979643 |
| wrb | 328.7478422 | 0.090665058 | 0.1307206 | 0.6935788 | 0.487946 | 0.931877 |
| POLR2E (1 of many) | 0 | NA | NA | NA | NA | NA |
| limch1a | 121.9948625 | 0.273757938 | 0.1871131 | 1.4630612 | 0.143451 | 0.686804 |
| si:ch73-12o23.1 | 360.226601 | 0.180362026 | 0.1223775 | 1.4738169 | 0.140531 | 0.680926 |
| inpp5d | 39.4256496 | -0.205208717 | 0.3279947 | -0.625646 | 0.531547 | 0.942358 |
| si:ch73-335m24.2 | 155.8689029 | 0.232887125 | 0.17202 | 1.3538377 | 0.175788 | 0.736411 |
| hint3 | 139.6258227 | -0.006867042 | 0.1715339 | -0.040033 | 0.968067 | 0.996315 |
| sptlc2b | 931.4953977 | 0.060829086 | 0.0858901 | 0.7082203 | 0.478808 | 0.926978 |
| tuba4l | 15.7029506 | -1.183077739 | 0.4889447 | -2.419656 | 0.015535 | 0.228768 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| adnpb | 690.0999115 | 0.156893317 | 0.0971269 | 1.6153435 | 0.106236 | 0.615567 |
| znf1015 | 207.1682669 | -0.121806475 | 0.1586708 | -0.767668 | 0.442685 | 0.916336 |
| cth | 895.3358509 | 0.06987201 | 0.1086133 | 0.6433097 | 0.520023 | 0.938995 |
| gpr183b | 0.998956154 | 2.235011873 | 2.0006611 | 1.1171367 | 0.263936 | NA |
| phf12a | 645.4630645 | 0.105230079 | 0.1016688 | 1.0350282 | 0.300656 | 0.856282 |
| si:ch73-257c13.2 | 111.8246762 | 0.558959386 | 0.1994308 | 2.802774 | 0.005067 | 0.104143 |
| ctslb | | 0 NA | NA | NA | NA | NA |
| rapgef5b | 161.0227403 | -0.127316211 | 0.1729865 | -0.735989 | 0.461737 | 0.922466 |
| lrrc75ba | 218.2305675 | 0.137960356 | 0.1586621 | 0.8695229 | 0.384561 | 0.89551 |
| cnm4b | 15.42055888 | -0.508380603 | 0.5228989 | -0.972235 | 0.330934 | 0.874224 |
| rbfox3b | 4.450622098 | -1.792024237 | 1.0404761 | -1.722312 | 0.085013 | NA |
| mast2 | 916.5014056 | 0.016346058 | 0.085141 | 0.1919881 | 0.847752 | 0.985174 |
| ttc37 | 238.6119064 | -0.010594393 | 0.1452133 | -0.072957 | 0.94184 | 0.993099 |
| itgal | 149.3960843 | -0.024615976 | 0.1661557 | -0.14815 | 0.882224 | 0.988344 |
| fam20ca | 9.077576304 | -0.275205092 | 0.6307708 | -0.4363 | 0.662619 | NA |
| sall1a | 937.1400794 | 0.179088882 | 0.0854065 | 2.0968989 | 0.036003 | 0.37021 |
| CABZ01083937.1 | 23.85602382 | 0.209080079 | 0.3950509 | 0.5292485 | 0.596633 | 0.954903 |
| tead3a | 46.46452857 | -0.11635491 | 0.2912398 | -0.399516 | 0.689513 | 0.966775 |
| si:ch211-194m7.3 | 88.69810965 | -0.071305177 | 0.2601791 | -0.274062 | 0.784037 | 0.97627 |
| efcab2 | 8.894705115 | 1.214401325 | 0.6651506 | 1.825754 | 0.067887 | NA |
| taar12m | | 0 NA | NA | NA | NA | NA |
| mcm8 | 80.34938839 | -0.411397274 | 0.2160987 | -1.903747 | 0.056943 | 0.468383 |
| apbalb | 1105.152918 | 0.039751838 | 0.0856656 | 0.4640352 | 0.642623 | 0.959994 |
| arvcfa | 349.360137 | -0.014534269 | 0.1407051 | -0.103296 | 0.917728 | 0.991623 |
| eif4g3b | 751.013119 | 0.225806279 | 0.1206032 | 1.8723081 | 0.061164 | 0.482482 |
| si:ch1073-335m2.2 | 1542.910181 | 0.030256178 | 0.0874414 | 0.3460167 | 0.72933 | 0.970822 |
| si:dkey-1c7.1 | 0.673073222 | -1.460830855 | 2.4012698 | -0.608358 | 0.54295 | NA |
| boc | 1816.996222 | -0.070241357 | 0.0800965 | -0.876959 | 0.380509 | 0.895192 |
| cbfa2t2 | 315.7184261 | -0.136951713 | 0.1258328 | -1.088363 | 0.276435 | 0.839541 |
| serf2 | 1797.03288 | -0.014613733 | 0.1072742 | -0.136228 | 0.891641 | 0.989291 |
| hykk.2 | 58.93191425 | -0.29152934 | 0.2550417 | -1.143066 | 0.253011 | 0.822599 |
| si:ch211-214b16.4 | 97.76561315 | 0.324610501 | 0.222673 | 1.4577898 | 0.144898 | 0.688986 |
| l3mbt11b | 201.0622855 | 0.123409569 | 0.1535034 | 0.8039536 | 0.421424 | 0.90651 |
| fxn | 126.8041296 | 0.23050321 | 0.1841255 | 1.2518807 | 0.210613 | 0.778338 |
| znf11c | 0.801959387 | 1.851619607 | 2.2655353 | 0.8172989 | 0.413758 | NA |
| ftr57 | 0.643163992 | 1.4381025 | 2.4329265 | 0.5910999 | 0.554454 | NA |
| zgc:165582 | 7.769673512 | 0.430642437 | 0.706444 | 0.6095918 | 0.542132 | NA |
| TTC9 | 483.3282549 | 0.078743544 | 0.1039783 | 0.7573075 | 0.448866 | 0.917972 |
| zgc:171901 | 76.45326971 | -0.409075541 | 0.2349485 | -1.741129 | 0.081661 | 0.552623 |
| usp12b | 546.0695237 | -0.066601496 | 0.1011805 | -0.658245 | 0.510381 | 0.936253 |
| tirap | 5.00665157 | -0.970450258 | 0.9097794 | -1.066687 | 0.286113 | NA |
| elfnlb | 102.2995577 | 0.25781391 | 0.2274065 | 1.1337141 | 0.256914 | 0.82511 |
| mdgal | 19.05135225 | 0.506723784 | 0.4777286 | 1.0606939 | 0.288829 | 0.845979 |
| junba | 841.9729656 | -0.059394976 | 0.1087231 | -0.546296 | 0.584862 | 0.952436 |
| knstrn | 203.0021478 | -0.274332783 | 0.1477114 | -1.857221 | 0.06328 | 0.491281 |
| farpl | 872.0697759 | -0.010842561 | 0.0890564 | -0.121749 | 0.903098 | 0.990121 |
| slc12a8 | 28.11759687 | -0.20674597 | 0.3999132 | -0.516977 | 0.605172 | 0.95651 |
| alk11 | 11.84571586 | 0.176135259 | 0.574077 | 0.3068147 | 0.758984 | 0.975374 |
| gpr26 | 4.456344382 | -0.516436266 | 0.9387367 | -0.55014 | 0.582224 | NA |
| tmem1761.4 | 1328.863155 | 0.077300548 | 0.0951108 | 0.8127418 | 0.416366 | 0.906237 |
| sh3y11 | 84.77457114 | -0.012029882 | 0.2125682 | -0.056593 | 0.954869 | 0.994543 |
| fscn2b | 375.9318988 | 0.340144991 | 0.1256555 | 2.7069642 | 0.00679 | 0.12739 |
| gnpat | 51.53708205 | -0.382844629 | 0.2801785 | -1.366431 | 0.171804 | 0.730433 |
| pex51b | 26.48503304 | -0.298803335 | 0.4175697 | -0.715577 | 0.474253 | 0.925066 |

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| bripl | 138.3277636 | -0.185237252 | 0.1766334 | -1.04871 | 0.294311 | 0.850231 |
| sema4ba | 19.32102454 | 0.111423001 | 0.4757288 | 0.2342154 | 0.814818 | 0.981081 |
| zgc:171482 | 60.6902822 | -0.069952146 | 0.3061713 | -0.228474 | 0.819278 | 0.981594 |
| hcn4l | 32.96957115 | -0.338527766 | 0.3404849 | -0.994252 | 0.3201 | 0.868153 |
| ibtk | 588.0608761 | 0.220572637 | 0.1162038 | 1.8981528 | 0.057676 | 0.471275 |
| si:busml-57f23.1 | 235.4226591 | -0.030345955 | 0.1536341 | -0.197521 | 0.84342 | 0.985174 |
| BX571825.1 | | 0 NA | NA | NA | NA | NA |
| hhat | 8.760178146 | 0.373389335 | 0.657266 | 0.5680947 | 0.569971 | NA |
| ddb1 | 1678.694312 | -0.043414743 | 0.0913838 | -0.475081 | 0.634729 | 0.9578 |
| ttc19 | 261.2701041 | 0.033084775 | 0.1397933 | 0.2366692 | 0.812913 | 0.981081 |
| gplbb | 20.64104194 | 0.217768121 | 0.4455589 | 0.4887528 | 0.625017 | 0.957354 |
| alx4b | 34.10694787 | -0.915162978 | 0.3589811 | -2.549335 | 0.010793 | 0.180252 |
| gas7a | 134.8968528 | 0.075528897 | 0.1947208 | 0.3878831 | 0.698103 | 0.967998 |
| dapk3 | 470.9093191 | 0.00112807 | 0.1146552 | 0.0098388 | 0.99215 | 0.997927 |
| mmd1 | 120.7661549 | -0.167704667 | 0.1900921 | -0.882229 | 0.377653 | 0.895192 |
| zfx | 627.6709256 | -0.160211356 | 0.1014413 | -1.579351 | 0.114256 | 0.633565 |
| setd9 | 42.01686809 | -0.483486977 | 0.3026642 | -1.597437 | 0.110168 | 0.62463 |
| si:dkey-96f10.1 | 1.630611944 | -0.56588234 | 1.5089763 | -0.375011 | 0.707652 | NA |
| vps13c | 643.0878591 | 0.055405157 | 0.0986698 | 0.561521 | 0.574442 | 0.950037 |
| gdpd3a | 258.1293763 | -0.136016476 | 0.1394198 | -0.975589 | 0.329268 | 0.873436 |
| prdm11 | 140.535218 | 0.027052452 | 0.1686065 | 0.1604473 | 0.872529 | 0.987846 |
| amigo3 | 183.6585443 | 0.231992805 | 0.1622585 | 1.4297731 | 0.152782 | 0.701776 |
| vps39 | 572.8175251 | -0.118936761 | 0.1071761 | -1.109732 | 0.267115 | 0.833191 |
| odam | 235.4953567 | -0.393883295 | 0.13938 | -2.825968 | 0.004714 | 0.09895 |
| cnksr2a | 28.63857923 | -0.693949301 | 0.3554128 | -1.952516 | 0.050877 | 0.44241 |
| ulklb | 49.18044646 | -0.005955156 | 0.285309 | -0.020873 | 0.983347 | 0.996944 |
| ifngr11 | 32.79978681 | 0.195457163 | 0.344127 | 0.5679798 | 0.570049 | 0.948983 |
| cas4 | 799.2794599 | 0.018969835 | 0.0886477 | 0.2139912 | 0.830554 | 0.982994 |
| chd9 | 2240.395316 | -0.09932697 | 0.0745252 | -1.332797 | 0.182598 | 0.745308 |
| tnip2 | 79.33635715 | -0.788420427 | 0.2443202 | -3.226996 | 0.001251 | 0.036865 |
| zmizla | 1798.55812 | -0.124374408 | 0.0746587 | -1.665908 | 0.095732 | 0.588986 |
| mturn | 60.10354541 | -0.148066578 | 0.2561151 | -0.578125 | 0.56318 | 0.948728 |
| tmem94 | 651.0578283 | -0.00839601 | 0.0976208 | -0.086006 | 0.931461 | 0.992702 |
| rmdn1 | 547.7380051 | -0.504449817 | 0.1155517 | -4.365578 | 1.27E-05 | 0.000877 |
| si:dkey-28e7.3 | 503.1856052 | 0.261099436 | 0.1159305 | 2.2522068 | 0.024309 | 0.301184 |
| tacr2 | 10.69120811 | 0.404994255 | 0.5827195 | 0.6950072 | 0.487051 | NA |
| si:busml-104n07.3 | 1.868864504 | 0.85083392 | 1.5020443 | 0.5664506 | 0.571088 | NA |
| BX248501.1 | 19.06666222 | 0.339051412 | 0.4333043 | 0.7824788 | 0.433933 | 0.914001 |
| map6a | 189.0412238 | -0.061135565 | 0.1508611 | -0.405244 | 0.685298 | 0.966146 |
| cntnap1 | 23.91724664 | -0.222229866 | 0.3959754 | -0.561221 | 0.574647 | 0.950037 |
| zbtb16b | 212.3498628 | -0.124583419 | 0.1531212 | -0.813626 | 0.415859 | 0.906237 |
| chst15 | 54.68417585 | 0.051979803 | 0.2620719 | 0.1983417 | 0.842778 | 0.985174 |
| unm_sa821 | 68.00395199 | -1.132873191 | 0.2463238 | -4.599121 | 4.24E-06 | 0.000353 |
| KCNK12 | 1.459669549 | 1.801334326 | 1.6829353 | 1.0703527 | 0.284461 | NA |
| spag9a | 62.50140396 | 0.056367288 | 0.2589939 | 0.2176394 | 0.82771 | 0.982721 |
| slc25a38b | 697.6377563 | 0.133729327 | 0.0993909 | 1.3454888 | 0.178467 | 0.739486 |
| lingo2a | 444.7986527 | 0.080393885 | 0.1084553 | 0.7412627 | 0.458534 | 0.921978 |
| si:dkey-179j5.5 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| gpr63 | 212.3215577 | 0.027985833 | 0.1658305 | 0.1687617 | 0.865984 | 0.986517 |
| znf1007 | 198.7505907 | -0.005460065 | 0.146654 | -0.037231 | 0.970301 | 0.996315 |
| si:ch211-213a13.2 | 55.2325677 | -0.183890581 | 0.283623 | -0.648363 | 0.51675 | 0.938543 |
| si:ch211-240119.8 | 0.856582408 | 1.927068658 | 2.1124105 | 0.9122605 | 0.361632 | NA |
| zbtb17 | 382.5551956 | -0.093886145 | 0.1154047 | -0.813538 | 0.41591 | 0.906237 |
| ndufs7 | 1481.22693 | -0.10344499 | 0.0922981 | -1.12077 | 0.262386 | 0.830166 |

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| tspan31 | 967.6878118 | -0.026416247 | 0.0919616 | -0.287253 | 0.773919 | 0.975687 |
| ganc | 82.14749139 | 0.069079625 | 0.217842 | 0.3171088 | 0.751161 | 0.97419 |
| cntnap2b | 254.4108396 | 0.001031503 | 0.1525435 | 0.006762 | 0.994605 | 0.998694 |
| CHST8 | 129.0263696 | 0.088940525 | 0.179904 | 0.4943776 | 0.62104 | 0.957354 |
| slc47a3 | 54.81810348 | 0.108982957 | 0.2655827 | 0.4103542 | 0.681546 | 0.965476 |
| gpr37a | 43.78529961 | -0.046579744 | 0.3021111 | -0.154181 | 0.877467 | 0.987881 |
| fam57bb | 30.70188916 | 0.182639116 | 0.3633914 | 0.5025962 | 0.615248 | 0.95688 |
| pus11 | 17.83726058 | 0.191143296 | 0.4624003 | 0.4133719 | 0.679334 | 0.965257 |
| gpaal | 324.0901568 | -0.084191434 | 0.1196856 | -0.703438 | 0.481783 | 0.928392 |
| zgc:56304 | 1478.300144 | -0.103683415 | 0.086231 | -1.202391 | 0.229212 | 0.796702 |
| ppplr9alb | 313.7502537 | -0.125703253 | 0.1261553 | -0.996417 | 0.319048 | 0.867746 |
| add2 | 869.7036637 | 0.007990155 | 0.0908718 | 0.0879278 | 0.929934 | 0.992702 |
| gfra4b | 110.5158057 | 0.099767046 | 0.2043253 | 0.4882756 | 0.625355 | 0.957354 |
| gridla | 224.9112885 | -0.072955459 | 0.1442427 | -0.505783 | 0.613009 | 0.95688 |
| METTL18 | 52.9990831 | 0.262137724 | 0.2693666 | 0.9731633 | 0.330472 | 0.874098 |
| rin2 | 254.2493698 | -0.051386755 | 0.1335127 | -0.384883 | 0.700324 | 0.967998 |
| wdpcp | 74.21444084 | 0.097736611 | 0.2263227 | 0.4318463 | 0.665853 | 0.964736 |
| eda | 14.56005783 | 0.133772534 | 0.4983267 | 0.2684434 | 0.788358 | 0.976703 |
| lzts2a | 66.05458614 | -0.334060449 | 0.2417942 | -1.38159 | 0.167098 | 0.723651 |
| frmd4ba | 618.5548489 | -0.003786958 | 0.1017884 | -0.037204 | 0.970322 | 0.996315 |
| gpr78a | 27.26007453 | 0.323056787 | 0.3860581 | 0.8368087 | 0.4027 | 0.90084 |
| cbln2a | 62.31671806 | 0.117435353 | 0.2489762 | 0.471673 | 0.63716 | 0.958872 |
| mrvil | 7.685662038 | -0.28302022 | 0.8549809 | -0.331025 | 0.740625 | NA |
| phc3 | 7.933331869 | 0.829215796 | 0.717348 | 1.1559464 | 0.247703 | NA |
| unm_sa1506 | 0.484248244 | 0.852636534 | 2.8793247 | 0.2961238 | 0.767136 | NA |
| si:ch211-113e8.6 | 1.000564183 | 3.450262048 | 2.0260994 | 1.7029086 | 0.088585 | NA |
| wdr37 | 966.5909914 | 0.084506767 | 0.0876673 | 0.9639484 | 0.335072 | 0.875906 |
| si:ch211-240119.6 | 31.55645934 | -0.326675337 | 0.4166167 | -0.784115 | 0.432973 | 0.913433 |
| wfs1b | 146.4069756 | -0.088921126 | 0.1848078 | -0.481155 | 0.630407 | 0.957354 |
| tbc1d31 | 159.8661547 | 0.154329768 | 0.1707489 | 0.9038406 | 0.36608 | 0.887239 |
| si:ch211-198a12.6 | 3179.414499 | 0.054013498 | 0.0694741 | 0.7774623 | 0.436886 | 0.914408 |
| pidd1 | 60.19465037 | -0.156761744 | 0.2702524 | -0.580057 | 0.561876 | 0.948728 |
| si:dkey-10o6.2 | 10.54078169 | 0.153315203 | 0.6187218 | 0.2477935 | 0.804294 | NA |
| gpr35.1 | 15.10903135 | 0.133258603 | 0.5154751 | 0.2585161 | 0.796009 | 0.978498 |
| keap1b | 532.6257438 | -0.132923228 | 0.110005 | -1.208338 | 0.226917 | 0.794587 |
| abcala | 1397.664966 | -0.214790118 | 0.1047991 | -2.049542 | 0.040409 | 0.39304 |
| cepl70b | 96.44110098 | 0.027497944 | 0.2236658 | 0.1229421 | 0.902153 | 0.990121 |
| loxhd1b | 23.80626192 | 0.006369104 | 0.3901563 | 0.0163245 | 0.986976 | 0.997073 |
| si:dkeyp-51b7.3 | 26.34614458 | -0.170743226 | 0.3798277 | -0.449528 | 0.653051 | 0.960792 |
| spock1 | 12.19908285 | 0.387132191 | 0.5767184 | 0.6712673 | 0.50205 | 0.935237 |
| CABZ01032476.1 | 133.5010306 | 0.136075129 | 0.1775023 | 0.7666105 | 0.443313 | 0.916631 |
| adamts16 | 19.43245562 | 0.451894425 | 0.4639706 | 0.9739721 | 0.33007 | 0.874085 |
| smtna | 7.70172114 | 0.130699748 | 0.6797978 | 0.1922627 | 0.847536 | NA |
| si:ch211-233m11.1 | | 0 NA | NA | NA | NA | NA |
| ctss2.1 | 39.15847308 | -0.060953602 | 0.3448779 | -0.17674 | 0.859713 | 0.985773 |
| rilp | 51.04930473 | -0.155768454 | 0.3070698 | -0.507274 | 0.611963 | 0.95688 |
| gperl | 11.62945998 | 0.445471105 | 0.5893659 | 0.7558481 | 0.44974 | 0.918526 |
| cntf | 26.23443958 | 0.317987129 | 0.3845795 | 0.8268437 | 0.408326 | 0.90171 |
| SAMD8 | 177.2727676 | -0.006243666 | 0.1778608 | -0.035104 | 0.971997 | 0.996315 |
| cdk14 | 13.74660995 | 0.445707504 | 0.5392993 | 0.8264567 | 0.408545 | 0.90171 |
| zgc:153760 | 26.25146399 | 0.465540172 | 0.3845246 | 1.2106902 | 0.226014 | 0.793556 |
| akt1sl | 2269.62402 | -0.277067028 | 0.0867816 | -3.192693 | 0.00141 | 0.040686 |
| cacng4b | 11.39871521 | -0.445138163 | 0.5729786 | -0.776884 | 0.437227 | 0.914408 |
| matk | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |

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| nptx11 | 704.6515628 | 0.065636457 | 0.0973523 | 0.6742155 | 0.500174 | 0.934224 |
| pan2 | 537.397036 | -0.185476877 | 0.1103872 | -1.680239 | 0.092911 | 0.580357 |
| rprd2b | 523.7961272 | -0.039383646 | 0.1043347 | -0.377474 | 0.705821 | 0.968412 |
| frem3 | 416.1966331 | 0.198931039 | 0.110835 | 1.794839 | 0.072679 | 0.52617 |
| rims1a | 876.2974894 | -0.039350903 | 0.1031806 | -0.381379 | 0.702922 | 0.968134 |
| mlsl | 100.5079108 | 0.204805155 | 0.2005404 | 1.0212663 | 0.307128 | 0.861074 |
| oga | 3295.084109 | -0.186540639 | 0.0703922 | -2.650019 | 0.008049 | 0.144818 |
| fbrs | 1345.023458 | 0.020502483 | 0.0909166 | 0.2255087 | 0.821584 | 0.981928 |
| ppmlj | 81.69035664 | 0.108922643 | 0.2351281 | 0.463248 | 0.643187 | 0.959994 |
| mms221 | 185.2497895 | -0.262867403 | 0.1514655 | -1.735494 | 0.082653 | 0.554782 |
| mertka | 160.6433609 | -0.149234308 | 0.1932052 | -0.772414 | 0.439869 | 0.916082 |
| zgc:194621 | 31.1594231 | 0.024202227 | 0.3700512 | 0.0654024 | 0.947854 | 0.99381 |
| npdcla | 489.0882318 | 0.167817882 | 0.1071677 | 1.5659371 | 0.117363 | 0.640853 |
| sdsl | 86.7756258 | -0.638495671 | 0.2190277 | -2.915136 | 0.003555 | 0.080346 |
| arfgf2 | 937.2164172 | -0.119172111 | 0.0971551 | -1.226617 | 0.219967 | 0.786668 |
| ccdc97 | 180.3326284 | -0.041473091 | 0.1623619 | -0.255436 | 0.798386 | 0.978884 |
| armc3 | 27.27050488 | 0.641148296 | 0.4019391 | 1.5951378 | 0.110681 | 0.625514 |
| si:ch211-186e20.2 | 0.491560863 | 0.853615855 | 2.865157 | 0.2979299 | 0.765757 | NA |
| stk17a | 760.0867976 | -0.077618251 | 0.1099385 | -0.706015 | 0.480179 | 0.927347 |
| rab38c | 22.70911885 | -0.819647181 | 0.4096953 | -2.000626 | 0.045433 | 0.418148 |
| si:ch211-51h9.7 | 44.93554406 | -0.14410124 | 0.286473 | -0.503019 | 0.614951 | 0.95688 |
| rassf9 | 9.216839801 | -0.542488485 | 0.6448317 | -0.841287 | 0.400187 | NA |
| myo1011 | 73.84255968 | 0.166365278 | 0.2349928 | 0.707959 | 0.478971 | 0.926978 |
| nrde2 | 169.0951188 | -0.094941448 | 0.1560646 | -0.608347 | 0.542957 | 0.944974 |
| dnajc10 | 499.2941162 | 0.107191526 | 0.1090778 | 0.9827074 | 0.325751 | 0.871896 |
| mfsd9 | 11.35406693 | -0.568277418 | 0.5781583 | -0.98291 | 0.325652 | 0.871896 |
| pkmyt1 | 98.79776996 | 0.200729718 | 0.2020836 | 0.9933003 | 0.320564 | 0.868418 |
| BX682234.1 | 1.495310112 | -0.994696088 | 1.5684186 | -0.634203 | 0.525948 | NA |
| mlla | 157.8876126 | -0.278043427 | 0.1625436 | -1.710577 | 0.087159 | 0.565634 |
| slitrk3b | 168.7917888 | 0.122445579 | 0.1606977 | 0.7619624 | 0.446082 | 0.917154 |
| arhgap18 | 88.44935518 | -0.119267545 | 0.2113391 | -0.564342 | 0.572521 | 0.949494 |
| elmod3 | 5.147327927 | 0.295256162 | 0.8233738 | 0.3585931 | 0.7199 | NA |
| zmp:0000000760 | 2035.538015 | 0.076666033 | 0.3167626 | 0.2420299 | 0.808757 | 0.980642 |
| kcndl | 128.9143596 | 0.115957112 | 0.1794466 | 0.646193 | 0.518154 | 0.938592 |
| brwd1 | 578.2654522 | -0.109511258 | 0.1095459 | -0.999683 | 0.317464 | 0.867541 |
| abca12 | 2011.159381 | 0.087598268 | 0.0794587 | 1.102438 | 0.270271 | 0.835161 |
| qser1 | 346.2543064 | 0.007599375 | 0.1222778 | 0.0621485 | 0.950445 | 0.99381 |
| hlfa | 1050.32691 | 0.287739718 | 0.0916371 | 3.1399911 | 0.00169 | 0.047321 |
| si:dkey-188i13.9 | 1.690969553 | 0.610696504 | 1.5782705 | 0.3869403 | 0.6988 | NA |
| tfb2m | 608.3456274 | -0.046615156 | 0.0971462 | -0.479845 | 0.631337 | 0.957356 |
| arv1 | 169.4199623 | 0.214155862 | 0.1636279 | 1.3087983 | 0.190603 | 0.755212 |
| csdel | 7286.634177 | 0.025793418 | 0.0621381 | 0.415098 | 0.67807 | 0.965257 |
| ccar1 | 859.2113621 | -0.073949991 | 0.0978857 | -0.755473 | 0.449965 | 0.918761 |
| ttc7a | 221.1125766 | 0.024675332 | 0.1458517 | 0.1691809 | 0.865654 | 0.986517 |
| bicd11 | 18.95867202 | 0.221730429 | 0.4443291 | 0.4990229 | 0.617763 | 0.957354 |
| BX571825.2 | | 0 NA | NA | NA | NA | NA |
| mrap2a | 62.54390755 | 0.220771981 | 0.2461887 | 0.8967592 | 0.369847 | 0.889487 |
| zgc:171426 | 35.53211216 | -0.023244066 | 0.3195918 | -0.07273 | 0.942021 | 0.993099 |
| mhclzja | 5.189349535 | 0.739063793 | 0.8903989 | 0.8300367 | 0.406518 | NA |
| zgc:113295 | 63.5253059 | -0.192351684 | 0.2504562 | -0.768005 | 0.442484 | 0.916336 |
| ifngr1 | 48.16619956 | -0.030860906 | 0.2882437 | -0.107065 | 0.914737 | 0.991119 |
| ccl44 | 115.2123917 | 0.009458896 | 0.2049412 | 0.0461542 | 0.963187 | 0.995927 |
| si:dkey-110g7.8 | 32.98542951 | -0.249899095 | 0.3350111 | -0.745943 | 0.455702 | 0.921215 |
| tmem154 | 130.4486203 | 0.24120244 | 0.1912566 | 1.2611456 | 0.207256 | 0.775175 |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| ank1b | 326.3843441 | 0.095185097 | 0.1324607 | 0.7185914 | 0.472393 | 0.924838 |
| alms1 | 361.284293 | -0.273332364 | 0.1175605 | -2.325036 | 0.02007 | 0.266383 |
| ptprt | 40.98917356 | 0.075486911 | 0.3076108 | 0.2453975 | 0.806149 | 0.980105 |
| adgrg3 | 8.569034308 | 0.114828274 | 0.6416111 | 0.1789686 | 0.857962 | NA |
| rab5if | 1236.997932 | -0.150714221 | 0.0964131 | -1.563213 | 0.118003 | 0.641526 |
| aldh3a1 | 94.23571342 | -0.348408267 | 0.2078619 | -1.676153 | 0.093708 | 0.582517 |
| necab3 | 230.6233885 | -0.043850333 | 0.1409692 | -0.311063 | 0.755753 | 0.975374 |
| dbf4 | 149.2631554 | -0.122455896 | 0.1781414 | -0.687408 | 0.491825 | 0.931926 |
| cflarb | 25.64031856 | -0.232950115 | 0.3829468 | -0.608309 | 0.542982 | 0.944974 |
| atxn7 | 208.3999549 | -0.079340861 | 0.1512171 | -0.524682 | 0.599804 | 0.956045 |
| afap112 | 405.0129691 | -0.169556937 | 0.1224527 | -1.384672 | 0.166153 | 0.722724 |
| tbrg4 | 715.7696915 | 0.161531546 | 0.105987 | 1.5240694 | 0.127491 | 0.657542 |
| megf6b | 184.542742 | 0.165515348 | 0.1553019 | 1.0657648 | 0.28653 | 0.845942 |
| zgc:194392 | 80.33367406 | -0.093270477 | 0.2194575 | -0.425005 | 0.670833 | 0.965257 |
| fhdc1 | 84.57204751 | 0.096870956 | 0.2243169 | 0.4318486 | 0.665851 | 0.964736 |
| btr05 | 28.76284662 | -1.283773188 | 0.3797455 | -3.380615 | 0.000723 | 0.023796 |
| mxra5a | 215.6671457 | 0.078344673 | 0.1413851 | 0.5541224 | 0.579495 | 0.951257 |
| si:zfos-367g9.1 | | 0 NA | NA | NA | NA | NA |
| si:cabz01036022.1 | 6.164764177 | -0.367410062 | 0.758617 | -0.484316 | 0.628162 | NA |
| si:dkeyp-23e4.3 | 73.80419222 | -0.476621449 | 0.2409493 | -1.978098 | 0.047918 | 0.43124 |
| si:dkey-253d23.9 | 27.86265032 | 0.503865953 | 0.3947565 | 1.276397 | 0.201815 | 0.767736 |
| si:dkey-49c17.4 | 1.371719405 | 1.657057572 | 1.8000877 | 0.9205427 | 0.357289 | NA |
| si:ch73-184c24.1 | 10.50709574 | 0.525299752 | 0.6172235 | 0.8510689 | 0.394731 | NA |
| rhobtb2a | 8.928345348 | 0.267579738 | 0.6721408 | 0.3981007 | 0.690556 | NA |
| rasipl | 124.4736776 | -0.284854502 | 0.1908972 | -1.492188 | 0.13565 | 0.671761 |
| setmar | 21.3649804 | -0.021685314 | 0.4196004 | -0.051681 | 0.958783 | 0.995027 |
| impglb | 148.9081997 | 0.192881651 | 0.1706562 | 1.1302354 | 0.258377 | 0.826456 |
| snx8a | 55.50674904 | -0.127959484 | 0.2687844 | -0.476067 | 0.634026 | 0.95776 |
| phldb2b | 539.5327396 | 0.025725869 | 0.1042296 | 0.2468193 | 0.805048 | 0.979883 |
| CABZ01061495.1 | 283.3165798 | 0.032758253 | 0.1311988 | 0.2496841 | 0.802832 | 0.979643 |
| si:dkeyp-68b7.12 | 6.929092962 | -1.146206302 | 0.738057 | -1.553005 | 0.120422 | NA |
| smim7 | 157.6411482 | 0.108403203 | 0.1809311 | 0.5991408 | 0.549079 | 0.946312 |
| racla | 1729.817971 | -0.008125729 | 0.0812829 | -0.099968 | 0.920369 | 0.992049 |
| il12rb2l | 125.7818651 | 0.053166992 | 0.186476 | 0.2851144 | 0.775556 | 0.975687 |
| slpr4 | 3.113266902 | 0.79006505 | 1.0743458 | 0.7353918 | 0.462101 | NA |
| myol5b | 215.8300288 | -0.523726978 | 0.1656024 | -3.162557 | 0.001564 | 0.044368 |
| sh2dlab | 0.633934609 | 1.436045836 | 2.6103598 | 0.5501333 | 0.582228 | NA |
| stard7 | 908.3726526 | 0.197419597 | 0.0885437 | 2.2296299 | 0.025772 | 0.310555 |
| slc5a7a | 184.9988478 | 0.395039818 | 0.1821215 | 2.1691008 | 0.030075 | 0.335259 |
| si:dkey-112m2.1 | 242.4467636 | 0.11126093 | 0.1384653 | 0.8035296 | 0.421669 | 0.90651 |
| frmpd3 | 498.3367079 | 0.011309075 | 0.1073515 | 0.1053462 | 0.916101 | 0.991314 |
| ptpn5 | 595.6299208 | 0.059679317 | 0.1074168 | 0.5555866 | 0.578494 | 0.951052 |
| stim2a | 118.6673821 | 0.359448141 | 0.1863269 | 1.9291266 | 0.053715 | 0.45411 |
| AL929017.1 | 97.96098949 | -0.093151646 | 0.1978787 | -0.470751 | 0.637818 | 0.959031 |
| si:ch1073-291c23.2 | 360.5755667 | -0.047468845 | 0.131231 | -0.36172 | 0.717562 | 0.96909 |
| pimr170 | | 0 NA | NA | NA | NA | NA |
| abcd1 | 16.11169119 | 0.37956887 | 0.508756 | 0.7460724 | 0.455624 | 0.921215 |
| CT025742.1 | 80.1178445 | 0.108240447 | 0.2388652 | 0.4531446 | 0.650445 | 0.960708 |
| pde6d | 391.0924912 | 0.038552523 | 0.1159907 | 0.332376 | 0.739605 | 0.972943 |
| myorg | 799.1299825 | 0.070959085 | 0.08901 | 0.7972035 | 0.425333 | 0.908894 |
| tysnd1 | 37.93070529 | 0.153573724 | 0.3121863 | 0.4919297 | 0.622769 | 0.957354 |
| hes2.1 | 19.4346636 | 0.07265291 | 0.4867592 | 0.1492584 | 0.88135 | 0.988251 |
| taok2a | 878.2452313 | -0.046136626 | 0.0931148 | -0.495481 | 0.620261 | 0.957354 |
| nol4la | 14.55290459 | 0.140538915 | 0.5000466 | 0.2810516 | 0.778671 | 0.975942 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| itcha | 51.95112853 | 0.200131024 | 0.2651839 | 0.7546878 | 0.450436 | 0.918761 |
| si:ch211-253b8.5 | 221.0907512 | 0.417995614 | 0.1518766 | 2.752205 | 0.00592 | 0.116124 |
| camk1da | 36.19376981 | 0.101923311 | 0.3253636 | 0.3132598 | 0.754083 | 0.975056 |
| znf831 | 13.45215291 | 0.402171619 | 0.5517974 | 0.7288392 | 0.4661 | 0.923865 |
| col6al | 3933.88821 | 0.168924728 | 0.0683168 | 2.4726691 | 0.013411 | 0.207707 |
| dcaf17 | 49.90568654 | -0.063704506 | 0.2763741 | -0.230501 | 0.817702 | 0.981594 |
| crtc2 | 192.8891412 | -0.052752911 | 0.1481536 | -0.356069 | 0.721789 | 0.969939 |
| CU929346.1 | 4.144296544 | -1.071983804 | 0.9367278 | -1.144392 | 0.252461 | NA |
| etaal | 68.68555743 | -0.184554579 | 0.2414105 | -0.764485 | 0.444579 | 0.916777 |
| BFSP1 | 698.374815 | 0.117959385 | 0.1126592 | 1.0470466 | 0.295078 | 0.851519 |
| fam117ba | 369.4346796 | -0.261724019 | 0.1146407 | -2.282994 | 0.022431 | 0.285605 |
| bublbb | 220.6614303 | -0.102552322 | 0.1384006 | -0.740982 | 0.458705 | 0.921978 |
| si:dkey-234i14.13 | 0 NA | NA | NA | NA | NA | NA |
| si:ch1073-70f20.1 | 23.87107906 | 0.193339456 | 0.394788 | 0.4897298 | 0.624325 | 0.957354 |
| polg2 | 74.96716688 | -0.0333837 | 0.2252953 | -0.148178 | 0.882203 | 0.988344 |
| calhm5.1 | 37.23165947 | -0.332386694 | 0.3257515 | -1.020369 | 0.307553 | 0.861088 |
| clqtnf7 | 1.330381041 | -0.013681077 | 1.5829989 | -0.008643 | 0.993104 | NA |
| zgc:194114 | 1.301781397 | -2.680907112 | 1.8600666 | -1.441296 | 0.149501 | NA |
| nup98 | 2194.168353 | -0.13993332 | 0.0781064 | -1.791573 | 0.073201 | 0.527933 |
| or102-3 | 1.443756055 | 0.969583669 | 1.6798317 | 0.577191 | 0.56381 | NA |
| zgc:162698 | 609.7655273 | 0.048600984 | 0.0995551 | 0.4881817 | 0.625421 | 0.957354 |
| polr2m | 120.7719939 | 0.12414147 | 0.1992717 | 0.622976 | 0.5333 | 0.942992 |
| larp4ab | 847.8610182 | 0.132672995 | 0.0893238 | 1.4853037 | 0.137463 | 0.674492 |
| jac9 | 10.3352661 | -0.339465938 | 0.7974212 | -0.425705 | 0.670323 | NA |
| L0017656.1 | 5.66167453 | 1.236346162 | 0.863434 | 1.4318943 | 0.152174 | NA |
| aurkaip1 | 675.5632634 | 0.071577836 | 0.0935584 | 0.7650604 | 0.444236 | 0.916726 |
| sparc11 | 739.6076719 | 0.235522258 | 0.0925209 | 2.5456124 | 0.010909 | 0.180962 |
| eif2b5 | 598.8939511 | -0.059697281 | 0.1037994 | -0.575122 | 0.565209 | 0.948739 |
| tbrg1 | 87.43507596 | 0.220019636 | 0.2155757 | 1.0206144 | 0.307437 | 0.861088 |
| chst2a | 647.9671806 | 0.054880142 | 0.0967688 | 0.5671263 | 0.570628 | 0.949061 |
| pask | 100.9047181 | -0.280470936 | 0.20074 | -1.397185 | 0.162358 | 0.716781 |
| glra2 | 186.1655495 | -0.007328472 | 0.1602731 | -0.045725 | 0.96353 | 0.995927 |
| usp45 | 251.4489455 | -0.007055111 | 0.1326974 | -0.053167 | 0.957599 | 0.99467 |
| sqstml | 210.5816474 | -0.04404805 | 0.170385 | -0.258521 | 0.796005 | 0.978498 |
| soul5 | 777.0815129 | 0.320005962 | 0.2639115 | 1.2125504 | 0.225302 | 0.792725 |
| apobb.2 | 461.7759294 | 0.106102626 | 0.1452218 | 0.7306247 | 0.465008 | 0.923671 |
| myzap | 237.981289 | 0.017404984 | 0.1376821 | 0.1264143 | 0.899404 | 0.990121 |
| fam120a | 947.2057442 | 0.045795429 | 0.0846309 | 0.5411195 | 0.588425 | 0.953319 |
| si:ch211-93e11.8 | 2.657466954 | -0.697277337 | 1.2049192 | -0.578692 | 0.562797 | NA |
| si:ch73-375g18.1 | 531.49183 | -0.041928952 | 0.1034669 | -0.40524 | 0.685301 | 0.966146 |
| cdc123 | 331.6783689 | -0.198776582 | 0.1201172 | -1.654855 | 0.097954 | 0.59749 |
| fgfr1bl | 0 NA | NA | NA | NA | NA | NA |
| stx10 | 92.12782196 | -0.125457601 | 0.2060963 | -0.608733 | 0.542701 | 0.944974 |
| GTPBP8 | 55.81370838 | 0.423222659 | 0.2582204 | 1.638998 | 0.101214 | 0.60447 |
| raver2 | 389.8288374 | 0.037705581 | 0.1172907 | 0.3214712 | 0.747853 | 0.97419 |
| si:ch211-225k7.6 | 0 NA | NA | NA | NA | NA | NA |
| fml12b | 1233.551447 | -0.042139207 | 0.0793281 | -0.531202 | 0.595279 | 0.954434 |
| si:dkeyp-123h10.2 | 525.8098434 | -0.054852647 | 0.1110879 | -0.493777 | 0.621464 | 0.957354 |
| cxcl18b | 274.4654202 | -0.570493152 | 0.1750148 | -3.259685 | 0.001115 | 0.033569 |
| rnf151 | 20.02053007 | 0.314063428 | 0.4577127 | 0.6861584 | 0.492613 | 0.931926 |
| lonrf1 | 1443.229827 | 0.172624109 | 0.0824532 | 2.0936015 | 0.036295 | 0.372062 |
| sccpdha.2 | 15.27933932 | -0.054179138 | 0.4880571 | -0.11101 | 0.911609 | 0.991066 |
| rasgrf2a | 96.71604195 | 0.265255245 | 0.201071 | 1.3192121 | 0.187098 | 0.751002 |
| ggt112.1 | 1.284290867 | 1.543812104 | 1.8520158 | 0.8335848 | 0.404515 | NA |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| si:dkeyp-33b5.4 | 101.1625884 | 0.068989483 | 0.1955041 | 0.3528801 | 0.724178 | 0.970402 |
| gabra6a | 224.0824822 | 0.405029649 | 0.1621066 | 2.498539 | 0.012471 | 0.19775 |
| aipl1 | 86.16973012 | 0.384378442 | 0.2132836 | 1.8021937 | 0.071515 | 0.522931 |
| rpap1 | 268.6240575 | 0.063755316 | 0.1377762 | 0.4627455 | 0.643547 | 0.959994 |
| prkdc | 271.5968338 | -0.174741476 | 0.1286432 | -1.358342 | 0.174355 | 0.734611 |
| CU467646.1 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-52118.4 | 71.15723876 | -0.133036639 | 0.2291282 | -0.580621 | 0.561496 | 0.948728 |
| wdr17 | 326.4159232 | 0.144923548 | 0.1323604 | 1.0949161 | 0.273553 | 0.838253 |
| neolb | 605.5047605 | 0.065001316 | 0.1026472 | 0.6332496 | 0.526571 | 0.940512 |
| nkx2.4a | 110.1678484 | -0.052018746 | 0.1927776 | -0.269838 | 0.787285 | 0.976596 |
| tmco3 | 112.2828764 | -0.213351414 | 0.1920413 | -1.110967 | 0.266583 | 0.832634 |
| dab2ipb | 139.0766499 | 0.050360491 | 0.1826768 | 0.2756808 | 0.782793 | 0.97627 |
| als2a | 15.84460044 | 0.292925174 | 0.4959733 | 0.5906067 | 0.554784 | 0.947449 |
| tacr3a | 2.771377862 | 0.490503279 | 1.1713513 | 0.4187499 | 0.675399 | NA |
| nanog | 3.309441286 | -0.915968951 | 1.0767869 | -0.85065 | 0.394964 | NA |
| sall2 | 299.7304683 | -0.053928983 | 0.1364549 | -0.395215 | 0.692684 | 0.96736 |
| hbegfa | 930.2637858 | 0.291010325 | 0.1101311 | 2.6423987 | 0.008232 | 0.147048 |
| trafd1 | 358.4921648 | -0.069499889 | 0.1186664 | -0.585674 | 0.558094 | 0.948478 |
| TMEM8B | 415.0991122 | -0.069808997 | 0.117671 | -0.593256 | 0.55301 | 0.947265 |
| or103-5 | 3.956921213 | 0.45238471 | 0.9787171 | 0.4622222 | 0.643922 | NA |
| mrps11 | 447.146273 | 0.042944783 | 0.1127623 | 0.3808435 | 0.703319 | 0.968134 |
| fh | 1814.745593 | -0.013037583 | 0.076152 | -0.171205 | 0.864063 | 0.98601 |
| adgrbl1 | 1395.193598 | 0.049532124 | 0.0859445 | 0.5763271 | 0.564394 | 0.948739 |
| adgrf11 | 0 NA | NA | NA | NA | NA | NA |
| hdac5 | 54.06328023 | 0.144723611 | 0.3025969 | 0.4782719 | 0.632457 | 0.957356 |
| SAT2 | 325.9379505 | 0.064515529 | 0.1258956 | 0.5124526 | 0.608334 | 0.956718 |
| gprc5bb | 40.54181325 | 0.285574443 | 0.3323808 | 0.8591785 | 0.390242 | 0.897284 |
| nanp | 88.24594819 | 0.117735733 | 0.2121269 | 0.5550249 | 0.578878 | 0.951052 |
| lrrc38a | 67.95709402 | 0.210279028 | 0.2460445 | 0.8546382 | 0.392751 | 0.897688 |
| nagpa | 69.08574101 | 0.096847138 | 0.2393778 | 0.4045786 | 0.685787 | 0.966307 |
| si:dkey-188i13.10 | 15.89332082 | -0.559361707 | 0.5058521 | -1.105781 | 0.268821 | 0.834131 |
| tbcl1d4 | 222.999192 | 0.03431267 | 0.1401966 | 0.2447468 | 0.806652 | 0.980254 |
| igdcc3 | 903.1278187 | -0.005205049 | 0.0917671 | -0.05672 | 0.954768 | 0.994543 |
| meltf | 217.4049318 | -0.30081439 | 0.1452954 | -2.070365 | 0.038418 | 0.384454 |
| defb11 | 561.5335343 | -0.823239628 | 0.1269737 | -6.483543 | 8.96E-11 | 2.19E-08 |
| cxcl20 | 55.3483305 | -0.234130222 | 0.3027661 | -0.773304 | 0.439343 | 0.916082 |
| mylk5 | 559.5013822 | -0.084569738 | 0.1006005 | -0.840649 | 0.400545 | 0.90084 |
| zc3h6 | 36.31418209 | -0.058403141 | 0.3152169 | -0.185279 | 0.85301 | 0.985174 |
| bbs1 | 168.6980491 | 0.188004013 | 0.1649141 | 1.1400121 | 0.254281 | 0.823394 |
| zdhhc22 | 80.73826111 | 0.195029239 | 0.2234912 | 0.8726482 | 0.382855 | 0.895192 |
| fbxo25 | 586.7049825 | -0.286931925 | 0.0992402 | -2.891287 | 0.003837 | 0.084672 |
| si:ch1073-322p19.1 | 270.0975556 | -0.120834616 | 0.1321 | -0.914721 | 0.360338 | 0.885686 |
| ribc2 | 20.23607727 | 0.066954212 | 0.4471781 | 0.1497261 | 0.880981 | 0.988111 |
| lpcat3 | 572.7401946 | -0.376669163 | 0.1018065 | -3.699854 | 0.000216 | 0.009128 |
| si:dkey-59p5.2 | 0 NA | NA | NA | NA | NA | NA |
| crfb16 | 69.08985876 | 0.157169792 | 0.2353141 | 0.6679148 | 0.504188 | 0.935448 |
| rnf220b | 159.5523557 | -0.058660617 | 0.1643664 | -0.356889 | 0.721175 | 0.969602 |
| adamts10 | 95.05137285 | 0.095469183 | 0.2115003 | 0.4513902 | 0.651708 | 0.960708 |
| cntnap5b | 683.998521 | 0.03172752 | 0.0963941 | 0.3291439 | 0.742047 | 0.973154 |
| oacyl | 68.57863414 | 0.421546729 | 0.2463723 | 1.7110149 | 0.087078 | 0.565361 |
| ymell1a | 801.2779692 | -0.011933874 | 0.107641 | -0.110867 | 0.911722 | 0.991066 |
| BX908780.1 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-56e3.3 | 128.838038 | -0.208706734 | 0.1929321 | -1.081763 | 0.279358 | 0.842882 |
| inpp4b | 465.9331223 | -0.016254691 | 0.110794 | -0.146711 | 0.88336 | 0.988706 |

| | | | | | | |
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| zgc:195212 | 3. 675044508 | 1. 148340064 | 1. 0460035 | 1. 0978357 | 0. 272276 | NA |
| si:dkey-100n19. 2 | 10. 79588647 | -0. 016608095 | 0. 606182 | -0. 027398 | 0. 978142 | NA |
| p4htm | 215. 062823 | 0. 039643659 | 0. 1419591 | 0. 2792611 | 0. 780044 | 0. 976146 |
| chd7 | 3564. 163161 | -0. 081958275 | 0. 0881407 | -0. 929858 | 0. 352445 | 0. 881179 |
| 11-Mar | 6. 181786595 | -1. 032893152 | 0. 7910481 | -1. 305727 | 0. 191645 | NA |
| vezt | 117. 1098939 | 0. 305124591 | 0. 1826528 | 1. 6705172 | 0. 094817 | 0. 585466 |
| tdrd12 | 2. 170703437 | 0. 732118802 | 1. 3354977 | 0. 5481992 | 0. 583555 | NA |
| amer2 | 1323. 441893 | 0. 008082272 | 0. 0779024 | 0. 1037487 | 0. 917369 | 0. 991585 |
| si:ch211-223a10. 1 | 82. 24442355 | -0. 023900002 | 0. 216667 | -0. 110308 | 0. 912165 | 0. 991119 |
| smad4a | 335. 4310075 | -0. 058962563 | 0. 1477188 | -0. 399154 | 0. 68978 | 0. 966819 |
| slc46a2 | 25. 34023672 | 0. 493526211 | 0. 3981508 | 1. 239546 | 0. 215143 | 0. 78275 |
| tet1 | 12. 60715235 | 0. 235744343 | 0. 5380183 | 0. 4381716 | 0. 661262 | 0. 964234 |
| pimr74 | 1. 959800294 | -1. 556886293 | 1. 4551202 | -1. 069937 | 0. 284648 | NA |
| wdr11 | 398. 4883382 | 0. 027703813 | 0. 118167 | 0. 2344463 | 0. 814639 | 0. 981081 |
| zgc:172133 | 2. 457095745 | -0. 206129555 | 1. 2111562 | -0. 170192 | 0. 864859 | NA |
| fam171a2a | 851. 7331123 | 0. 055459949 | 0. 0899514 | 0. 6165544 | 0. 537529 | 0. 943336 |
| phrf1 | 735. 2210355 | 0. 070795706 | 0. 1092083 | 0. 6482633 | 0. 516815 | 0. 938543 |
| pik3cb | 414. 259623 | -0. 032480969 | 0. 1130679 | -0. 287269 | 0. 773906 | 0. 975687 |
| timp2b | 630. 1667853 | 0. 181304269 | 0. 127552 | 1. 4214145 | 0. 155196 | 0. 704997 |
| ankrd1a | 33. 27727411 | 0. 301785701 | 0. 3352189 | 0. 9002647 | 0. 367979 | 0. 887482 |
| si:dkeyp-74a11. 1 | 111. 5026861 | 0. 067134364 | 0. 2033167 | 0. 330196 | 0. 741252 | 0. 973154 |
| plaua | 10. 4945759 | 0. 382555117 | 0. 6315195 | 0. 6057693 | 0. 544668 | NA |
| si:dkey-20i10. 7 | 123. 0095166 | -0. 390423098 | 0. 196058 | -1. 991365 | 0. 046441 | 0. 423579 |
| rapgef5a | 20. 80698732 | 0. 049342013 | 0. 4412751 | 0. 1118169 | 0. 910969 | 0. 991059 |
| thsd1 | 2. 147944193 | -0. 244997877 | 1. 3020838 | -0. 188158 | 0. 850753 | NA |
| si:dkeyp-14d3. 1 | 153. 0454783 | 0. 397671047 | 0. 1761638 | 2. 2573935 | 0. 023983 | 0. 299022 |
| tbc1d30 | 477. 7414854 | -0. 09247293 | 0. 1072248 | -0. 862421 | 0. 388456 | 0. 896271 |
| irs2b | 862. 8221482 | -0. 122318841 | 0. 0924817 | -1. 322627 | 0. 185959 | 0. 75038 |
| kans11l | 22. 57839349 | 0. 255330868 | 0. 411417 | 0. 6206133 | 0. 534854 | 0. 943336 |
| MRAS | 10. 94345782 | 0. 041349268 | 0. 5904385 | 0. 0700315 | 0. 944169 | NA |
| nitr4a | 0. 365141898 | 1. 973577737 | 3. 3927314 | 0. 5817076 | 0. 560764 | NA |
| myo15aa | 102. 8367157 | -0. 588906788 | 0. 2123902 | -2. 772759 | 0. 005558 | 0. 111245 |
| tulp1a | 484. 6400328 | 0. 034605493 | 0. 1178005 | 0. 2937636 | 0. 768939 | 0. 975687 |
| fam83c | 6. 428202071 | 0. 206798224 | 0. 7530385 | 0. 2746184 | 0. 783609 | NA |
| trnt1 | 287. 6779642 | -0. 132463392 | 0. 138731 | -0. 954822 | 0. 339668 | 0. 87805 |
| prxl2c | 43. 7481202 | 0. 092182327 | 0. 291545 | 0. 3161856 | 0. 751862 | 0. 974458 |
| gsdf | 10. 79824336 | -0. 02574103 | 0. 5878244 | -0. 04379 | 0. 965072 | NA |
| kcnq2a | 62. 4167605 | 0. 154337183 | 0. 2688859 | 0. 5739875 | 0. 565976 | 0. 948739 |
| zgc:174906 | 294. 4762177 | -0. 148504136 | 0. 1338976 | -1. 109088 | 0. 267392 | 0. 833191 |
| CABZ01071972. 1 | 2. 343401954 | 0. 880621204 | 1. 2998471 | 0. 6774806 | 0. 498101 | NA |
| srfbp1 | 241. 0785855 | -0. 137808301 | 0. 1367793 | -1. 007523 | 0. 313683 | 0. 865132 |
| mrpl16 | 943. 8140266 | -0. 082075071 | 0. 1016204 | -0. 807664 | 0. 419284 | 0. 906406 |
| dock10 | 529. 3613508 | -0. 066707585 | 0. 1140719 | -0. 584785 | 0. 558692 | 0. 948478 |
| phox2ba | 3. 143924992 | -0. 137077418 | 1. 0698043 | -0. 128133 | 0. 898044 | NA |
| golga4 | 386. 3992344 | -0. 034548754 | 0. 1142372 | -0. 30243 | 0. 762324 | 0. 975374 |
| si:ch211-119d14. 3 | 19. 79378273 | -0. 539421762 | 0. 4288578 | -1. 25781 | 0. 20846 | 0. 775404 |
| tbc1d25 | 519. 4699576 | -0. 023292226 | 0. 1018836 | -0. 228616 | 0. 819167 | 0. 981594 |
| arhgap32a | 402. 8179601 | 0. 250157604 | 0. 113077 | 2. 2122774 | 0. 026948 | 0. 316613 |
| lars2 | 187. 8429419 | -0. 18020987 | 0. 1533567 | -1. 175103 | 0. 239954 | 0. 808111 |
| ipp | 140. 4753156 | 0. 084579346 | 0. 1888296 | 0. 4479137 | 0. 654215 | 0. 961305 |
| med1 | 359. 1994642 | 0. 049968055 | 0. 1180819 | 0. 4231645 | 0. 672175 | 0. 965257 |
| csfla | 35. 08451366 | -0. 224346348 | 0. 3323018 | -0. 675128 | 0. 499594 | 0. 934006 |
| si:ch211-76123. 7 | 14. 59863671 | 0. 523718735 | 0. 5001808 | 1. 0470589 | 0. 295072 | 0. 851519 |
| tmem129 | 188. 4885703 | -0. 117483053 | 0. 1616926 | -0. 726583 | 0. 467482 | 0. 924328 |

| | | | | | | |
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| chfr | 159.4832534 | -0.167170407 | 0.165825 | -1.008113 | 0.3134 | 0.865132 |
| si:ch73-138n13.1 | 797.7739577 | -0.082251218 | 0.0996494 | -0.825406 | 0.409141 | 0.901769 |
| brinp3b | 169.916589 | 0.030808451 | 0.155125 | 0.1986041 | 0.842572 | 0.985174 |
| espl1 | 457.5884141 | -0.101555381 | 0.1098276 | -0.92468 | 0.355132 | 0.882321 |
| ftr29 | 1.316595017 | -3.843590041 | 1.8868985 | -2.036988 | 0.041651 | NA |
| whrna | 138.0231168 | 0.01281119 | 0.1862598 | 0.0687813 | 0.945164 | 0.993474 |
| mrm2 | 23.17201408 | -0.168921185 | 0.3933186 | -0.429477 | 0.667576 | 0.964736 |
| nck1b | 750.6469302 | 0.083633889 | 0.0923851 | 0.9052747 | 0.36532 | 0.886795 |
| zgc:171501 | 15.69449878 | -0.074625323 | 0.4948224 | -0.150812 | 0.880124 | 0.987881 |
| sgsmlb | 70.99412057 | 0.1259701 | 0.2407447 | 0.5232519 | 0.600799 | 0.956045 |
| kril | 314.2124279 | 0.075486492 | 0.1296772 | 0.5821108 | 0.560492 | 0.948728 |
| slc9a6b | 337.4065443 | -0.00956315 | 0.12211 | -0.078316 | 0.937577 | 0.99279 |
| gramd1ba | 71.37304307 | 0.069290546 | 0.2428663 | 0.2853033 | 0.775412 | 0.975687 |
| L0017852.1 | 439.1067995 | -0.123185683 | 0.1191753 | -1.033651 | 0.301299 | 0.856944 |
| si:ch211-281g13.4 | 3.670459881 | 0.264020565 | 1.0757514 | 0.245429 | 0.806124 | NA |
| spock2 | 2436.561939 | 0.030770885 | 0.0782715 | 0.3931301 | 0.694223 | 0.96736 |
| dguok | 122.1595406 | 0.076594482 | 0.1796546 | 0.4263431 | 0.669858 | 0.965223 |
| cipca | 222.259629 | -0.125817283 | 0.1411941 | -0.891094 | 0.372879 | 0.892868 |
| fbxo33 | 150.6337155 | -0.105427425 | 0.1684734 | -0.625781 | 0.531459 | 0.942358 |
| gpha2 | 2.130894036 | 0.243344004 | 1.3102391 | 0.1857249 | 0.852661 | NA |
| adck5 | 158.8334808 | -0.106913726 | 0.1635786 | -0.653593 | 0.513374 | 0.93654 |
| BX571825.3 | | 0 NA | NA | NA | NA | NA |
| si:ch211-207k7.4 | 41.89755361 | 0.50229774 | 0.3099776 | 1.6204325 | 0.105139 | 0.613317 |
| zgc:175107 | 68.10976163 | 0.076192853 | 0.2347629 | 0.3245524 | 0.74552 | 0.974094 |
| pttgl | 69.70408622 | -0.053297785 | 0.233528 | -0.228229 | 0.819469 | 0.981594 |
| MRPL49 | 229.7440779 | 0.100680138 | 0.1389947 | 0.7243452 | 0.468854 | 0.924328 |
| BX547992.1 | 0.488104098 | -2.415107183 | 2.7936704 | -0.864493 | 0.387317 | NA |
| myom2a | 5741.071916 | 0.344186297 | 0.1894405 | 1.8168568 | 0.069239 | 0.514556 |
| akap11 | 784.3160493 | 0.124141111 | 0.0927608 | 1.3382932 | 0.180801 | 0.741776 |
| sytl2b | 104.0926052 | -0.603606617 | 0.204201 | -2.955943 | 0.003117 | 0.073687 |
| shc1 | 972.6357989 | 0.008404124 | 0.0850005 | 0.0988714 | 0.92124 | 0.992138 |
| vwa2 | 76.23282338 | 0.369856871 | 0.2259586 | 1.636835 | 0.101665 | 0.605756 |
| cgref1 | 206.5540078 | 0.149556137 | 0.1482883 | 1.0085497 | 0.313191 | 0.865069 |
| psmb5 | 2225.497697 | -0.066615094 | 0.0765349 | -0.870388 | 0.384088 | 0.895192 |
| naa25 | 957.5825877 | 0.030905013 | 0.0959379 | 0.3221358 | 0.74735 | 0.97419 |
| mkxa | 363.6810395 | 0.171796029 | 0.1166496 | 1.4727526 | 0.140818 | 0.681252 |
| hdc | 67.53340549 | 0.123459692 | 0.2465488 | 0.5007516 | 0.616546 | 0.95688 |
| soga3b | 96.67142652 | -0.030132307 | 0.218045 | -0.138193 | 0.890088 | 0.989291 |
| pik3ca | 59.69784218 | -0.056896238 | 0.2663845 | -0.213587 | 0.830869 | 0.982994 |
| ptpn20 | 146.4056453 | 0.255675577 | 0.1711384 | 1.4939698 | 0.135184 | 0.670689 |
| kmt5c | 530.7589473 | 0.007731043 | 0.103418 | 0.0747553 | 0.940409 | 0.992857 |
| mss51 | 61.35787616 | 0.334282757 | 0.2567745 | 1.3018535 | 0.192966 | 0.756795 |
| shisa3 | 423.5581132 | 0.067237477 | 0.1087345 | 0.618364 | 0.536335 | 0.943336 |
| vwal | 395.0246078 | 0.069350569 | 0.115262 | 0.6016776 | 0.547389 | 0.945526 |
| znf989 | 27.28398161 | 0.50813468 | 0.3867667 | 1.3138015 | 0.188913 | 0.753954 |
| nlrp15 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:dkey-63d15.12 | 29.9630355 | 0.169448386 | 0.3749597 | 0.451911 | 0.651333 | 0.960708 |
| zgc:173587 | 19.22837483 | 0.336316464 | 0.4559131 | 0.7376766 | 0.460711 | 0.921978 |
| si:ch211-267e7.3 | 213.7489707 | -0.329512434 | 0.1417421 | -2.324733 | 0.020086 | 0.266389 |
| si:ch211-26b3.4 | 1059.224529 | 0.12066997 | 0.0844841 | 1.4283158 | 0.153201 | 0.702508 |
| ccdc160 | 65.79901607 | -0.171375551 | 0.2447535 | -0.700197 | 0.483804 | 0.929461 |
| smim1 | 17.72385669 | 0.82108868 | 0.4661158 | 1.761555 | 0.078145 | 0.54467 |
| cdnf | 128.9742616 | 0.557205099 | 0.1903166 | 2.9277803 | 0.003414 | 0.078133 |
| si:dkey-40c23.2 | 9.177940723 | -0.350571941 | 0.6376523 | -0.549785 | 0.582467 | NA |

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| si:ch211-132g1.7 | 13.62633734 | 0.196328215 | 0.5631225 | 0.3486421 | 0.727358 | 0.970402 |
| si:dkey-108k21.10 | 14.21177183 | 0.826098883 | 0.5711492 | 1.4463802 | 0.148071 | 0.695805 |
| phf12b | 778.0898502 | 0.154845671 | 0.0899351 | 1.7217494 | 0.085115 | 0.560519 |
| ccdc136b | 346.0476189 | 0.126794067 | 0.1256802 | 1.0088625 | 0.313041 | 0.865017 |
| cd37 | 15.10668674 | 0.213735773 | 0.5344711 | 0.3999014 | 0.689229 | 0.966763 |
| si:ch211-120k19.1 | 37.72501015 | 0.576261132 | 0.3354235 | 1.7180105 | 0.085795 | 0.562501 |
| cpz | 179.5012924 | 0.56214331 | 0.1581668 | 3.5541172 | 0.000379 | 0.014176 |
| cln8 | 54.5443517 | 0.110709604 | 0.265595 | 0.4168361 | 0.676798 | 0.965257 |
| pwwp2a | 403.4468353 | 0.036408924 | 0.1248675 | 0.2915804 | 0.770607 | 0.975687 |
| zgc:174154 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| lyrm9 | 40.8316031 | -0.145802244 | 0.300397 | -0.485365 | 0.627417 | 0.957354 |
| pigu | 137.7002128 | 0.038516506 | 0.174434 | 0.2208084 | 0.825242 | 0.982196 |
| slc4a11 | 75.1236483 | 0.225422804 | 0.2307442 | 0.9769381 | 0.3286 | 0.872945 |
| zbtb24 | 48.21702988 | -0.63756405 | 0.2977587 | -2.141211 | 0.032257 | 0.349508 |
| cpnel | 1642.7156 | 0.013663853 | 0.0786584 | 0.1737113 | 0.862092 | 0.985841 |
| zgc:163061 | 35.54384532 | 0.35882223 | 0.3296458 | 1.0885086 | 0.276371 | 0.839541 |
| snphb | 14.91176571 | 0.401676934 | 0.4930944 | 0.8146046 | 0.415299 | 0.906237 |
| BX649498.1 | 39.95447541 | -0.104711334 | 0.3183218 | -0.328948 | 0.742195 | 0.973154 |
| si:ch73-236c18.3 | 0.81823394 | 3.165585784 | 2.3439761 | 1.3505196 | 0.176849 | NA |
| zfhx4 | 2544.052541 | -0.001595649 | 0.0784493 | -0.02034 | 0.983772 | 0.996944 |
| chd8 | 2016.799794 | 0.066736485 | 0.086984 | 0.7672267 | 0.442947 | 0.916336 |
| si:dkey-89b17.4 | 2476.446093 | -0.013380093 | 0.0719027 | -0.186086 | 0.852377 | 0.985174 |
| cdh5 | 488.7655126 | -0.127691551 | 0.1063349 | -1.200843 | 0.229812 | 0.79764 |
| aifm5 | 52.7965188 | 0.364930252 | 0.2748684 | 1.3276544 | 0.184292 | 0.747376 |
| adamts17 | 15.9290023 | 0.369123916 | 0.4780579 | 0.7721323 | 0.440036 | 0.916082 |
| luzpl | 709.9364624 | -0.0412075 | 0.0940919 | -0.43795 | 0.661423 | 0.964234 |
| apcddl1 | 233.6680527 | 0.141978024 | 0.1488855 | 0.9536057 | 0.340283 | 0.87805 |
| ppmlg | 1336.148655 | -0.046608512 | 0.0931129 | -0.500559 | 0.616682 | 0.95688 |
| kmt2cb | 898.7299747 | -0.098844328 | 0.0919569 | -1.074899 | 0.28242 | 0.843666 |
| si:dkey-76k16.5 | 11.54929853 | -0.240637679 | 0.5560292 | -0.432779 | 0.665175 | 0.964736 |
| si:ch211-119o8.4 | 1.150397644 | 2.462741491 | 1.944031 | 1.2668222 | 0.205219 | NA |
| fam13a | 862.6577683 | -0.147262 | 0.0919434 | -1.601659 | 0.109231 | 0.623132 |
| lzts1 | 129.0746932 | -0.215563256 | 0.1814563 | -1.187962 | 0.234848 | 0.80358 |
| fbx120 | 39.15469136 | -0.011630327 | 0.3092098 | -0.037613 | 0.969996 | 0.996315 |
| gpbpl11 | 1362.574987 | -0.041989723 | 0.0953614 | -0.440322 | 0.659704 | 0.963227 |
| ide | 1459.256544 | 0.087804004 | 0.0803432 | 1.0928622 | 0.274454 | 0.839136 |
| bicd2 | 22.89805904 | 1.15960704 | 0.4168169 | 2.7820539 | 0.005402 | 0.109079 |
| lrch2 | 26.8351111 | -0.005030911 | 0.3757448 | -0.013389 | 0.989317 | 0.997589 |
| itfgl | 281.1486329 | -0.026026233 | 0.1331762 | -0.195427 | 0.845059 | 0.985174 |
| tnfaip812a | 40.93592025 | 0.102696107 | 0.3238092 | 0.31715 | 0.75113 | 0.97419 |
| trim71 | 962.8687482 | -0.030782051 | 0.0883193 | -0.348531 | 0.727441 | 0.970402 |
| flrtl1b | 427.1924936 | -0.10412418 | 0.1111903 | -0.93645 | 0.349041 | 0.880195 |
| ambn | 0.492230656 | -0.896181115 | 2.8626633 | -0.313059 | 0.754236 | NA |
| cdc25d | 24.84148799 | 0.031478945 | 0.3864459 | 0.0814576 | 0.935078 | 0.992702 |
| si:dkeyp-41f9.3 | 47.72009065 | 0.653660498 | 0.2916815 | 2.2410081 | 0.025026 | 0.305655 |
| RNF5 | 171.6790175 | 0.202809748 | 0.1612236 | 1.2579408 | 0.208413 | 0.775404 |
| mical2a | 46.14510225 | -0.054778332 | 0.2960395 | -0.185037 | 0.8532 | 0.985174 |
| ercc6 | 532.983949 | 0.050505086 | 0.1078882 | 0.4681241 | 0.639696 | 0.959994 |
| apoc4 | 1.852751589 | 0.34253551 | 1.4966504 | 0.2288681 | 0.818971 | NA |
| polr2k | 198.9385968 | -0.071690454 | 0.1966765 | -0.36451 | 0.715478 | 0.96909 |
| slc36a1 | 200.7870173 | 0.226416592 | 0.1502161 | 1.5072729 | 0.131741 | 0.66523 |
| cenpo | 46.4087531 | -0.103825639 | 0.2814693 | -0.36887 | 0.712224 | 0.969006 |
| birc5a | 207.3375132 | -0.056762829 | 0.1487335 | -0.381641 | 0.702728 | 0.968134 |
| zgc:174938 | 181.1337719 | 0.035877137 | 0.1845415 | 0.1944123 | 0.845853 | 0.985174 |

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| bend5 | 13.20077855 | -0.520064729 | 0.5692933 | -0.913527 | 0.360966 | 0.885686 |
| lrigl | 804.4836642 | -0.013653482 | 0.0932773 | -0.146375 | 0.883625 | 0.988706 |
| zgc:172090 | | 0 NA | NA | NA | NA | NA |
| si:dkey-197i20.6 | 85.26105709 | -0.372285972 | 0.2337912 | -1.592387 | 0.111298 | 0.627048 |
| rad9b | 0.31598276 | 0.005883445 | 3.3523626 | 0.001755 | 0.9986 | NA |
| si:ch211-225k7.4 | 1.794442136 | -0.254656755 | 1.5328234 | -0.166136 | 0.86805 | NA |
| si:ch211-89o9.6 | 229.8801895 | -0.025289012 | 0.1456016 | -0.173686 | 0.862112 | 0.985841 |
| steap3 | 6.499320263 | 1.376334362 | 0.7800598 | 1.7643959 | 0.077665 | NA |
| ifi35 | 32.7658148 | -0.038820377 | 0.3352172 | -0.115807 | 0.907806 | 0.990702 |
| sema5bb | 93.88366834 | -0.201694691 | 0.2007207 | -1.004852 | 0.314968 | 0.866054 |
| vps26c | 425.9641645 | -0.109069522 | 0.1125569 | -0.969017 | 0.332537 | 0.874653 |
| si:ch1073-429i10.1 | 35.68964803 | -0.272807655 | 0.3450871 | -0.790547 | 0.429208 | 0.911406 |
| tsc22d3 | 1683.855045 | 0.034015782 | 0.0755471 | 0.4502592 | 0.652524 | 0.960708 |
| rereb | 627.3466557 | 0.109027365 | 0.0991946 | 1.0991264 | 0.271713 | 0.836643 |
| tlr4al | | 0 NA | NA | NA | NA | NA |
| pms2 | 95.77102152 | 0.274280012 | 0.2022794 | 1.3559462 | 0.175116 | 0.735545 |
| arhgap21b | 1655.387994 | -0.060146965 | 0.074191 | -0.810705 | 0.417535 | 0.906237 |
| fncl7b | 131.4846911 | 0.067432274 | 0.1797716 | 0.3750996 | 0.707586 | 0.968664 |
| mrpl17 | 337.8773217 | -0.074798852 | 0.1184571 | -0.631442 | 0.527751 | 0.941629 |
| orc6 | 104.8956917 | 0.327071517 | 0.2077243 | 1.5745461 | 0.115361 | 0.636838 |
| tlr7 | 148.176082 | -0.003986998 | 0.1849733 | -0.021554 | 0.982803 | 0.996944 |
| anapc1 | 417.2065998 | -0.156421406 | 0.1151936 | -1.357901 | 0.174495 | 0.734611 |
| adoralb | 16.1474913 | -0.088213461 | 0.4718472 | -0.186953 | 0.851697 | 0.985174 |
| si:ch73-38013.2 | 76.09933728 | 0.029505905 | 0.227393 | 0.1297573 | 0.896758 | 0.989971 |
| nkpd1 | 28.44954623 | -0.161601101 | 0.3761103 | -0.429664 | 0.66744 | 0.964736 |
| zswim2 | 5.438315747 | 0.569765357 | 0.845231 | 0.6740943 | 0.500251 | NA |
| si:ch211-106h4.9 | 290.4845181 | -0.026441304 | 0.1364262 | -0.193814 | 0.846322 | 0.985174 |
| nid2a | 1681.238188 | 0.119456578 | 0.0925 | 1.2914224 | 0.196557 | 0.761835 |
| ndufb3 | 1310.615638 | -0.013539053 | 0.0957951 | -0.141333 | 0.887606 | 0.989291 |
| shox2 | 405.3088452 | -0.008958635 | 0.1169583 | -0.076597 | 0.938944 | 0.992857 |
| si:dkey-27p23.3 | 16.90984995 | 0.204844796 | 0.4971745 | 0.4120179 | 0.680326 | 0.965431 |
| TMEM236 | 5.153577458 | -0.885753621 | 0.8594811 | -1.030568 | 0.302744 | NA |
| rpz5 | 378.7779755 | 0.027430449 | 0.1173615 | 0.2337262 | 0.815198 | 0.981175 |
| il2rb | 9.594604317 | 0.302337712 | 0.612289 | 0.4937827 | 0.62146 | NA |
| zdhhc6 | 468.8246747 | -0.018973217 | 0.1071067 | -0.177143 | 0.859396 | 0.985773 |
| si:dkey-242e21.3 | 5.72082136 | -0.608338741 | 0.8404443 | -0.72383 | 0.46917 | NA |
| cep152 | 126.7075161 | -0.065125055 | 0.1777077 | -0.366473 | 0.714012 | 0.96909 |
| dhrs7b | 133.5457332 | -0.149158015 | 0.178039 | -0.837783 | 0.402153 | 0.90084 |
| map11c3c1 | 183.6600125 | 0.057864841 | 0.1658713 | 0.3488538 | 0.727199 | 0.970402 |
| dnph1 | 83.50587649 | -0.157144888 | 0.236172 | -0.665383 | 0.505805 | 0.935724 |
| zgc:174698 | 3.276395311 | -2.481686758 | 1.2368187 | -2.006508 | 0.044802 | NA |
| taf4b | 2.291345534 | -2.593707058 | 1.4999462 | -1.7292 | 0.083773 | NA |
| zyx | 397.0909119 | 0.080539931 | 0.1183936 | 0.6802727 | 0.496332 | 0.932415 |
| cxxc5b | 608.295941 | 0.083280287 | 0.0994929 | 0.8370475 | 0.402566 | 0.90084 |
| zgc:165518 | 15.1697578 | 0.064705017 | 0.4872418 | 0.1327986 | 0.894353 | 0.989689 |
| mrpl47 | 216.1665932 | -0.048429464 | 0.1522772 | -0.318035 | 0.750458 | 0.97419 |
| ovgpl | 5.827671487 | -0.577192554 | 0.7986529 | -0.722708 | 0.469859 | NA |
| zfyvel6 | 135.1411661 | -0.145746961 | 0.1823943 | -0.799076 | 0.424246 | 0.908243 |
| NCKAP1L | 57.88904003 | -0.52067501 | 0.2650489 | -1.964449 | 0.049478 | 0.436093 |
| myo18aa | 636.6409554 | 0.283568729 | 0.0999016 | 2.8384812 | 0.004533 | 0.09614 |
| mril | 44.53883794 | -0.090842644 | 0.3013469 | -0.301455 | 0.763067 | 0.975374 |
| gig2e | 15.44190121 | 0.284710449 | 0.4874642 | 0.5840644 | 0.559177 | 0.948478 |
| ywhabb | 5622.765066 | -0.069688137 | 0.0875447 | -0.796029 | 0.426015 | 0.909755 |
| samd4a | 264.9029571 | -0.190312844 | 0.1329068 | -1.431928 | 0.152165 | 0.701049 |

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| si:ch1073-287p18.1 | 44.96180756 | -0.049599013 | 0.315577 | -0.157169 | 0.875111 | 0.987881 |
| sccpdha.1 | 142.2022141 | 0.073035643 | 0.1830814 | 0.3989244 | 0.689949 | 0.966857 |
| sdhb | 2634.274005 | 0.03433447 | 0.0873088 | 0.3932532 | 0.694132 | 0.96736 |
| foxj3 | 718.7702966 | -0.04529386 | 0.0978835 | -0.462732 | 0.643556 | 0.959994 |
| si:ch211-57m13.5 | 0.498553709 | 0.926267934 | 2.6786929 | 0.345791 | 0.7295 | NA |
| hmgxb4a | 234.2666714 | 0.044568907 | 0.1421982 | 0.3134281 | 0.753955 | 0.975056 |
| si:ch73-190m4.1 | 0.521188103 | -2.493476766 | 2.9577741 | -0.843025 | 0.399215 | NA |
| si:dkey-79f11.5 | 0.833717353 | 0.587279662 | 2.212766 | 0.2654052 | 0.790697 | NA |
| prex1 | 441.8146824 | 0.155719814 | 0.1118343 | 1.392415 | 0.163797 | 0.71945 |
| no17 | 324.8528552 | 0.224702141 | 0.1212467 | 1.8532643 | 0.063844 | 0.493997 |
| usp38 | 368.3827557 | -0.071033552 | 0.1198799 | -0.592539 | 0.55349 | 0.947265 |
| calm14a | 76.55992321 | -0.830419427 | 0.2266993 | -3.663087 | 0.000249 | 0.010194 |
| grin3a | 105.0393291 | 0.215999564 | 0.2018654 | 1.0700177 | 0.284611 | 0.844955 |
| slc41a2a | 195.8110063 | 0.022088547 | 0.1622383 | 0.1361488 | 0.891704 | 0.989291 |
| si:dkey-219c3.2 | 173.3480985 | 0.04920317 | 0.1643436 | 0.299392 | 0.764641 | 0.975374 |
| kirrel3a | 301.8050971 | 0.073196419 | 0.1356721 | 0.5395098 | 0.589535 | 0.953498 |
| traj39 | | 0 NA | NA | NA | NA | NA |
| kcnt2 | 25.96470026 | 0.210184644 | 0.3939771 | 0.5334946 | 0.593691 | 0.954434 |
| asphd1 | 239.2275841 | 0.14683988 | 0.142644 | 1.029415 | 0.303285 | 0.85729 |
| slc12a5a | 33.73734396 | -0.015574656 | 0.3798299 | -0.041004 | 0.967292 | 0.996315 |
| mettl24 | 57.15021352 | 0.164237321 | 0.2577944 | 0.6370865 | 0.524069 | 0.939336 |
| dok2 | 26.75722258 | 0.383931501 | 0.3876652 | 0.9903688 | 0.321994 | 0.869586 |
| arhgef2 | 197.6469813 | -0.372868421 | 0.1534612 | -2.429725 | 0.01511 | 0.225333 |
| CU694442.1 | 3.439523094 | 0.941819321 | 1.1885374 | 0.7924188 | 0.428117 | NA |
| plxnb1a | 1027.473912 | -0.039461774 | 0.0884266 | -0.446266 | 0.655405 | 0.961632 |
| virma | 1197.073034 | -0.007508077 | 0.0985277 | -0.076203 | 0.939258 | 0.992857 |
| dlec1 | 65.49401874 | 0.1270419 | 0.2529208 | 0.5022991 | 0.615457 | 0.95688 |
| msh4 | 2.862823644 | 1.24171776 | 1.2018815 | 1.0331449 | 0.301536 | NA |
| f7i | 112.9716408 | 0.071577072 | 0.2042534 | 0.3504328 | 0.726014 | 0.970402 |
| taarl4j | | 0 NA | NA | NA | NA | NA |
| kiss1 | 2.033631938 | 0.014997283 | 1.3735429 | 0.0109187 | 0.991288 | NA |
| syts | 276.8402844 | 0.098600335 | 0.1370409 | 0.7194955 | 0.471836 | 0.924838 |
| slc7a8a | 2086.816582 | 0.014764375 | 0.0777734 | 0.1898383 | 0.849436 | 0.985174 |
| lyvela | 179.036331 | -0.037545796 | 0.1733621 | -0.216574 | 0.82854 | 0.982721 |
| si:dkey-182i3.8 | 69.97636887 | 0.280075394 | 0.2382853 | 1.1753786 | 0.239843 | 0.808111 |
| si:dkey-1d7.3 | 138.7316515 | 0.265101279 | 0.1716824 | 1.5441379 | 0.122555 | 0.650752 |
| pigt | 40.61585637 | -0.003148498 | 0.3003997 | -0.010481 | 0.991638 | 0.997679 |
| kcnip2 | 6.430837696 | -0.386923491 | 0.7446303 | -0.519618 | 0.60333 | NA |
| prrl2b | 2281.318886 | -0.088380774 | 0.0932622 | -0.947659 | 0.343303 | 0.878434 |
| gnal2 | 330.8069573 | 0.076917992 | 0.1250673 | 0.6150128 | 0.538546 | 0.943336 |
| oafa | 156.9178411 | 0.179169157 | 0.1773782 | 1.0100969 | 0.312449 | 0.864401 |
| sh3kbp1 | 656.229181 | -0.029652709 | 0.1013057 | -0.292705 | 0.769747 | 0.975687 |
| cx34.4 | 58.56637739 | -0.03153253 | 0.2593965 | -0.121561 | 0.903247 | 0.990121 |
| adgre10 | 13.91481519 | 0.324268076 | 0.5394884 | 0.6010659 | 0.547796 | 0.945706 |
| pgsl | 122.2323059 | 0.224756344 | 0.1886014 | 1.1917001 | 0.233379 | 0.801883 |
| fam155a | 30.0046712 | 0.56807409 | 0.3459032 | 1.6422923 | 0.100529 | 0.602933 |
| mcf21a | 1006.70979 | 0.085943738 | 0.0861676 | 0.9974025 | 0.318569 | 0.867746 |
| igsf9a | 375.2969696 | -0.253727695 | 0.1234216 | -2.055781 | 0.039804 | 0.391511 |
| cdcp2 | 32.62097651 | -0.241585431 | 0.3491676 | -0.69189 | 0.489007 | 0.931926 |
| mrtfaa | 29.9601389 | -0.113355091 | 0.3841867 | -0.295052 | 0.767954 | 0.975687 |
| triobpa | 78.72596952 | -0.224332336 | 0.2223086 | -1.009103 | 0.312925 | 0.864884 |
| si:ch211-39k3.2 | 127.802539 | -0.044014415 | 0.2170285 | -0.202805 | 0.839288 | 0.984979 |
| bub3 | 473.1527511 | -0.061629075 | 0.1189211 | -0.518235 | 0.604294 | 0.95651 |
| shprh | 134.0270334 | 0.116860264 | 0.1747889 | 0.6685794 | 0.503764 | 0.935314 |

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| vwa5b2 | 22. 57505048 | 0. 006146747 | 0. 4170022 | 0. 0147403 | 0. 988239 | 0. 997369 |
| herc3 | 236. 2130399 | -0. 057480403 | 0. 1364807 | -0. 421161 | 0. 673637 | 0. 965257 |
| sall1b | 44. 24820542 | 0. 117939311 | 0. 3097241 | 0. 3807883 | 0. 70336 | 0. 968134 |
| bag6 | 1319. 345416 | 0. 036880048 | 0. 0920273 | 0. 4007511 | 0. 688603 | 0. 966672 |
| spata7 | 231. 3158571 | 0. 141002828 | 0. 1460439 | 0. 9654827 | 0. 334303 | 0. 875332 |
| si:ch1073-186i23. 1 | 270. 9885772 | -0. 026102211 | 0. 1383914 | -0. 188612 | 0. 850397 | 0. 985174 |
| chad1b | 266. 470045 | 0. 08447535 | 0. 1295287 | 0. 6521748 | 0. 514288 | 0. 937198 |
| rflx1b | 357. 5262774 | -0. 081498174 | 0. 1442679 | -0. 564909 | 0. 572136 | 0. 949494 |
| si:ch211-266g18. 9 | 15. 65168002 | -0. 19553504 | 0. 5046023 | -0. 387503 | 0. 698384 | 0. 967998 |
| slc35f3a | 7. 818979746 | 0. 429168984 | 0. 6762209 | 0. 6346579 | 0. 525652 | NA |
| kcnj14 | 2. 626818908 | -0. 743954913 | 1. 1538115 | -0. 64478 | 0. 51907 | NA |
| si:ch73-70k4. 1 | 9. 664426499 | 0. 102833278 | 0. 6520894 | 0. 1576981 | 0. 874695 | NA |
| zgc:66472 | 190. 1650938 | 0. 012800785 | 0. 1569966 | 0. 0815354 | 0. 935016 | 0. 992702 |
| cacna1db | 47. 0474139 | 0. 17530673 | 0. 286304 | 0. 6123098 | 0. 540333 | 0. 944448 |
| ccser1 | 16. 87853567 | -0. 626236161 | 0. 4694653 | -1. 333935 | 0. 182225 | 0. 74454 |
| txnr2. 2 | 25. 26558674 | -0. 125900069 | 0. 4027152 | -0. 312628 | 0. 754563 | 0. 975114 |
| zgc:171558 | 652. 4893505 | 0. 096772608 | 0. 1006842 | 0. 9611501 | 0. 336477 | 0. 876088 |
| igfnl. 2 | 17. 59741785 | 0. 518506928 | 0. 5095136 | 1. 0176507 | 0. 308844 | 0. 861088 |
| hivep3a | 41. 64295494 | 0. 07257499 | 0. 3186819 | 0. 2277349 | 0. 819852 | 0. 981594 |
| si:dkey-219c10. 4 | 29. 48185789 | -0. 215372935 | 0. 3584374 | -0. 600866 | 0. 547929 | 0. 945768 |
| adamts2 | 131. 6950089 | 0. 394708207 | 0. 1858942 | 2. 1232953 | 0. 033729 | 0. 357045 |
| acs15 | 359. 6460788 | -0. 470002347 | 0. 1422311 | -3. 304497 | 0. 000951 | 0. 02977 |
| si:ch73-21112. 3 | 0. 491320158 | 0. 8528132 | 2. 8656354 | 0. 2976 | 0. 766008 | NA |
| cox15 | 375. 8521044 | -0. 104574212 | 0. 1189474 | -0. 879164 | 0. 379313 | 0. 895192 |
| sugpl | 341. 1733698 | -0. 107476955 | 0. 1231348 | -0. 87284 | 0. 38275 | 0. 895192 |
| FRMD5 | 81. 7129888 | 0. 07386959 | 0. 223875 | 0. 3299591 | 0. 741431 | 0. 973154 |
| si:ch211-250c4. 5 | 6. 891903349 | 0. 166012865 | 0. 7528372 | 0. 2205163 | 0. 825469 | NA |
| slco4a1 | 37. 63166136 | 0. 054585448 | 0. 3145958 | 0. 1735098 | 0. 862251 | 0. 985841 |
| prkd1 | 161. 0776146 | 0. 02533835 | 0. 1675668 | 0. 1512135 | 0. 879807 | 0. 987881 |
| mbd2 | 133. 1982523 | 0. 032151272 | 0. 1789694 | 0. 1796468 | 0. 85743 | 0. 985703 |
| serpinh1a | 551. 4502682 | 0. 397874136 | 0. 1075821 | 3. 6983315 | 0. 000217 | 0. 00915 |
| faxca | 57. 44034138 | 0. 113679103 | 0. 2834363 | 0. 4010746 | 0. 688365 | 0. 966672 |
| si:dkey-266f7. 9 | 22. 31348741 | -0. 530614046 | 0. 4068251 | -1. 30428 | 0. 192138 | 0. 756673 |
| cdh24a | 45. 53288835 | -0. 098790844 | 0. 3107531 | -0. 317908 | 0. 750555 | 0. 97419 |
| vav3b | 44. 64169394 | 0. 022598122 | 0. 2880668 | 0. 0784475 | 0. 937472 | 0. 99279 |
| mhcluba | 3. 640429303 | -0. 281285031 | 1. 0527066 | -0. 267202 | 0. 789314 | NA |
| plekhg4 | 1101. 737602 | 0. 049502346 | 0. 0875599 | 0. 565354 | 0. 571833 | 0. 949494 |
| BX324188. 1 | 3. 48107542 | 2. 090908957 | 1. 1343628 | 1. 8432454 | 0. 065293 | NA |
| csrnp2 | 6. 191390234 | -0. 731952439 | 0. 8312375 | -0. 880558 | 0. 378557 | NA |
| si:dkey-258f14. 3 | 43. 73470492 | 0. 038100468 | 0. 3022023 | 0. 126076 | 0. 899672 | 0. 990121 |
| slc45a3 | 26. 10955027 | -0. 180917418 | 0. 3817081 | -0. 473968 | 0. 635523 | 0. 958142 |
| prr5a | 82. 60766331 | 0. 198324452 | 0. 2180891 | 0. 9093736 | 0. 363153 | 0. 885944 |
| tmem125b | 98. 82128074 | 0. 259003596 | 0. 2033012 | 1. 2739896 | 0. 202667 | 0. 769545 |
| hsbp111 | 33. 05114136 | -0. 056432471 | 0. 3592771 | -0. 157072 | 0. 875188 | 0. 987881 |
| arpc2 | 2907. 468963 | -0. 095609652 | 0. 0775921 | -1. 232209 | 0. 217871 | 0. 785305 |
| acap3a | 152. 9339325 | 0. 050282144 | 0. 1669552 | 0. 3011715 | 0. 763284 | 0. 975374 |
| clic5a | 171. 7875018 | 0. 268343841 | 0. 1557732 | 1. 7226571 | 0. 084951 | 0. 560519 |
| znfl1b | 1. 466888559 | 0. 924909503 | 1. 8132884 | 0. 510073 | 0. 61 | NA |
| pip5klca | 158. 5874538 | -0. 070400489 | 0. 1654833 | -0. 425423 | 0. 670528 | 0. 965257 |
| osbp15 | 178. 7192687 | -0. 204650734 | 0. 1555959 | -1. 315271 | 0. 188419 | 0. 753276 |
| ppp2r3b | 188. 2613152 | 0. 015281757 | 0. 1699322 | 0. 0899286 | 0. 928344 | 0. 992702 |
| piezo2a. 2 | 249. 4523833 | -0. 058719146 | 0. 1331016 | -0. 44116 | 0. 659097 | 0. 962839 |
| umad1 | 49. 52134429 | 0. 486276584 | 0. 2774933 | 1. 7523906 | 0. 079707 | 0. 548406 |
| twist1b | 146. 8822576 | -0. 096203159 | 0. 1707409 | -0. 563445 | 0. 573132 | 0. 949762 |

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| si:ch211-149b19.3 | 353.6775022 | 0.026045886 | 0.1268322 | 0.205357 | 0.837293 | 0.984645 |
| mab2113 | 38.59315963 | 0.15997541 | 0.3110165 | 0.5143631 | 0.606998 | 0.956718 |
| ERC1 | 30.7744344 | 0.350188353 | 0.3907361 | 0.8962273 | 0.370131 | 0.889876 |
| si:ch73-139e5.2 | 15.47843907 | -0.132188083 | 0.4901697 | -0.269678 | 0.787408 | 0.976596 |
| tmem69 | 139.8378956 | 0.06218506 | 0.1688974 | 0.3681824 | 0.712737 | 0.96909 |
| ftr70 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| pappa2 | 225.2097476 | 0.392654634 | 0.1532305 | 2.5625094 | 0.010392 | 0.175332 |
| dgkzb | 138.5323803 | 0.066068202 | 0.1778978 | 0.3713829 | 0.710352 | 0.968985 |
| kif5c | 238.2058284 | -0.072852339 | 0.1408487 | -0.517238 | 0.60499 | 0.95651 |
| cacnb3b | 15.24041243 | -0.132819721 | 0.4883735 | -0.271963 | 0.78565 | 0.97627 |
| arll5a | 42.76802702 | 0.578817677 | 0.2958452 | 1.9564881 | 0.050408 | 0.439877 |
| wwc1 | 18.58732102 | -0.340413495 | 0.4634061 | -0.73459 | 0.462589 | 0.922698 |
| si:dkeyp-73d8.9 | 3.294968638 | 1.266007846 | 1.1343776 | 1.1160374 | 0.264406 | NA |
| si:dkeyp-283j8.1 | 8.978507998 | -0.402161836 | 0.6549141 | -0.614068 | 0.53917 | NA |
| sez6l2 | 719.0053046 | 0.128548713 | 0.0982813 | 1.3079669 | 0.190885 | 0.755212 |
| rpgr1p1 | 217.7212859 | 0.183361216 | 0.1608999 | 1.139598 | 0.254454 | 0.823475 |
| IYD | 27.24940578 | 0.161850591 | 0.4287902 | 0.3774587 | 0.705833 | 0.968412 |
| gba | 253.6775806 | 0.004214326 | 0.1418806 | 0.0297033 | 0.976304 | 0.996762 |
| diaph2 | 796.909096 | -0.023794196 | 0.1010648 | -0.235435 | 0.813871 | 0.981081 |
| 6-Mar | 1439.982313 | 0.071012052 | 0.0818449 | 0.8676413 | 0.385591 | 0.89551 |
| crtcla | 11.52780179 | 0.085357308 | 0.5681286 | 0.1502429 | 0.880573 | 0.987884 |
| dlgap2b | 10.63040071 | -0.947662551 | 0.6229074 | -1.521354 | 0.128171 | NA |
| ddal | 1027.991848 | -0.032001487 | 0.0931601 | -0.343511 | 0.731214 | 0.971557 |
| myh7ba | 107.3632494 | 0.025593699 | 0.1909674 | 0.1340213 | 0.893386 | 0.989291 |
| crtclb | 23.79636468 | 0.192858883 | 0.4211786 | 0.4579028 | 0.647022 | 0.960362 |
| ushlgb | 0.986657807 | -0.948525167 | 1.9936381 | -0.475776 | 0.634234 | NA |
| CABZ01041962.1 | 190.0530588 | -0.035843309 | 0.1529683 | -0.234319 | 0.814738 | 0.981081 |
| jakmip1 | 266.2067409 | 0.019362229 | 0.1327668 | 0.1458364 | 0.884051 | 0.988784 |
| slc31a2 | 72.9540511 | 0.039179661 | 0.2297299 | 0.1705466 | 0.86458 | 0.98601 |
| ftr76 | 2.769580455 | -0.901262682 | 1.1748246 | -0.767147 | 0.442994 | NA |
| klhl30 | 22.76437506 | 0.020406257 | 0.4327248 | 0.0471576 | 0.962388 | 0.995907 |
| grid2ipa | 61.67648922 | -0.129761245 | 0.2533476 | -0.512187 | 0.60852 | 0.956718 |
| sema4bb | 282.2177257 | -0.27077861 | 0.1419919 | -1.907 | 0.056521 | 0.46635 |
| ftr43 | 1.514601305 | 1.04180901 | 1.6547679 | 0.6295801 | 0.528969 | NA |
| nwd1 | 19.70309429 | -0.694953558 | 0.4462235 | -1.557411 | 0.119373 | 0.643644 |
| CABZ01072254.1 | 22.44831887 | -0.464598419 | 0.4041787 | -1.149488 | 0.250355 | 0.820164 |
| stard5 | 4.633609583 | -0.215817366 | 0.8622512 | -0.250295 | 0.802359 | NA |
| cdipl | 203.7416543 | -0.001910622 | 0.1469437 | -0.013002 | 0.989626 | 0.997612 |
| emidl | 980.7098497 | 0.00549812 | 0.0869336 | 0.063245 | 0.949571 | 0.99381 |
| foxp4 | 1937.175897 | -0.049685339 | 0.0779509 | -0.637393 | 0.523869 | 0.939336 |
| smpd1 | 390.626191 | 0.143573501 | 0.1283926 | 1.1182385 | 0.263465 | 0.830245 |
| si:ch211-160b11.4 | 1.201333238 | -2.500792036 | 1.9278236 | -1.29721 | 0.194559 | NA |
| actcla | 727.5039112 | -1.258059749 | 0.3203836 | -3.92673 | 8.61E-05 | 0.004322 |
| gabrb1 | 124.0450785 | 0.119093129 | 0.1934189 | 0.6157264 | 0.538075 | 0.943336 |
| prkarlaa | 3256.648724 | -0.016124573 | 0.0700121 | -0.230311 | 0.81785 | 0.981594 |
| siglec15l | | 0 NA | NA | NA | NA | NA |
| zgc:162972 | 18.23425212 | 0.060207628 | 0.4631909 | 0.1299845 | 0.896579 | 0.989971 |
| mmrn2a | 324.55831 | 0.129675333 | 0.127954 | 1.013453 | 0.310844 | 0.862927 |
| si:dkey-98f17.3 | 16.30305914 | 0.926091225 | 0.5152471 | 1.7973729 | 0.072276 | 0.525826 |
| si:dkey-71p21.13 | 6.17219036 | 0.751676405 | 0.7948801 | 0.9456476 | 0.344328 | NA |
| clcf1 | 57.92932683 | 0.017467336 | 0.2731835 | 0.0639399 | 0.949018 | 0.99381 |
| ppip5k1a | 499.5915066 | 0.162247413 | 0.106725 | 1.5202375 | 0.128451 | 0.659397 |
| icam3 | 186.6424823 | -0.226009219 | 0.1683166 | -1.342763 | 0.179349 | 0.740258 |
| zgc:172075 | 72.59067254 | -0.073631171 | 0.2450095 | -0.300524 | 0.763778 | 0.975374 |

| | | | | | | |
|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| si:ch211-1a19.2 | 0.325573202 | 0.005883621 | 3.3172783 | 0.0017736 | 0.998585 | NA |
| lca5 | 53.1053913 | -0.275292939 | 0.2813122 | -0.978603 | 0.327776 | 0.872701 |
| mtpap | 180.2508546 | 0.216834178 | 0.1506144 | 1.4396645 | 0.149962 | 0.697935 |
| zgc:165583 | 0.663561848 | -1.490280258 | 2.4116568 | -0.617949 | 0.536609 | NA |
| si:dkey-285e18.2 | 1.622011068 | -1.238012138 | 1.6067485 | -0.770508 | 0.440999 | NA |
| coll19a1 | 228.095344 | 0.242920751 | 0.1488034 | 1.6324947 | 0.102575 | 0.608473 |
| pold3 | 582.9533361 | 0.263659745 | 0.1184381 | 2.2261401 | 0.026005 | 0.311101 |
| pskln1 | 1395.154444 | 0.125454841 | 0.0944952 | 1.3276319 | 0.1843 | 0.747376 |
| znf827 | 1346.92332 | -0.084839424 | 0.0805242 | -1.053589 | 0.292071 | 0.848075 |
| trim2b | 199.5767887 | -0.079920805 | 0.1582888 | -0.504905 | 0.613626 | 0.95688 |
| ptcd1 | 228.035813 | 0.048444496 | 0.1407137 | 0.344277 | 0.730638 | 0.97149 |
| ngef | 273.1494361 | -0.155091463 | 0.1340749 | -1.156752 | 0.247374 | 0.81686 |
| stat1b | 2.66092372 | 0.016159258 | 1.1267473 | 0.0143415 | 0.988558 | NA |
| frrsla | 6.17803076 | 0.884146649 | 0.7825504 | 1.1298271 | 0.258549 | NA |
| lrrc3cb | 1.830783485 | 0.799248267 | 1.3781958 | 0.5799236 | 0.561966 | NA |
| ccdc88b | 35.07183702 | 0.063402339 | 0.3287863 | 0.1928375 | 0.847086 | 0.985174 |
| fbx113 | 1.647824735 | 1.237995142 | 1.622278 | 0.7631214 | 0.445391 | NA |
| ankrd1b | 204.1836824 | 0.832386783 | 0.1584811 | 5.2522791 | 1.50E-07 | 1.98E-05 |
| si:ch211-226h7.6 | 13.83727812 | 0.702281364 | 0.6422041 | 1.0935485 | 0.274153 | 0.839127 |
| zdhhc11 | 14.80260729 | 0.202041667 | 0.5555454 | 0.3636817 | 0.716096 | 0.96909 |
| DOCK4 (1 of many) | 29.71322878 | -0.053730296 | 0.3620725 | -0.148397 | 0.88203 | 0.988344 |
| zgc:165514 | 0.67370173 | -2.870759253 | 2.497836 | -1.149299 | 0.250433 | NA |
| b3galt4 | 15.07939832 | -0.777192953 | 0.5423107 | -1.433114 | 0.151825 | 0.700196 |
| fth128 | 232.3590375 | 0.536988914 | 0.156357 | 3.4343769 | 0.000594 | 0.020179 |
| SERP1 | 1154.206134 | -0.27194466 | 0.0983715 | -2.764465 | 0.005702 | 0.113266 |
| thal | 128.8210008 | -0.280789986 | 0.1781383 | -1.576247 | 0.114969 | 0.635519 |
| ror2 | 281.8810475 | -0.177600273 | 0.1290532 | -1.376179 | 0.168766 | 0.725919 |
| kif2c | 384.2675376 | -0.158147025 | 0.1134171 | -1.394384 | 0.163202 | 0.718029 |
| mrtfab | 819.7551637 | -0.015660275 | 0.0978816 | -0.159992 | 0.872887 | 0.987846 |
| atp10b | 119.9417424 | 0.097045132 | 0.1867497 | 0.5196535 | 0.603305 | 0.956045 |
| lrrc18b | 4.855800557 | -0.49035951 | 0.8905935 | -0.550599 | 0.581909 | NA |
| gram1c | 151.5255506 | -0.37937663 | 0.178517 | -2.125157 | 0.033574 | 0.357045 |
| si:ch211-74f19.2 | 716.7327317 | 0.059265763 | 0.1134467 | 0.5224105 | 0.601385 | 0.956045 |
| txlnbb | 488.8676447 | 0.295695224 | 0.1077754 | 2.7436255 | 0.006076 | 0.118032 |
| prune | 21.41965691 | -0.113464542 | 0.4082273 | -0.277945 | 0.781055 | 0.97627 |
| dlk2 | 51.62852895 | 0.079421779 | 0.2740283 | 0.2898306 | 0.771946 | 0.975687 |
| ppplr3db | 50.78267118 | -0.211879249 | 0.2861281 | -0.740505 | 0.458994 | 0.921978 |
| rasef | 21.49390685 | -0.08793856 | 0.4071665 | -0.215977 | 0.829006 | 0.982721 |
| irf3 | 42.22555695 | -0.421837362 | 0.3002664 | -1.404877 | 0.160058 | 0.712495 |
| si:dkey-247i3.1 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| znf1084 | 15.81648437 | 0.167575873 | 0.4832817 | 0.3467457 | 0.728782 | 0.970631 |
| si:ch211-285c6.1 | 3.504929046 | 0.692918324 | 1.0151088 | 0.682605 | 0.494857 | NA |
| tbr1a | 20.21244619 | -0.368237997 | 0.4975184 | -0.740149 | 0.459209 | 0.921978 |
| pou3f2b | 1082.694818 | 0.027725026 | 0.0982615 | 0.2821556 | 0.777824 | 0.975942 |
| zgc:195170 | 9.090780723 | -0.499435796 | 0.6679326 | -0.747734 | 0.454621 | NA |
| ano8a | 77.05937542 | 0.247997042 | 0.2320304 | 1.0688127 | 0.285154 | 0.845129 |
| zgc:172131 | 10.53887292 | 0.573229508 | 0.6762718 | 0.8476318 | 0.396643 | NA |
| adamts13 | 194.0140737 | 0.005540458 | 0.1645699 | 0.0336663 | 0.973143 | 0.996315 |
| znf1041 | 67.41354377 | 0.034064765 | 0.2535771 | 0.1343369 | 0.893136 | 0.989291 |
| CR385050.1 | 0.688945432 | -0.015421672 | 2.3988056 | -0.006429 | 0.994871 | NA |
| ppplr1b | 522.2646297 | 0.101137569 | 0.1050667 | 0.9626038 | 0.335746 | 0.876088 |
| snrpd3l | 636.6838929 | -0.040586998 | 0.0955953 | -0.424571 | 0.671149 | 0.965257 |
| si:dkey-125e8.1 | 0 NA | NA | NA | NA | NA | NA |
| calr | 2443.787679 | 0.017681333 | 0.0791521 | 0.2233844 | 0.823236 | 0.982196 |

| | | | | | | |
|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| tns2a | 27.04242498 | 0.21027438 | 0.3911045 | 0.5376424 | 0.590824 | 0.954193 |
| klb | 17.64822851 | 0.010935336 | 0.4578793 | 0.0238826 | 0.980946 | 0.996944 |
| triqk | 376.7064572 | -0.289243545 | 0.1252549 | -2.309239 | 0.02093 | 0.273186 |
| nfatc3a | 234.5591211 | 0.151772183 | 0.1375274 | 1.1035775 | 0.269776 | 0.834705 |
| FQ323119.1 | 436.078684 | 0.211611101 | 0.109002 | 1.9413505 | 0.052216 | 0.448919 |
| dtx4a | 858.4068218 | 0.028684173 | 0.1035352 | 0.2770476 | 0.781744 | 0.97627 |
| uspl1 | 148.4680258 | 0.144925528 | 0.1654488 | 0.8759541 | 0.381055 | 0.895192 |
| lox13a | 39.86996404 | 0.252821778 | 0.3018048 | 0.8376997 | 0.402199 | 0.90084 |
| si:zfos-2070c2.3 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| pdpl | 206.4394235 | 0.122788504 | 0.1528057 | 0.8035596 | 0.421651 | 0.90651 |
| mxra5b | 5.366298343 | -1.134609969 | 0.8430778 | -1.345795 | 0.178369 | NA |
| si:ch73-290k24.5 | 16.68464326 | 0.385371534 | 0.4974044 | 0.7747651 | 0.438478 | 0.915831 |
| myot | 477.274326 | 0.347541979 | 0.1185273 | 2.9321694 | 0.003366 | 0.077672 |
| si:ch211-240119.7 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| plod3 | 1546.590512 | -0.006492835 | 0.0834225 | -0.077831 | 0.937963 | 0.99279 |
| atp6vlab | 1925.52527 | -0.030768747 | 0.0775528 | -0.396746 | 0.691555 | 0.967305 |
| ano9a | 156.1414917 | -0.174218839 | 0.1640692 | -1.061862 | 0.288298 | 0.845979 |
| col28a2a | 1744.98608 | 0.253984953 | 0.0999063 | 2.5422314 | 0.011015 | 0.182111 |
| lmtk2 | 946.8304451 | 0.096971286 | 0.0868785 | 1.1161718 | 0.264349 | 0.830245 |
| osbp111 | 47.85090608 | -0.387279624 | 0.2791007 | -1.387598 | 0.165259 | 0.721223 |
| duspl2 | 48.49511874 | -0.030869711 | 0.2927253 | -0.105456 | 0.916014 | 0.991314 |
| si:ch211-159i8.4 | 497.4688427 | 0.236432802 | 0.1088994 | 2.1711114 | 0.029923 | 0.335036 |
| mrpl43 | 189.6297454 | 0.149202285 | 0.1491199 | 1.0005528 | 0.317043 | 0.867335 |
| cln5 | 33.16119289 | -0.369258763 | 0.3352401 | -1.101475 | 0.27069 | 0.835351 |
| si:dkeyp-13d11.1 | | 0 NA | NA | NA | NA | NA |
| taar19p | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| mylk3 | 58.66808518 | 0.157390479 | 0.296128 | 0.5314947 | 0.595076 | 0.954434 |
| brinp3a.1 | 515.2828958 | 0.053479456 | 0.1103754 | 0.4845232 | 0.628015 | 0.957354 |
| CABZ01102039.1 | 207.7525486 | 0.025005618 | 0.1659684 | 0.150665 | 0.88024 | 0.987881 |
| zmp:0000001161 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| rpl37 | 112.7814816 | 0.158621046 | 0.1897313 | 0.8360301 | 0.403138 | 0.900877 |
| CABZ01039859.1 | 230.9583758 | -0.196765295 | 0.1370012 | -1.436231 | 0.150937 | 0.698912 |
| tmem260 | 164.2151587 | 0.200102788 | 0.1602549 | 1.2486531 | 0.211792 | 0.779854 |
| si:dkey-178k16.1 | 1917.650787 | -0.045314937 | 0.0812033 | -0.558043 | 0.576815 | 0.950654 |
| CABZ01080074.1 | 396.1983615 | -0.143727006 | 0.1191504 | -1.206266 | 0.227715 | 0.794934 |
| voppl | 63.59300771 | 0.127772749 | 0.2612972 | 0.488994 | 0.624846 | 0.957354 |
| tmem175 | 60.8626487 | 0.02686576 | 0.2537681 | 0.1058674 | 0.915688 | 0.991314 |
| nsmce2 | 87.51956529 | -0.224280561 | 0.208324 | -1.076595 | 0.281661 | 0.84357 |
| hnrnpa01 | 87.77014738 | -0.207706476 | 0.2132762 | -0.973885 | 0.330114 | 0.874085 |
| slc25a1b | 238.067342 | -0.275389103 | 0.1417319 | -1.943028 | 0.052013 | 0.447758 |
| epd11 | 417.5750681 | 0.134639839 | 0.2827241 | 0.4762234 | 0.633915 | 0.95776 |
| zgc:194686 | 4.278550445 | 3.587132677 | 1.2849569 | 2.7916366 | 0.005244 | NA |
| si:dkey-217f16.6 | 1.006818213 | 1.048314579 | 1.9690503 | 0.532396 | 0.594452 | NA |
| npm2a | 1.385673855 | -0.665060118 | 1.7096737 | -0.388998 | 0.697277 | NA |
| tmem65 | 106.9201728 | 0.037567802 | 0.206769 | 0.1816897 | 0.855826 | 0.985174 |
| si:dkey-201121.4 | | 0 NA | NA | NA | NA | NA |
| caeng3b | 741.2313113 | -0.032372843 | 0.0984598 | -0.328792 | 0.742313 | 0.973154 |
| nat16l | 27.78718849 | -0.381853353 | 0.3755393 | -1.016813 | 0.309242 | 0.861381 |
| mctpla | 157.6031234 | -0.085290371 | 0.1671476 | -0.51027 | 0.609863 | 0.95688 |
| ggcta | 8.088991689 | 0.170037687 | 0.65758 | 0.258581 | 0.795959 | NA |
| cavinla | 21.39440143 | 0.209700539 | 0.4073603 | 0.5147791 | 0.606707 | 0.956718 |
| espn | 42.17670403 | 0.160172623 | 0.3022467 | 0.5299399 | 0.596154 | 0.954444 |
| shroom2a | 730.1704185 | 0.015339043 | 0.0907068 | 0.1691058 | 0.865713 | 0.986517 |
| si:dkeyp-117b11.2 | 92.21273498 | 0.164772372 | 0.212392 | 0.7757936 | 0.437871 | 0.915258 |

| | | | | | | |
|----------------------|-------------|--------------|-----------|-----------|----------|----------|
| dkk2 | 13.01416868 | 0.311450737 | 0.5470581 | 0.5693193 | 0.569139 | 0.948983 |
| lrrc29 | 104.8690523 | 0.186162884 | 0.1968594 | 0.9456642 | 0.34432 | 0.878434 |
| ARHGAP22 (1 of many) | 313.8797666 | -0.091738792 | 0.1389573 | -0.660194 | 0.509129 | 0.936123 |
| abhd10a | 419.8744653 | 0.248498238 | 0.1207572 | 2.0578339 | 0.039606 | 0.390659 |
| zgc:163143 | 53.1311244 | 0.015235416 | 0.2969985 | 0.051298 | 0.959088 | 0.995095 |
| ppp4cb | 1573.296232 | 0.027938756 | 0.0918412 | 0.3042073 | 0.76097 | 0.975374 |
| btbd6a | 361.6321449 | -0.061566259 | 0.1182338 | -0.520716 | 0.602564 | 0.956045 |
| zgc:174310 | 122.5367346 | -0.104584029 | 0.2204582 | -0.474394 | 0.635219 | 0.957927 |
| si:dkey-183c6.8 | 445.3241414 | -0.089000193 | 0.1109274 | -0.802328 | 0.422363 | 0.906561 |
| serpinf2a | 220.6306514 | 0.343967976 | 0.1569229 | 2.1919557 | 0.028383 | 0.326872 |
| kbtbd13 | 6.005810399 | 0.170928057 | 0.7801454 | 0.2190977 | 0.826574 | NA |
| prdm2b | 905.9015283 | 0.029364847 | 0.0911761 | 0.3220673 | 0.747402 | 0.97419 |
| ndnfl | 476.7180904 | -0.062344735 | 0.1111433 | -0.56094 | 0.574838 | 0.950037 |
| lamtor1 | 96.68270176 | 0.092579684 | 0.1998243 | 0.4633054 | 0.643145 | 0.959994 |
| maml1 | 340.8753129 | -0.13259134 | 0.1176848 | -1.126665 | 0.259884 | 0.828288 |
| ovolla | 216.047518 | -0.175131365 | 0.1489034 | -1.176141 | 0.239539 | 0.808091 |
| trim37 | 516.3027946 | 0.005729623 | 0.1020399 | 0.0561508 | 0.955222 | 0.994543 |
| org | 2.644220079 | -0.00327282 | 1.1345402 | -0.002885 | 0.997698 | NA |
| zgc:173770 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| mcf21b | 324.6990962 | 0.278020149 | 0.1254839 | 2.2155837 | 0.02672 | 0.315011 |
| dhrrs13b.2 | 8.049577873 | -0.456432018 | 0.7380554 | -0.618425 | 0.536295 | NA |
| stabl | 159.4240157 | 0.05259617 | 0.1636105 | 0.3214718 | 0.747853 | 0.97419 |
| acpl | 614.7587546 | -0.24756251 | 0.0969872 | -2.552529 | 0.010694 | 0.179263 |
| haao | 189.0381002 | -0.283984346 | 0.1525485 | -1.861601 | 0.062659 | 0.488383 |
| ankrd40 | 475.7322758 | 0.146538199 | 0.1182738 | 1.2389741 | 0.215355 | 0.782987 |
| vcw2 | 95.26393806 | 0.098826488 | 0.2038146 | 0.4848842 | 0.627759 | 0.957354 |
| frmd4bb | 140.0977286 | 0.396824921 | 0.1857689 | 2.1361217 | 0.032669 | 0.352204 |
| usp53b | 81.99749967 | 0.13803643 | 0.218981 | 0.630358 | 0.52846 | 0.941896 |
| chgb | 350.8960795 | 0.111187015 | 0.1269319 | 0.8759582 | 0.381053 | 0.895192 |
| asx12 | 41.88775638 | 0.019448251 | 0.3055572 | 0.0636485 | 0.94925 | 0.99381 |
| grm8b | 286.9237509 | 0.167867997 | 0.138246 | 1.2142706 | 0.224644 | 0.791954 |
| polr2d | 403.0577083 | -0.175325424 | 0.2892635 | -0.60611 | 0.544442 | 0.945438 |
| fgf22 | 11.28359474 | 0.531753289 | 0.5751846 | 0.9244916 | 0.35523 | 0.882342 |
| si:ch211-265g22.4 | 8.76703468 | 0.669636529 | 0.6898725 | 0.970667 | 0.331714 | NA |
| mettl1 | 280.107826 | -0.133515606 | 0.1389373 | -0.960977 | 0.336564 | 0.876088 |
| mafB | 65.14881431 | -0.013727256 | 0.2429661 | -0.056499 | 0.954945 | 0.994543 |
| gar1 | 1393.20393 | -0.202448815 | 0.0919379 | -2.202016 | 0.027664 | 0.321596 |
| mmla | 648.8071602 | 0.117648799 | 0.1096968 | 1.0724906 | 0.2835 | 0.84466 |
| jac6 | 2.849078905 | -0.137979823 | 1.116776 | -0.123552 | 0.90167 | NA |
| si:ch211-222121.1 | 17027.67482 | -0.085424753 | 0.0868098 | -0.984045 | 0.325093 | 0.871528 |
| nfe211b | 328.4236905 | 0.30529483 | 0.125311 | 2.4362978 | 0.014838 | 0.223115 |
| si:ch211-14a17.10 | 7.119556964 | -0.195865242 | 0.7119133 | -0.275125 | 0.78322 | NA |
| sc:d156 | 2.490128421 | 0.962595326 | 1.2991769 | 0.7409271 | 0.458738 | NA |
| clcc3ba | 8.456497513 | -0.988080905 | 0.6685547 | -1.477936 | 0.139425 | NA |
| pogzb | 758.637692 | 0.061346838 | 0.0937308 | 0.6545005 | 0.512789 | 0.936253 |
| aldh5a1 | 404.956556 | 0.017670316 | 0.1150153 | 0.1536345 | 0.877898 | 0.987881 |
| trhra | 2.855362933 | 0.187853003 | 1.1560515 | 0.1624954 | 0.870916 | NA |
| si:ch211-221f10.2 | 306.5597436 | 0.415745837 | 0.1254006 | 3.3153404 | 0.000915 | 0.029089 |
| si:dkey-266m15.5 | 29.2542565 | -0.630144047 | 0.3575612 | -1.762339 | 0.078012 | 0.54413 |
| zgc:193801 | 75.30383885 | -0.192122397 | 0.2315537 | -0.82971 | 0.406703 | 0.901305 |
| cdkn1a | 145.3598547 | 0.328074596 | 0.1875526 | 1.7492408 | 0.080249 | 0.549641 |
| bicc2 | 77.98854847 | -0.21370434 | 0.234738 | -0.910395 | 0.362614 | 0.885944 |
| rb1cc1 | 984.0998246 | -0.079694125 | 0.0857718 | -0.929141 | 0.352816 | 0.881552 |
| apbb1 | 28.81042125 | 0.443268355 | 0.3738379 | 1.1857235 | 0.235732 | 0.804824 |

| | | | | | | |
|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| rarres31 | 78.31730408 | -0.107175156 | 0.2303268 | -0.465318 | 0.641704 | 0.959994 |
| hspg2 | 393.4256657 | 0.273086444 | 0.1171236 | 2.3316093 | 0.019721 | 0.264538 |
| kank3 | 279.6309961 | -0.034492398 | 0.1296229 | -0.266098 | 0.790164 | 0.977338 |
| sec61b | 1387.064848 | -0.046549993 | 0.0974917 | -0.477476 | 0.633023 | 0.957356 |
| ndp | 62.61847861 | 0.169597593 | 0.2432905 | 0.6970991 | 0.485741 | 0.930598 |
| sp5a | 237.829955 | 0.044721763 | 0.1411901 | 0.3167485 | 0.751434 | 0.97419 |
| crygm2d7 | 13294.06547 | 0.268588313 | 0.0913518 | 2.9401532 | 0.003281 | 0.076541 |
| si:dkey-88j15.3 | 2.781088656 | 0.484897148 | 1.1328522 | 0.4280321 | 0.668628 | NA |
| si:ch73-160i9.3 | 19.74607523 | 0.032819064 | 0.4648265 | 0.070605 | 0.943712 | 0.993364 |
| patz1 | 379.3853425 | -0.025975132 | 0.1144838 | -0.226889 | 0.82051 | 0.981594 |
| si:ch211-113e8.11 | 663.0889923 | 0.150566781 | 0.1006878 | 1.495383 | 0.134815 | 0.670689 |
| csf2rb | 22.73232491 | 0.172350718 | 0.402652 | 0.4280389 | 0.668623 | 0.96478 |
| atad2 | 745.8360425 | -0.082598054 | 0.0946542 | -0.872629 | 0.382865 | 0.895192 |
| man1b1b | 29.66459916 | 0.19381202 | 0.3578379 | 0.5416196 | 0.588081 | 0.953319 |
| pcdh12 | 73.65165588 | 0.065022378 | 0.2296319 | 0.2831591 | 0.777055 | 0.975826 |
| sema4ga | 22.09226 | -0.275246428 | 0.4067219 | -0.676743 | 0.498569 | 0.934006 |
| prssl6 | 330.9618637 | -0.227658198 | 0.1336457 | -1.703445 | 0.088485 | 0.569447 |
| si:ch211-199g17.9 | 68.49785792 | 0.211172214 | 0.2447254 | 0.8628945 | 0.388195 | 0.896271 |
| fbxo21 | 154.9676283 | -0.105287707 | 0.1795947 | -0.586252 | 0.557706 | 0.948478 |
| ssuh2.3 | 1.151545593 | -2.472760569 | 2.0114878 | -1.229319 | 0.218952 | NA |
| tm2d3 | 825.3747434 | -0.099207358 | 0.0989813 | -1.002284 | 0.316206 | 0.866931 |
| abhd8b | 63.07284261 | 0.123632374 | 0.246743 | 0.5010573 | 0.616331 | 0.95688 |
| atp13a3 | 34.46563314 | -0.389583566 | 0.3586531 | -1.086241 | 0.277373 | 0.840857 |
| coll4a1b | 1268.195629 | 0.253386201 | 0.0856212 | 2.9593855 | 0.003083 | 0.073439 |
| ptprb | 357.1038647 | 0.231982194 | 0.1164023 | 1.992935 | 0.046269 | 0.422789 |
| smg9 | 375.0935618 | -0.03398884 | 0.1203053 | -0.282522 | 0.777544 | 0.975942 |
| zdhhc12a | 79.05558669 | -0.162099725 | 0.2234605 | -0.725407 | 0.468203 | 0.924328 |
| capn10 | 172.0510039 | 0.235415576 | 0.1633654 | 1.4410371 | 0.149574 | 0.697402 |
| F0082781.1 | 24.21295292 | -0.433863329 | 0.3980602 | -1.089944 | 0.275738 | 0.839541 |
| esamb | 79.90310865 | 0.108618501 | 0.2197019 | 0.4943905 | 0.62103 | 0.957354 |
| kcnv2a | 57.04565522 | 0.445641679 | 0.2624105 | 1.6982616 | 0.089458 | 0.572876 |
| pde9al | 13.04825563 | 0.310554062 | 0.541087 | 0.5739448 | 0.566005 | 0.948739 |
| zgc:193807 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |
| plagl2 | 49.26487357 | 0.126208322 | 0.2861866 | 0.4410002 | 0.659213 | 0.962839 |
| cdca7b | 392.0797129 | -0.285883467 | 0.1264391 | -2.261036 | 0.023757 | 0.297136 |
| ccngl | 7301.338612 | 0.300708563 | 0.0796239 | 3.7766129 | 0.000159 | 0.007145 |
| wu:fi04e12 | 583.6452122 | 0.154301357 | 0.1043312 | 1.4789576 | 0.139152 | 0.677963 |
| rail | 314.8878019 | -0.276049301 | 0.1409168 | -1.958953 | 0.050118 | 0.438277 |
| ccn4b | 22.77574336 | 0.583312747 | 0.4232883 | 1.3780507 | 0.168188 | 0.725919 |
| si:rp71-84d9.1 | 4.852440554 | 0.3067053 | 0.8967051 | 0.3420358 | 0.732324 | NA |
| gramd1a | 1019.138894 | 0.128156843 | 0.0882313 | 1.4525107 | 0.14636 | 0.692538 |
| avpr21 | 6.766806768 | 0.297453198 | 0.7589832 | 0.3919101 | 0.695125 | NA |
| NAMPT (1 of many) | 0.817752529 | 3.164885207 | 2.3443606 | 1.3499993 | 0.177016 | NA |
| SIP1 | 21.50650414 | -0.024848589 | 0.4542184 | -0.054706 | 0.956372 | 0.994543 |
| ipmka | 37.3096377 | -1.016270033 | 0.3480581 | -2.919829 | 0.003502 | 0.07951 |
| b4galnt4b | 227.6409336 | 0.057382712 | 0.1373745 | 0.41771 | 0.676159 | 0.965257 |
| CABZ01068356.1 | 3.002290064 | 0.341515882 | 1.0727024 | 0.3183696 | 0.750205 | NA |
| zfang4 | 273.5244619 | -0.127436127 | 0.1363806 | -0.934415 | 0.35009 | 0.880195 |
| si:dkey-42123.7 | 40.93935225 | 0.160496975 | 0.3401517 | 0.4718394 | 0.637041 | 0.958872 |
| si:dkey-265c15.6 | 18.84612494 | 0.089894956 | 0.4404358 | 0.2041046 | 0.838272 | 0.984797 |
| palb2 | 45.81511501 | -0.249912229 | 0.2856882 | -0.874773 | 0.381698 | 0.895192 |
| prkra | 276.1115474 | -0.103198674 | 0.1342514 | -0.768697 | 0.442073 | 0.916336 |
| zgc:171686 | 6.729047935 | 0.312920287 | 0.7763224 | 0.4030803 | 0.686889 | NA |
| pi4kaa | 123.4890461 | -0.121578937 | 0.2101189 | -0.57862 | 0.562846 | 0.948728 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| si:ch211-247i17.1 | 3.575519304 | 0.242534074 | 1.0590916 | 0.229002 | 0.818867 | NA |
| myo9aa | 835.8751519 | 0.074943063 | 0.1154331 | 0.6492335 | 0.516187 | 0.937997 |
| syt6a | 129.1980588 | -0.111254337 | 0.1809211 | -0.614933 | 0.538599 | 0.943336 |
| bard1 | 26.66512418 | -0.299539684 | 0.3691756 | -0.811374 | 0.417151 | 0.906237 |
| si:dkey-193c22.2 | 236.9066742 | 0.256354359 | 0.1369152 | 1.8723581 | 0.061157 | 0.482482 |
| cyth1a | 1142.241065 | -0.097254162 | 0.0829475 | -1.172479 | 0.241005 | 0.809517 |
| zgc:193811 | 5.961980251 | -0.342652635 | 0.7888801 | -0.434353 | 0.664032 | NA |
| TMCC1 | 52.23871437 | -0.070083823 | 0.277518 | -0.252538 | 0.800625 | 0.979377 |
| ntn2 | 19.09040002 | -0.2202352 | 0.4377658 | -0.503089 | 0.614902 | 0.95688 |
| tmem67 | 213.7180104 | -0.143996242 | 0.1513267 | -0.951559 | 0.341321 | 0.878134 |
| slc9a7 | 801.9999213 | 0.159157771 | 0.0926842 | 1.7172052 | 0.085942 | 0.562905 |
| ap5s1 | 160.842077 | -0.138455161 | 0.1707317 | -0.810952 | 0.417393 | 0.906237 |
| ephb1 | 13.25034068 | 0.193048692 | 0.52896 | 0.364959 | 0.715142 | 0.96909 |
| sp2 | 499.8932678 | -0.186541317 | 0.1063038 | -1.754795 | 0.079294 | 0.547489 |
| ddhd2 | 412.425485 | 0.23194151 | 0.11485 | 2.0195163 | 0.043434 | 0.409149 |
| zgc:163061 | 27.85992986 | 0.528520582 | 0.3990903 | 1.3243134 | 0.185399 | 0.74928 |
| pgfb | 14.63298347 | 0.681536407 | 0.4994044 | 1.3646984 | 0.172348 | 0.731348 |
| reps2 | 6.514023574 | 0.690303514 | 0.7397968 | 0.9330989 | 0.350769 | NA |
| lrrc58a | 62.06364834 | 0.264819207 | 0.2486346 | 1.0650941 | 0.286833 | 0.845979 |
| gucy2g | 9.107552145 | -0.197996857 | 0.6434326 | -0.30772 | 0.758296 | NA |
| si:ch73-34314.5 | 0 | NA | NA | NA | NA | NA |
| fam13b | 2907.201429 | 0.09885731 | 0.0712607 | 1.3872621 | 0.165362 | 0.721223 |
| acadsb | 611.9178865 | -0.058659999 | 0.0995299 | -0.589371 | 0.555613 | 0.947621 |
| trim45 | 137.2075643 | -0.007987313 | 0.1887427 | -0.042319 | 0.966245 | 0.996315 |
| angpt4 | 25.97598897 | -0.294500506 | 0.3770412 | -0.781083 | 0.434754 | 0.914408 |
| BX571825.4 | 0 | NA | NA | NA | NA | NA |
| cx32.2 | 13.57326421 | 0.085592394 | 0.5185327 | 0.1650665 | 0.868892 | 0.987245 |
| crygm2d16 | 8178.153198 | 0.159361687 | 0.0875201 | 1.8208585 | 0.068628 | 0.513124 |
| cdk13 | 518.8104546 | 0.200604977 | 0.1301941 | 1.5408148 | 0.123362 | 0.651258 |
| dlg3 | 1586.580356 | 0.045719159 | 0.0768683 | 0.5947726 | 0.551995 | 0.947215 |
| si:dkey-178o16.4 | 20.40570434 | 0.074800436 | 0.4382463 | 0.1706813 | 0.864474 | 0.98601 |
| si:ch211-261p9.4 | 52.22189675 | 0.437323301 | 0.2882324 | 1.5172594 | 0.129201 | 0.660844 |
| rnd3a | 1531.942185 | 4.40E-05 | 0.0867769 | 0.0005067 | 0.999596 | 0.999704 |
| tnfrsf18 | 3.697840539 | 0.578904965 | 1.002865 | 0.5772511 | 0.56377 | NA |
| arap3 | 158.5998365 | 0.171584503 | 0.1711522 | 1.002526 | 0.31609 | 0.866931 |
| tradv30.0.1 | 0 | NA | NA | NA | NA | NA |
| ttyh1 | 751.9511718 | 0.122651999 | 0.0940569 | 1.3040193 | 0.192227 | 0.756683 |
| leng8 | 2802.939902 | -0.032207065 | 0.0899287 | -0.35814 | 0.720239 | 0.969318 |
| zgc:174268 | 81.88232501 | 0.02465073 | 0.215394 | 0.1144449 | 0.908885 | 0.990702 |
| ganab | 2075.419135 | -0.077078843 | 0.0755303 | -1.020502 | 0.30749 | 0.861088 |
| gzm3.4 | 7.671063049 | 0.509086854 | 0.678102 | 0.7507526 | 0.452802 | NA |
| EIF3S10 | 8378.339143 | -0.138325865 | 0.0673879 | -2.052682 | 0.040103 | 0.392085 |
| nLrc8 | 0 | NA | NA | NA | NA | NA |
| xkr8.2 | 37.11705747 | 0.167622817 | 0.3164594 | 0.529682 | 0.596332 | 0.954499 |
| CCKBR | 7.264714427 | -0.264018714 | 0.7087813 | -0.372497 | 0.709523 | NA |
| dpp6a | 171.582875 | -0.182945322 | 0.1612956 | -1.134224 | 0.256701 | 0.824902 |
| zgc:194101 | 1.818526424 | -0.761925714 | 1.442107 | -0.528342 | 0.597262 | NA |
| ankib1b | 453.6991623 | -0.064402538 | 0.1100626 | -0.585144 | 0.558451 | 0.948478 |
| si:dkey-65b12.6 | 2661.612436 | 0.578248501 | 0.0841549 | 6.8712362 | 6.36E-12 | 1.94E-09 |
| iqck | 41.73061837 | 0.06669929 | 0.3118595 | 0.2138761 | 0.830644 | 0.982994 |
| atpl1b1b | 2739.705932 | 0.163065765 | 0.0800798 | 2.0362899 | 0.041721 | 0.400593 |
| LRRC75A | 235.8327384 | 0.031578008 | 0.135393 | 0.2332322 | 0.815581 | 0.981457 |
| gpx4b | 2028.244562 | -0.103750231 | 0.0904134 | -1.14751 | 0.251171 | 0.820469 |
| apom | 1291.830453 | 0.124507419 | 0.1144073 | 1.0882823 | 0.276471 | 0.839541 |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| ftr86 | 137.9353371 | -0.172344381 | 0.2104278 | -0.819019 | 0.412776 | 0.904974 |
| si:dkey-174i8.1 | 69.12139068 | 0.044910549 | 0.2428247 | 0.1849505 | 0.853268 | 0.985174 |
| plin6 | 129.664778 | 0.479192855 | 0.1809524 | 2.6481704 | 0.008093 | 0.1451 |
| nitr6a | 0 NA | NA | NA | NA | NA | NA |
| tnrc6c1 | 1319.049236 | 0.037949166 | 0.0869901 | 0.4362471 | 0.662657 | 0.964665 |
| zgc:l12492 | 94.21476319 | 0.200850584 | 0.2211693 | 0.9081307 | 0.363809 | 0.886174 |
| si:ch211-157b11.14 | 527.9461261 | -0.082169192 | 0.1067914 | -0.769437 | 0.441634 | 0.916336 |
| areg | 69.04050799 | 0.053634934 | 0.2604951 | 0.2058961 | 0.836872 | 0.984636 |
| frem2a | 241.9411899 | 0.280367716 | 0.1397529 | 2.0061673 | 0.044838 | 0.416612 |
| her3 | 10.25485759 | -0.099837689 | 0.6377266 | -0.156552 | 0.875598 | NA |
| TCIM (1 of many) | 41.13365482 | -0.120371673 | 0.3167734 | -0.379993 | 0.703951 | 0.968134 |
| tmem79b | 324.0641803 | -0.179499099 | 0.1239978 | -1.447599 | 0.147729 | 0.695027 |
| gaskla | 216.5080865 | 0.229250277 | 0.1534325 | 1.4941445 | 0.135138 | 0.670689 |
| si:ch73-193c12.2 | 52.03736993 | -0.425614899 | 0.2713969 | -1.568238 | 0.116826 | 0.639958 |
| mrtfbb | 204.6701465 | -0.158289136 | 0.1514251 | -1.04533 | 0.295871 | 0.852974 |
| piezol | 92.11765207 | 0.300014848 | 0.2076425 | 1.4448627 | 0.148496 | 0.696298 |
| mpp4l | 269.9957951 | -0.077217215 | 0.1446054 | -0.533986 | 0.593351 | 0.954434 |
| unm_hu7912 | 184.0650387 | 0.131352636 | 0.1565824 | 0.8388722 | 0.401541 | 0.90084 |
| zgc:l71967 | 556.4313219 | 0.008062887 | 0.1156306 | 0.0697297 | 0.944409 | 0.993364 |
| ralgapal | 1041.744301 | -0.069167513 | 0.0872902 | -0.792386 | 0.428136 | 0.911082 |
| rfxap | 16.40027393 | 0.251298215 | 0.5410427 | 0.4644702 | 0.642311 | 0.959994 |
| flrt3 | 1371.764674 | 0.030275636 | 0.0840777 | 0.360091 | 0.718779 | 0.969092 |
| si:dkey-188g12.1 | 5.050734779 | -0.679573034 | 0.9666478 | -0.70302 | 0.482043 | NA |
| slc2a13b | 85.48520834 | 0.10819084 | 0.2386817 | 0.4532851 | 0.650343 | 0.960708 |
| prozb | 33.70590766 | 0.348758206 | 0.3498275 | 0.9969435 | 0.318792 | 0.867746 |
| CR376751.1 | 0 NA | NA | NA | NA | NA | NA |
| bend3 | 213.0334262 | 0.166729793 | 0.1465309 | 1.1378472 | 0.255184 | 0.823839 |
| lox15b | 52.46713785 | 0.127260175 | 0.2903752 | 0.4382612 | 0.661197 | 0.964234 |
| emel | 124.2477631 | 0.171889452 | 0.1848543 | 0.9298645 | 0.352441 | 0.881179 |
| lacc1 | 68.97093139 | -0.490313878 | 0.3187934 | -1.53803 | 0.124041 | 0.652685 |
| igdcc4 | 140.0478586 | 0.162293051 | 0.1747998 | 0.928451 | 0.353174 | 0.881552 |
| ZNF335 | 387.2482265 | -0.031924401 | 0.1139622 | -0.280132 | 0.779377 | 0.976146 |
| kazna | 213.8286936 | 0.124529762 | 0.1428489 | 0.8717585 | 0.38334 | 0.895192 |
| als2b | 562.3072992 | -0.055871854 | 0.1032488 | -0.541138 | 0.588413 | 0.953319 |
| tet2 | 940.2069539 | 0.121033474 | 0.0912342 | 1.3266245 | 0.184633 | 0.747376 |
| aldh1a3 | 163.2771882 | -0.01893503 | 0.1650071 | -0.114753 | 0.908641 | 0.990702 |
| wdr60 | 147.7846585 | -0.10922835 | 0.193321 | -0.56501 | 0.572067 | 0.949494 |
| znf451 | 519.0753937 | -0.143027718 | 0.1119224 | -1.277919 | 0.201278 | 0.767169 |
| lhfp14b | 105.7617807 | 0.115552033 | 0.1988613 | 0.5810684 | 0.561194 | 0.948728 |
| dsg2.1 | 889.6948486 | 0.043244602 | 0.1116081 | 0.3874682 | 0.69841 | 0.967998 |
| zgc:l73837 | 0 NA | NA | NA | NA | NA | NA |
| kel | 23.60734682 | 0.117416867 | 0.4075457 | 0.2881072 | 0.773265 | 0.975687 |
| fer114 | 96.07485854 | -0.081524397 | 0.2153282 | -0.378605 | 0.704981 | 0.968134 |
| jac8 | 5.220192752 | -0.735103957 | 0.8523896 | -0.862404 | 0.388465 | NA |
| si:ch211-38m6.6 | 25.24940381 | -0.430836771 | 0.4294758 | -1.003169 | 0.315779 | 0.866931 |
| paqr4a | 15.20871444 | 0.567672661 | 0.4950869 | 1.1466122 | 0.251542 | 0.820927 |
| gdpd5b | 627.9112938 | 0.106660101 | 0.0986436 | 1.081267 | 0.279578 | 0.843127 |
| cables2a | 156.934288 | 0.192419826 | 0.1696053 | 1.1345154 | 0.256578 | 0.824839 |
| cep70 | 109.6530987 | -0.138720948 | 0.2051189 | -0.676295 | 0.498853 | 0.934006 |
| pagr1 | 362.187429 | -0.141803679 | 0.1194121 | -1.187515 | 0.235024 | 0.803894 |
| ftr22 | 0.976358547 | -0.047642605 | 2.2026384 | -0.02163 | 0.982743 | NA |
| si:ch211-165b10.3 | 12.58091102 | -0.272139842 | 0.5578757 | -0.487814 | 0.625681 | 0.957354 |
| plvapa | 149.6418194 | 0.245307034 | 0.1710972 | 1.4337287 | 0.15165 | 0.700137 |
| pdzd7a | 10.22904924 | 0.356266094 | 0.6536935 | 0.5450048 | 0.58575 | NA |

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|------------------|-------------|--------------|-----------|-----------|----------|----------|
| pmchl | 59.48594858 | 0.077615315 | 0.2520428 | 0.307945 | 0.758124 | 0.975374 |
| ppplr16a | 34.53464806 | -0.261024459 | 0.3356395 | -0.777693 | 0.43675 | 0.914408 |
| zgc:198329 | 23.89473814 | -0.436522907 | 0.3894873 | -1.120763 | 0.262389 | 0.830166 |
| rnase14 | 0 NA | NA | NA | NA | NA | NA |
| znf839 | 795.588698 | -0.04411415 | 0.0884137 | -0.498951 | 0.617814 | 0.957354 |
| dolk | 8.823588164 | 0.38852313 | 0.6344743 | 0.6123544 | 0.540303 | NA |
| adgra2 | 119.9100428 | -0.188057877 | 0.1902562 | -0.988445 | 0.322935 | 0.870607 |
| sharpin | 317.7982958 | -0.044945557 | 0.1225075 | -0.36688 | 0.713708 | 0.96909 |
| si:ch73-182a11.2 | 77.60884471 | 0.02417092 | 0.2253007 | 0.1072829 | 0.914565 | 0.991119 |
| stxbp4 | 45.25057116 | 0.120672233 | 0.3250995 | 0.3711855 | 0.710499 | 0.968985 |
| si:ch73-92i20.1 | 8.681777558 | -0.047022477 | 0.6576338 | -0.071503 | 0.942998 | NA |
| igsf3 | 328.3802489 | -0.007974747 | 0.1312304 | -0.060769 | 0.951543 | 0.99381 |
| aldh111 | 1801.349716 | -0.251425843 | 0.0855311 | -2.939583 | 0.003287 | 0.076547 |
| abcc8b | 210.7817314 | 0.099567958 | 0.1591558 | 0.6256004 | 0.531577 | 0.942358 |
| wdfy4 | 199.1998409 | 0.021979472 | 0.1504923 | 0.1460504 | 0.883882 | 0.988706 |
| uhrflbp1 | 52.16816217 | 0.117567198 | 0.2747769 | 0.4278641 | 0.66875 | 0.964829 |
| eif4ea | 297.2431492 | 0.009703734 | 0.133554 | 0.0726577 | 0.942078 | 0.993099 |
| znf280d | 706.3485633 | -0.003510966 | 0.0986813 | -0.035579 | 0.971618 | 0.996315 |
| socs7 | 484.9112341 | 0.106265426 | 0.1085561 | 0.978899 | 0.32763 | 0.872701 |
| calhml | 17.01522097 | 0.907777189 | 0.4729289 | 1.9194794 | 0.054924 | 0.459334 |
| fam131a | 18.78192818 | -1.081583884 | 0.4800859 | -2.252896 | 0.024266 | 0.301022 |
| pcdhh | 5.786454719 | -0.909434091 | 0.8355551 | -1.088419 | 0.27641 | NA |
| si:dkey-94e7.1 | 8.73905276 | 0.05745185 | 0.68344 | 0.0840628 | 0.933007 | NA |
| si:ch211-81n22.1 | 30.9633375 | 0.211815088 | 0.3613427 | 0.5861889 | 0.557749 | 0.948478 |
| bub1 | 454.745411 | -0.08496765 | 0.1147169 | -0.740672 | 0.458892 | 0.921978 |
| nmnat3 | 81.86952038 | 0.078726857 | 0.2277834 | 0.3456216 | 0.729627 | 0.971036 |
| pimr177 | 0.484248244 | 0.852636534 | 2.8793247 | 0.2961238 | 0.767136 | NA |
| BX901889.1 | 0.330916733 | -1.849579229 | 3.2489867 | -0.569279 | 0.569167 | NA |
| txlna | 658.8103126 | 0.025547796 | 0.1004771 | 0.254265 | 0.799291 | 0.979316 |
| pbrml1 | 1345.773251 | -0.059580801 | 0.0800322 | -0.74446 | 0.456598 | 0.921215 |
| esama | 190.8502872 | -0.034108374 | 0.1647373 | -0.207047 | 0.835973 | 0.984089 |
| si:ch211-85n16.4 | 42.34885084 | -0.187777656 | 0.3048992 | -0.615868 | 0.537982 | 0.943336 |
| arl6ip5a | 75.05695519 | 0.305407299 | 0.241584 | 1.2641869 | 0.206163 | 0.773855 |
| scg5 | 17.4742876 | -2.813714222 | 0.5935203 | -4.740721 | 2.13E-06 | 0.000191 |
| ptrnbn | 53.85127655 | 0.008813293 | 0.2618091 | 0.033663 | 0.973146 | 0.996315 |
| tnrc18 | 1520.757851 | -0.009310305 | 0.0818441 | -0.113757 | 0.909431 | 0.990702 |
| ppfia3 | 1480.137816 | -0.006893567 | 0.0903818 | -0.076272 | 0.939203 | 0.992857 |
| gask1b | 98.41901809 | -0.160182788 | 0.2157333 | -0.742504 | 0.457782 | 0.921978 |
| escol | 314.6410654 | -0.03215666 | 0.123163 | -0.26109 | 0.794023 | 0.977937 |
| celal.5 | 0 NA | NA | NA | NA | NA | NA |
| rbm6 | 815.6161947 | 0.087016221 | 0.0999379 | 0.8707025 | 0.383917 | 0.895192 |
| si:ch211-11p18.6 | 21.68056646 | -0.536959745 | 0.4160156 | -1.29072 | 0.196801 | 0.761944 |
| srgn | 278.4652151 | -0.117959756 | 0.139079 | -0.848149 | 0.396355 | 0.899672 |
| si:ch73-280o22.2 | 120.9924498 | 0.006706092 | 0.1913961 | 0.0350378 | 0.97205 | 0.996315 |
| tancla | 680.9684338 | -0.018605265 | 0.1015748 | -0.183168 | 0.854666 | 0.985174 |
| fastk | 604.0751815 | 0.068144129 | 0.1127063 | 0.6046169 | 0.545434 | 0.945526 |
| zgc:173726 | 30.46349039 | -0.241364232 | 0.3664752 | -0.65861 | 0.510146 | 0.936253 |
| gprc5ba | 391.9650917 | 0.261117034 | 0.1146524 | 2.277466 | 0.022758 | 0.288662 |
| slc38a10 | 895.3316775 | 0.026183927 | 0.088998 | 0.2942081 | 0.768599 | 0.975687 |
| agtrap | 61.59644392 | -0.152991484 | 0.2674782 | -0.571977 | 0.567337 | 0.948739 |
| avprlaa | 32.10135303 | -0.542527103 | 0.3416539 | -1.587943 | 0.112299 | 0.627572 |
| col28a1a | 404.869116 | 0.298096802 | 0.1128117 | 2.6424278 | 0.008231 | 0.147048 |
| zgc:110821 | 119.4929956 | -0.168060767 | 0.180103 | -0.933137 | 0.350749 | 0.880195 |
| ankrd34ba | 17.11509971 | -0.314073061 | 0.4878498 | -0.643791 | 0.519711 | 0.938945 |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| si:ch211-196g2.4 | 65.11043502 | -0.158801589 | 0.2431746 | -0.653035 | 0.513734 | 0.936778 |
| blm | 192.2126637 | -0.224208245 | 0.1492612 | -1.50212 | 0.133066 | 0.667628 |
| si:ch211-127b11.1 | 4.461742498 | -0.516207622 | 1.0371528 | -0.497716 | 0.618684 | NA |
| elk4 | 28.97600347 | 0.434814138 | 0.38178 | 1.1389129 | 0.25474 | 0.823484 |
| scaf4a | 1284.748295 | -0.089866781 | 0.0843291 | -1.065667 | 0.286574 | 0.845942 |
| si:ch211-160o17.4 | 2636.225551 | -0.055161186 | 0.0755298 | -0.730323 | 0.465193 | 0.923671 |
| fndc7a | 17.84484165 | 0.349191018 | 0.4559936 | 0.7657805 | 0.443807 | 0.916631 |
| si:ch211-226h8.6 | 0 | NA | NA | NA | NA | NA |
| trim65 | 20.45350615 | 0.515147648 | 0.4265736 | 1.2076406 | 0.227186 | 0.794617 |
| zbtb10 | 154.5532658 | 0.208429667 | 0.1764053 | 1.1815387 | 0.237389 | 0.806412 |
| sema4aa | 9.037858099 | -0.317246731 | 0.6834794 | -0.464164 | 0.64253 | NA |
| oafb | 15.84741983 | 0.670010996 | 0.5344167 | 1.253724 | 0.209942 | 0.777416 |
| si:ch211-180f4.1 | 156.909084 | 0.162634441 | 0.1679365 | 0.9684285 | 0.33283 | 0.874926 |
| arhgef16 | 274.9772603 | -0.235446825 | 0.1358281 | -1.733417 | 0.083022 | 0.555556 |
| si:ch73-44m9.1 | 0 | NA | NA | NA | NA | NA |
| ccnjl | 403.8520911 | -0.018962429 | 0.1108462 | -0.17107 | 0.864169 | 0.98601 |
| naxd | 829.5072101 | -0.178135954 | 0.0871323 | -2.044432 | 0.040911 | 0.394957 |
| arid5a | 7.258233238 | -0.381066514 | 0.6994306 | -0.544824 | 0.585875 | NA |
| cyp26b1 | 1042.135042 | 0.089486905 | 0.0914837 | 0.9781737 | 0.327988 | 0.872701 |
| si:ch211-255p10.4 | 22.53776379 | 0.112668356 | 0.4198051 | 0.2683825 | 0.788405 | 0.976703 |
| snrnp70 | 3700.385873 | -0.148780255 | 0.0769157 | -1.934329 | 0.053073 | 0.452412 |
| bc110 | 235.0189521 | 0.005039634 | 0.1377683 | 0.0365805 | 0.970819 | 0.996315 |
| gpr158a | 21.18997594 | 0.551177923 | 0.4156721 | 1.3259922 | 0.184842 | 0.747917 |
| si:dkey-28d5.14 | 0 | NA | NA | NA | NA | NA |
| zgc:195173 | 69.11710588 | -0.068990522 | 0.2519859 | -0.273787 | 0.784248 | 0.97627 |
| col6a3 | 3202.739048 | 0.334701743 | 0.0665762 | 5.0273488 | 4.97E-07 | 5.67E-05 |
| znf526 | 231.9075799 | -0.037172688 | 0.1541185 | -0.241195 | 0.809404 | 0.980642 |
| adcy3a | 284.9442744 | 0.0639859 | 0.1386612 | 0.461455 | 0.644472 | 0.96029 |
| cb1n2b | 657.0302596 | 0.017854605 | 0.0944405 | 0.1890566 | 0.850048 | 0.985174 |
| si:ch211-157p22.10 | 65.76319115 | 0.025942791 | 0.2520722 | 0.1029181 | 0.918028 | 0.991623 |
| synpo2b | 108.8087595 | 0.419476353 | 0.1969908 | 2.1294209 | 0.033219 | 0.355427 |
| ccdc153 | 9.048767196 | -0.251216449 | 0.667813 | -0.376178 | 0.706785 | NA |
| nwd2 | 651.4882806 | -0.156102689 | 0.0962439 | -1.621948 | 0.104814 | 0.612652 |
| kcnj3a | 131.7165175 | -0.005308723 | 0.1813947 | -0.029266 | 0.976652 | 0.996762 |
| nmbb | 47.27605499 | -0.603799166 | 0.305731 | -1.974936 | 0.048275 | 0.432986 |
| si:ch211-153b23.4 | 607.873747 | -0.25353884 | 0.1398768 | -1.812586 | 0.069896 | 0.516293 |
| qsox2 | 85.12925617 | 0.066377353 | 0.2530657 | 0.2622929 | 0.793096 | 0.977937 |
| zgc:174888 | 165.200012 | 0.276289974 | 0.1590477 | 1.7371522 | 0.08236 | 0.553931 |
| map2k4b | 527.6550698 | -0.139156123 | 0.1015671 | -1.370091 | 0.170659 | 0.728116 |
| zgc:152977 | 91.51687127 | -0.089832153 | 0.2076514 | -0.43261 | 0.665298 | 0.964736 |
| ccdc83 | 5.215158951 | 0.005396256 | 0.8399135 | 0.0064248 | 0.994874 | NA |
| slc37a4b | 716.0705862 | 0.301085651 | 0.0932504 | 3.2287858 | 0.001243 | 0.036745 |
| imp1a | 236.7538797 | 0.382898248 | 0.1507497 | 2.5399599 | 0.011087 | 0.182535 |
| atrn11a | 40.55140859 | -0.09213206 | 0.2990738 | -0.308058 | 0.758038 | 0.975374 |
| nags | 57.41143407 | -0.127957673 | 0.2594239 | -0.493238 | 0.621845 | 0.957354 |
| chst12b | 11.13427746 | -0.095612446 | 0.5908064 | -0.161834 | 0.871437 | 0.987754 |
| myo7bb | 205.6995987 | -0.76135892 | 0.1546147 | -4.924234 | 8.47E-07 | 8.77E-05 |
| mocs2 | 90.68132079 | 0.201989402 | 0.2058973 | 0.9810203 | 0.326583 | 0.872564 |
| zgc:153116 | 27.39757111 | -0.065255856 | 0.3658145 | -0.178385 | 0.858421 | 0.985773 |
| lzts2b | 27.89214345 | -0.272984168 | 0.3775324 | -0.723075 | 0.469634 | 0.924505 |
| or112-1 | 6.010392788 | -0.001706254 | 0.8564731 | -0.001992 | 0.99841 | NA |
| eif4g3a | 1303.883765 | -0.036287628 | 0.0823375 | -0.440718 | 0.659417 | 0.96288 |
| zgc:162184 | 122.2126286 | -0.026762543 | 0.1803514 | -0.148391 | 0.882034 | 0.988344 |
| si:ch211-106h4.6 | 19.30282119 | -0.025874046 | 0.4591886 | -0.056347 | 0.955065 | 0.994543 |

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| si:ch211-208f21.3 | 2.943499199 | -0.020793767 | 1.1314159 | -0.018379 | 0.985337 | NA |
| ypel2a | 73.70246311 | -0.528168781 | 0.2402464 | -2.198446 | 0.027917 | 0.323709 |
| smarca4a | 6113.864871 | -0.072588894 | 0.0815902 | -0.889676 | 0.37364 | 0.893677 |
| fbxl6 | 148.3833609 | -0.004545048 | 0.1639186 | -0.027727 | 0.97788 | 0.996762 |
| ntrk3a | 594.0871444 | 0.027706897 | 0.099047 | 0.2797349 | 0.779681 | 0.976146 |
| ano8b | 29.03066879 | 0.32557591 | 0.3624536 | 0.8982554 | 0.369049 | 0.888432 |
| vwf | 53.82701546 | -0.131768727 | 0.3071677 | -0.42898 | 0.667938 | 0.964736 |
| hspb6 | 210.8051314 | 0.638834153 | 0.1518227 | 4.2077657 | 2.58E-05 | 0.001562 |
| rfx7a | 526.5859673 | -0.264390365 | 0.1107384 | -2.387523 | 0.016962 | 0.240499 |
| si:ch211-165i18.2 | 1.935316918 | 0.957568656 | 1.4448608 | 0.6627411 | 0.507496 | NA |
| cd2471 | 3.634575357 | 0.259952073 | 0.9816467 | 0.2648123 | 0.791154 | NA |
| setdlbb | 7.76493075 | 0.057973587 | 0.7437928 | 0.0779432 | 0.937873 | NA |
| si:dkey-225n22.4 | 21.31073369 | 0.757046583 | 0.4311926 | 1.7557041 | 0.079139 | 0.547489 |
| zgc:171459 | 66.53279517 | -0.336791245 | 0.2451591 | -1.373766 | 0.169514 | 0.726744 |
| gmip | 142.7691725 | 0.169559373 | 0.1682927 | 1.0075267 | 0.313682 | 0.865132 |
| si:rp71-36a1.5 | 36.72431745 | 0.07600177 | 0.3135005 | 0.2424295 | 0.808447 | 0.980642 |
| alkbh6 | 132.6128842 | 0.074303944 | 0.1813685 | 0.409685 | 0.682037 | 0.965476 |
| nat8l | 2466.356712 | 0.074109727 | 0.0820942 | 0.9027399 | 0.366664 | 0.88734 |
| timd4 | 57.81490402 | 0.542617792 | 0.2822355 | 1.9225708 | 0.054534 | 0.457793 |
| si:dkey-28d5.13 | 1.202474398 | -0.315413906 | 1.8153552 | -0.173748 | 0.862064 | NA |
| lmod1b | 11.54892827 | 0.320509874 | 0.5660942 | 0.5661777 | 0.571273 | 0.949418 |
| si:ch73-27e22.3 | 10.25725567 | 0.278218848 | 0.5871723 | 0.4738283 | 0.635622 | NA |
| wdr43 | 1276.443802 | -0.118208511 | 0.0853037 | -1.385737 | 0.165827 | 0.721626 |
| wdr89 | 92.93180321 | -0.005722117 | 0.2055987 | -0.027831 | 0.977797 | 0.996762 |
| zgc:174698 | 9.025378027 | 0.016135654 | 0.6398346 | 0.0252185 | 0.979881 | NA |
| crisplda | 80.89759104 | 0.131753423 | 0.2223295 | 0.5926043 | 0.553446 | 0.947265 |
| gdpd5a | 221.3781487 | -0.378882765 | 0.145838 | -2.597971 | 0.009378 | 0.16228 |
| scarf1 | 46.59088241 | 0.068139017 | 0.2888019 | 0.2359369 | 0.813482 | 0.981081 |
| si:ch211-188c16.1 | 14.08105835 | 0.178451176 | 0.5289447 | 0.3373721 | 0.735836 | 0.972535 |
| mmp25a | 2.604263582 | -0.007810395 | 1.1679243 | -0.006687 | 0.994664 | NA |
| rps2 | 25923.4777 | -0.380198867 | 0.0968846 | -3.924246 | 8.70E-05 | 0.004355 |
| synpo2la | 884.8897519 | 0.319496123 | 0.1108646 | 2.881859 | 0.003953 | 0.086474 |
| akap6 | 1030.849124 | 0.022656661 | 0.0943874 | 0.2400392 | 0.8103 | 0.980867 |
| nbr1a | 1390.920596 | -0.129030963 | 0.0823 | -1.567812 | 0.116925 | 0.639958 |
| gas1a | 730.4873293 | 0.063387866 | 0.0953093 | 0.6650752 | 0.506002 | 0.935724 |
| yars2 | 72.79894723 | 0.199728107 | 0.2284926 | 0.874112 | 0.382057 | 0.895192 |
| usp42 | 506.0609462 | 0.039325892 | 0.1053731 | 0.373206 | 0.708995 | 0.968664 |
| mlf1 | 321.7672253 | 0.307515205 | 0.1243316 | 2.4733468 | 0.013385 | 0.207707 |
| erg | 20.94931696 | -0.316835747 | 0.4514814 | -0.701769 | 0.482823 | 0.929133 |
| cutc | 207.0268037 | -0.182579797 | 0.1488344 | -1.226731 | 0.219924 | 0.786668 |
| tmem201 | 231.2047946 | -0.143754235 | 0.1435713 | -1.001274 | 0.316694 | 0.867129 |
| gpr84 | 185.689193 | -0.204089528 | 0.1937471 | -1.053381 | 0.292166 | 0.848075 |
| si:ch211-209f23.6 | 2.168693064 | 0.248812578 | 1.2709797 | 0.1957644 | 0.844795 | NA |
| slc46a3 | 62.45142772 | -0.046178154 | 0.2564497 | -0.180067 | 0.8571 | 0.985597 |
| mblac1 | 42.20836855 | 0.459225894 | 0.3058208 | 1.5016176 | 0.133196 | 0.667628 |
| MB21D2 | 5.278392891 | -0.354017659 | 0.8116764 | -0.436156 | 0.662723 | NA |
| snx29 | 330.2214805 | -0.074524575 | 0.1374648 | -0.542136 | 0.587725 | 0.953319 |
| CR376737.1 | 169.5915147 | -0.05306709 | 0.1666038 | -0.318523 | 0.750088 | 0.97419 |
| thap4 | 161.8991918 | 0.15390853 | 0.1699833 | 0.9054331 | 0.365236 | 0.886714 |
| slc45a4 | 448.5640862 | 0.130742946 | 0.1093646 | 1.1954778 | 0.2319 | 0.800084 |
| anol1 | 186.5977015 | 0.112146124 | 0.156014 | 0.7188211 | 0.472251 | 0.924838 |
| nlg2a | 849.9607279 | -0.010830514 | 0.0995587 | -0.108785 | 0.913373 | 0.991119 |
| SH3TC1 | 60.89493552 | -0.350185883 | 0.2753844 | -1.271626 | 0.203506 | 0.770906 |
| si:ch211-171h4.5 | 1.511852115 | -1.010943093 | 1.5814422 | -0.639254 | 0.522658 | NA |

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| ptrh2 | 158.0349657 | 0.176229812 | 0.1720809 | 1.0241101 | 0.305783 | 0.860027 |
| ppplr14c | 3020.469664 | -0.136206777 | 0.083162 | -1.637848 | 0.101453 | 0.605353 |
| sorcs3b | 34.36381863 | -0.173214484 | 0.3263561 | -0.530753 | 0.59559 | 0.954434 |
| b4galnt1b | 122.200715 | -0.161843904 | 0.1826821 | -0.885932 | 0.375654 | 0.894316 |
| rerea | 1171.036898 | -0.176077237 | 0.1022234 | -1.722475 | 0.084983 | 0.560519 |
| sypl1 | 42.51425944 | -0.040495197 | 0.3028453 | -0.133716 | 0.893627 | 0.989291 |
| lrrc61 | 14.6947234 | -0.300371214 | 0.5148943 | -0.583365 | 0.559648 | 0.948478 |
| fth130 | 52.68572719 | 0.231840281 | 0.2773171 | 0.8360116 | 0.403148 | 0.900877 |
| bptf | 1729.884856 | -0.034993024 | 0.0895529 | -0.390753 | 0.69598 | 0.96736 |
| mapk9 | 137.1092194 | 0.131636638 | 0.1784792 | 0.7375463 | 0.46079 | 0.921978 |
| ntng2a | 251.1482446 | -0.04587932 | 0.1319171 | -0.347789 | 0.727999 | 0.970402 |
| slc30a6 | 178.5336964 | -0.054771274 | 0.1635108 | -0.33497 | 0.737647 | 0.972535 |
| kcnk15 | 62.0281984 | -0.302135723 | 0.252492 | -1.196615 | 0.231457 | 0.799752 |
| tfr1b | 896.1980878 | -0.446211083 | 0.102365 | -4.359019 | 1.31E-05 | 0.000894 |
| si:dkey-85n7.6 | 257.4918246 | 0.179910958 | 0.1315556 | 1.3675661 | 0.171448 | 0.729863 |
| hcn5 | 46.28331077 | 0.359811489 | 0.2878233 | 1.2501123 | 0.211259 | 0.778917 |
| anx11a | 1545.100244 | -0.101423199 | 0.0921443 | -1.1007 | 0.271027 | 0.835943 |
| dnah11 | 2.238716927 | -0.674951187 | 1.4062242 | -0.479974 | 0.631246 | NA |
| rgsl9 | 34.69589474 | 0.223565303 | 0.3411009 | 0.6554228 | 0.512196 | 0.936253 |
| tctel | 2.370754626 | 1.891439854 | 1.3582926 | 1.3925128 | 0.163767 | NA |
| obs11b | 319.2458771 | 0.25431857 | 0.1351637 | 1.8815599 | 0.059896 | 0.478654 |
| tradv27.0 | | 0 NA | NA | NA | NA | NA |
| si:dkey-81n2.2 | | 0 NA | NA | NA | NA | NA |
| tlcd2 | 415.7516912 | 0.108014396 | 0.1265943 | 0.8532325 | 0.39353 | 0.898076 |
| ubash3bb | 128.3703712 | -0.001227367 | 0.1843024 | -0.00666 | 0.994687 | 0.998694 |
| rbm10 | 454.0977379 | -0.068100573 | 0.1164752 | -0.584679 | 0.558764 | 0.948478 |
| col8ala | 428.5520451 | 0.15280555 | 0.1586478 | 0.963175 | 0.33546 | 0.876088 |
| ncoa3 | 1227.672165 | -0.0439675 | 0.0829013 | -0.530359 | 0.595863 | 0.954434 |
| psiplb | 452.3611276 | -0.312612094 | 0.1471644 | -2.124237 | 0.03365 | 0.357045 |
| si:dkey-184p18.2 | 176.5717606 | -0.104197909 | 0.1565859 | -0.665436 | 0.505772 | 0.935724 |
| cby1 | 116.0100692 | 0.093644664 | 0.1905014 | 0.4915695 | 0.623024 | 0.957354 |
| myo9b | 417.3549024 | -0.032249476 | 0.1115907 | -0.288998 | 0.772583 | 0.975687 |
| ftr08 | | 0 NA | NA | NA | NA | NA |
| zgc:194312 | 171.9633972 | -0.041037559 | 0.1611077 | -0.254721 | 0.798938 | 0.979066 |
| zmp:0000001175 | 3.928706958 | -0.629856636 | 1.0310761 | -0.610873 | 0.541284 | NA |
| nectin4a | 146.6245391 | 0.13536126 | 0.170929 | 0.7919153 | 0.42841 | 0.911195 |
| gpr20 | 1.979569643 | -2.234237259 | 1.6098219 | -1.387879 | 0.165174 | NA |
| camtala | 1235.121968 | 0.037157736 | 0.0797233 | 0.466084 | 0.641155 | 0.959994 |
| usf3 | 356.174008 | -0.025862519 | 0.1206672 | -0.214329 | 0.83029 | 0.982947 |
| mon1bb | 274.1741688 | -0.04876048 | 0.1303686 | -0.37402 | 0.708389 | 0.968664 |
| SYDE1 | 98.90587541 | 0.182582714 | 0.2172957 | 0.8402501 | 0.400768 | 0.90084 |
| tubgcp5 | 507.5778512 | 0.112900286 | 0.10315 | 1.0945258 | 0.273724 | 0.838381 |
| si:dkey-234i14.14 | | 0 NA | NA | NA | NA | NA |
| si:ch211-113a14.12 | 6.774214414 | -0.073242367 | 0.7261114 | -0.100869 | 0.919654 | NA |
| dhx32a | 69.83605805 | 0.048445808 | 0.2375896 | 0.2039054 | 0.838427 | 0.984797 |
| sorcs2 | 568.8658566 | 0.010757052 | 0.1048025 | 0.1026412 | 0.918248 | 0.991623 |
| sox10 | 496.8778815 | 0.012097646 | 0.1088686 | 0.1111216 | 0.91152 | 0.991066 |
| si:ch73-206p6.1 | 220.6428565 | 0.18129371 | 0.1707065 | 1.0620199 | 0.288227 | 0.845979 |
| polr1b | 222.9592719 | -0.013300023 | 0.148118 | -0.089793 | 0.928451 | 0.992702 |
| si:dkey-193b15.8 | 58.41143366 | 0.174749548 | 0.2639248 | 0.6621187 | 0.507895 | 0.935734 |
| hmces | 45.75193499 | -0.106697124 | 0.3015821 | -0.353791 | 0.723495 | 0.970402 |
| mych | 615.2345554 | 0.240943227 | 0.1160929 | 2.0754351 | 0.037946 | 0.381357 |
| pla2r1 | 11.98641446 | 0.264424916 | 0.5533443 | 0.4778669 | 0.632745 | 0.957356 |
| zgc:174353 | | 0 NA | NA | NA | NA | NA |

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| msh5 | 12.91590611 | -0.625105694 | 0.5590027 | -1.118252 | 0.263459 | 0.830245 |
| si:dkey-76k16.6 | 22.76417549 | 0.010103993 | 0.4050252 | 0.0249466 | 0.980098 | 0.996879 |
| spsb3b | 5.733666734 | -0.32878225 | 0.8367924 | -0.392908 | 0.694388 | NA |
| si:ch73-289h5.4 | 29.45801493 | -0.084761675 | 0.3736713 | -0.226835 | 0.820552 | 0.981594 |
| lrfn2b | 247.8290828 | 0.076216209 | 0.133916 | 0.5691344 | 0.569265 | 0.948983 |
| atp8a2 | 1981.557083 | -0.121041965 | 0.0877933 | -1.378715 | 0.167983 | 0.725719 |
| ptpn9a | 95.49896848 | 0.134849628 | 0.2107676 | 0.6398023 | 0.522301 | 0.939056 |
| igsf10 | 75.97585417 | 0.355421646 | 0.223701 | 1.5888247 | 0.1121 | 0.627454 |
| plekho1b | 229.4633014 | 0.068973383 | 0.1401287 | 0.4922144 | 0.622568 | 0.957354 |
| si:ch211-103n10.5 | 7.532362692 | 0.398584999 | 0.7355425 | 0.5418925 | 0.587893 | NA |
| tjpla | 2520.069646 | -0.078236548 | 0.0904183 | -0.865273 | 0.386889 | 0.89551 |
| ppplr3da | 99.64859828 | -0.270515579 | 0.2193096 | -1.233487 | 0.217394 | 0.784786 |
| letm2 | 1104.261403 | 0.11171437 | 0.0856739 | 1.3039482 | 0.192251 | 0.756683 |
| recql4 | 99.15811271 | -0.17455075 | 0.2016975 | -0.865409 | 0.386815 | 0.89551 |
| si:dkey-6f10.4 | 0 NA | NA | NA | NA | NA | NA |
| tldr7b | 171.2920836 | 0.067610554 | 0.1679668 | 0.4025233 | 0.687299 | 0.966376 |
| babam1 | 436.1932802 | 0.022123084 | 0.109074 | 0.2028264 | 0.839271 | 0.984979 |
| ahctf1 | 997.8502181 | -0.043852583 | 0.0927632 | -0.472737 | 0.636401 | 0.958565 |
| bag6l | 524.9852425 | 0.129881639 | 0.1111182 | 1.1688604 | 0.24246 | 0.811298 |
| pign | 106.1211174 | -0.239268602 | 0.1985827 | -1.204881 | 0.228249 | 0.795541 |
| EIF3F | 3245.147098 | -0.327654324 | 0.0869466 | -3.768455 | 0.000164 | 0.007299 |
| snrnp200 | 2473.155979 | 0.071407583 | 0.0756735 | 0.9436271 | 0.34536 | 0.878434 |
| nudt19 | 149.7757497 | 0.168566765 | 0.2140282 | 0.7875913 | 0.430936 | 0.91234 |
| f2r11.2 | 300.1645977 | 0.191995991 | 0.152867 | 1.2559679 | 0.209128 | 0.776073 |
| si:dkeyp-75b4.8 | 5.613748172 | 0.175034727 | 0.8514487 | 0.2055728 | 0.837125 | NA |
| toel | 150.9884984 | -0.060370609 | 0.1667796 | -0.361978 | 0.717368 | 0.96909 |
| si:dkey-16p21.7 | 863.8466233 | 0.02726467 | 0.1113452 | 0.2448661 | 0.80656 | 0.980254 |
| zdhc1 | 365.8348734 | 0.143043518 | 0.1173618 | 1.2188249 | 0.222911 | 0.789115 |
| tmlhe | 31.19454716 | 0.354842232 | 0.3647589 | 0.9728131 | 0.330646 | 0.87417 |
| aifm2 | 648.1615185 | -0.198660753 | 0.1119836 | -1.774016 | 0.07606 | 0.537342 |
| gcnt4b | 0 NA | NA | NA | NA | NA | NA |
| rap2aa | 34.69192751 | -0.117435671 | 0.3862575 | -0.304035 | 0.761101 | 0.975374 |
| nitr5 | 2.334532634 | -0.798295812 | 1.2644475 | -0.63134 | 0.527818 | NA |
| L0017815.1 | 80.6397886 | 0.552967589 | 0.2534069 | 2.1821327 | 0.0291 | 0.330497 |
| grin2cb | 97.50379585 | 0.09614322 | 0.1992502 | 0.4825252 | 0.629433 | 0.957354 |
| angell | 52.78762489 | -0.313903689 | 0.2656015 | -1.18186 | 0.237261 | 0.806257 |
| lrrn3a | 367.3485602 | 0.051974082 | 0.1285832 | 0.4042058 | 0.686061 | 0.966376 |
| cdh16 | 7.323803735 | 0.662229569 | 0.7008473 | 0.9448985 | 0.344711 | NA |
| zgc:174862 | 4.982876016 | -0.981587193 | 0.9128854 | -1.075258 | 0.282259 | NA |
| si:ch211-193k19.2 | 3.427132235 | 0.663052847 | 1.0961842 | 0.6048735 | 0.545263 | NA |
| tmprss13b | 65.86575078 | 0.361304825 | 0.2445395 | 1.4774904 | 0.139544 | 0.678238 |
| ntsrl | 2.76346132 | 0.191801704 | 1.2935319 | 0.1482775 | 0.882124 | NA |
| tspeara | 22.0126753 | 0.090064113 | 0.421457 | 0.2136971 | 0.830783 | 0.982994 |
| zzz3 | 967.3338109 | -0.005058857 | 0.0936711 | -0.054007 | 0.95693 | 0.994543 |
| ank3b | 177.0384574 | -0.030468932 | 0.1837299 | -0.165835 | 0.868286 | 0.987245 |
| b4gat1 | 281.2643764 | 0.010882502 | 0.1335477 | 0.0814878 | 0.935054 | 0.992702 |
| cln6a | 307.6951286 | -0.122380393 | 0.1330703 | -0.919667 | 0.357747 | 0.884371 |
| pdgfc | 165.5845517 | -0.020116959 | 0.1596217 | -0.126029 | 0.899709 | 0.990121 |
| CR847803.1 | 0 NA | NA | NA | NA | NA | NA |
| arsj | 128.2946181 | 0.198785737 | 0.1807492 | 1.0997874 | 0.271425 | 0.836396 |
| phf24 | 992.018685 | 0.220014649 | 0.0936195 | 2.3500948 | 0.018769 | 0.255518 |
| CR394546.1 | 0.838940531 | -0.561526863 | 2.0217856 | -0.277738 | 0.781213 | NA |
| frrslb | 193.1088331 | 0.167059859 | 0.1495148 | 1.1173463 | 0.263846 | 0.830245 |
| arsia | 88.83202235 | -0.153745355 | 0.2162976 | -0.710805 | 0.477205 | 0.926857 |

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| dus2 | 243.7902054 | 0.009188904 | 0.1403915 | 0.065452 | 0.947814 | 0.99381 |
| gpr137bb | 229.1945225 | 0.252344495 | 0.1707859 | 1.477549 | 0.139529 | 0.678238 |
| elfn2a | 3.508784899 | 0.143582365 | 0.9858328 | 0.1456458 | 0.884201 | NA |
| hykk.1 | 1.003361447 | -0.877559612 | 2.0717967 | -0.423574 | 0.671876 | NA |
| si:ch211-206k20.5 | 235.2462617 | 0.035445269 | 0.1424428 | 0.2488386 | 0.803486 | 0.979643 |
| rin3 | 288.57894 | 0.109917368 | 0.1356134 | 0.8105199 | 0.417641 | 0.906237 |
| cdca7a | 580.6786414 | 0.105406727 | 0.1065956 | 0.9888468 | 0.322738 | 0.870524 |
| si:ch211-263p13.7 | 8.467060689 | 0.079800654 | 0.6725306 | 0.1186573 | 0.905547 | NA |
| tafa4a | 1.175083697 | 1.334695785 | 1.855189 | 0.7194392 | 0.47187 | NA |
| CU459089.1 | 21.93346123 | 0.200296939 | 0.4080795 | 0.4908282 | 0.623548 | 0.957354 |
| magixb | 15.08263568 | -0.290251928 | 0.5158029 | -0.562719 | 0.573626 | 0.949904 |
| mal2 | 41.26693952 | -0.067082183 | 0.309164 | -0.216979 | 0.828224 | 0.982721 |
| zgc:171965 | 3.123795581 | 1.476674125 | 1.1145321 | 1.3249274 | 0.185195 | NA |
| intu | 317.3739099 | 0.120735205 | 0.124052 | 0.9732629 | 0.330423 | 0.874098 |
| thbs3a | 266.92531 | 0.314178335 | 0.1384488 | 2.2692749 | 0.023252 | 0.292665 |
| lypd6b | 75.93854521 | -0.021213633 | 0.2260311 | -0.093853 | 0.925226 | 0.992676 |
| zgc:172079 | 0.665331516 | 0.047715978 | 2.3078578 | 0.0206754 | 0.983505 | NA |
| gpr78b | 2.028168054 | 0.489124736 | 1.316488 | 0.3715376 | 0.710237 | NA |
| si:ch211-42i9.8 | 101.0546148 | -0.193765539 | 0.1998524 | -0.969543 | 0.332274 | 0.874653 |
| tnksa | 467.9396963 | -0.074988982 | 0.1113938 | -0.673188 | 0.500828 | 0.93428 |
| lratb.2 | 92.14699593 | -0.295015805 | 0.252628 | -1.167788 | 0.242892 | 0.811584 |
| rabl6b | 480.8392261 | 0.177799433 | 0.107752 | 1.6500804 | 0.098926 | 0.598346 |
| grm8a | 488.2280097 | -0.048557853 | 0.1167838 | -0.415793 | 0.677562 | 0.965257 |
| arfgef3 | 38.05996535 | -0.257735651 | 0.3280032 | -0.785772 | 0.432001 | 0.912876 |
| zgc:110239 | 687.7599373 | -0.273905198 | 0.0982267 | -2.788501 | 0.005295 | 0.107627 |
| pimr140 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| evi5a | 27.19561747 | -0.496050372 | 0.3831438 | -1.294685 | 0.195429 | 0.760412 |
| nlrpl6 | 31.54046327 | -0.465137679 | 0.3471663 | -1.339812 | 0.180306 | 0.741397 |
| pdgfd | 61.39003575 | -0.18852723 | 0.2694183 | -0.699756 | 0.484079 | 0.929461 |
| aak1b | 42.62501544 | 0.481596889 | 0.296336 | 1.6251718 | 0.104126 | 0.611338 |
| rpl | 1.286727072 | -1.584087934 | 1.825231 | -0.867884 | 0.385458 | NA |
| cpo | 16.31798873 | -1.027981641 | 0.5159368 | -1.992457 | 0.046321 | 0.422877 |
| mb21d2 | 448.0132799 | -0.020618956 | 0.12148 | -0.169731 | 0.865222 | 0.986367 |
| slc13a5a | 131.5363014 | 0.351292136 | 0.173195 | 2.0283042 | 0.042529 | 0.405679 |
| dtmba | 1335.509036 | 0.349860987 | 0.0923297 | 3.7892572 | 0.000151 | 0.006841 |
| si:dkey-30h22.11 | 97.77383427 | 0.021332495 | 0.2095704 | 0.1017915 | 0.918922 | 0.991623 |
| si:dkey-105i14.1 | 74.91955627 | 0.07971385 | 0.2772008 | 0.2875672 | 0.773678 | 0.975687 |
| rsad1 | 11.62776489 | -0.003432698 | 0.5569489 | -0.006163 | 0.995082 | 0.998694 |
| CR749163.1 | 4.351721592 | 0.939375682 | 0.9731163 | 0.9653272 | 0.334381 | NA |
| iqsec2b | 360.4911793 | 0.033819692 | 0.1314218 | 0.2573369 | 0.796919 | 0.978569 |
| nlg1 | 35.16222437 | 0.075114316 | 0.3273425 | 0.229467 | 0.818506 | 0.981594 |
| zgc:113886 | 0.323844819 | -1.825095364 | 3.274639 | -0.557342 | 0.577293 | NA |
| GRIK3 | 48.35181948 | 0.081857244 | 0.2799204 | 0.2924304 | 0.769958 | 0.975687 |
| rpl29 | 2927.604872 | -0.179442188 | 0.1092152 | -1.643015 | 0.10038 | 0.602451 |
| knop1 | 135.0820238 | -0.151723888 | 0.1829258 | -0.829429 | 0.406862 | 0.901305 |
| ppp2r3a | 817.9530756 | 0.351712586 | 0.0932418 | 3.7720494 | 0.000162 | 0.00723 |
| nocta | 431.1577837 | 0.535198635 | 0.1278509 | 4.1861163 | 2.84E-05 | 0.001682 |
| supv311 | 294.0326402 | 0.138557646 | 0.1254952 | 1.1040876 | 0.269555 | 0.834705 |
| alyref | 3187.231453 | -0.059854403 | 0.0862173 | -0.694228 | 0.48754 | 0.93164 |
| spsb3a | 436.851675 | -0.187824654 | 0.1243905 | -1.50996 | 0.131054 | 0.663795 |
| b3glctb | 11.30992785 | 0.542546182 | 0.5769355 | 0.9403932 | 0.347016 | 0.879707 |
| zgc:175135 | | 0 NA | NA | NA | NA | NA |
| si:ch73-38013.2 | 1.697251321 | 1.219455701 | 1.5047527 | 0.8104028 | 0.417709 | NA |
| AL935199.1 | 30.7453503 | 0.178296382 | 0.4006957 | 0.444967 | 0.656344 | 0.961833 |

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| usp54b | 64.67869137 | -0.1237016 | 0.27975 | -0.442186 | 0.658354 | 0.962545 |
| no19 | 497.0823806 | 0.003488386 | 0.1077609 | 0.0323715 | 0.974176 | 0.99644 |
| ascc1 | 99.97303402 | -0.09047215 | 0.209132 | -0.432608 | 0.6653 | 0.964736 |
| nlgn4xb | 21.20439609 | 0.355555084 | 0.4204475 | 0.8456587 | 0.397743 | 0.899672 |
| si:rp71-79p20.2 | 4.436696382 | 0.547112337 | 0.8923852 | 0.6130899 | 0.539817 | NA |
| faah | 80.97039795 | -0.007899461 | 0.2309372 | -0.034206 | 0.972713 | 0.996315 |
| malt1 | 76.77561131 | -0.130168967 | 0.2334293 | -0.557638 | 0.577092 | 0.950788 |
| cited1 | 223.1841848 | -0.185349464 | 0.1406497 | -1.317809 | 0.187568 | 0.75202 |
| baalca | 33.88202847 | 0.090706362 | 0.3324115 | 0.2728737 | 0.78495 | 0.97627 |
| csnk2b | 5822.542431 | -0.001715916 | 0.0645551 | -0.026581 | 0.978794 | 0.996762 |
| tmsb4x | 18100.49065 | -0.078022701 | 0.1074792 | -0.725933 | 0.46788 | 0.924328 |
| adamts9 | 195.2017482 | 0.271800858 | 0.1481691 | 1.8343959 | 0.066595 | 0.504929 |
| acer2 | 6.593806553 | -1.286090635 | 0.8483297 | -1.516027 | 0.129513 | NA |
| SRMS | 102.1660826 | 0.034073085 | 0.1946519 | 0.1750462 | 0.861043 | 0.985773 |
| atf5b | 768.7781941 | -0.055256984 | 0.1039003 | -0.531827 | 0.594846 | 0.954434 |
| arhgef10 | 203.5296002 | 0.237193621 | 0.1676047 | 1.4151966 | 0.157011 | 0.707677 |
| dcaf15 | 255.7336852 | -0.40546088 | 0.1368841 | -2.962075 | 0.003056 | 0.073064 |
| brsk2b | 1197.215523 | -0.036546371 | 0.0866414 | -0.421812 | 0.673162 | 0.965257 |
| cdc42ep1b | 68.85273019 | -0.193420769 | 0.2367193 | -0.817089 | 0.413878 | 0.905864 |
| CU468012.1 | 5.007091696 | -0.989118423 | 0.8769775 | -1.127872 | 0.259374 | NA |
| egr4 | 101.3614443 | 0.657374816 | 0.2576009 | 2.5519121 | 0.010713 | 0.179263 |
| hgsnat | 840.6464041 | -0.075324808 | 0.0911807 | -0.826105 | 0.408745 | 0.90171 |
| il13 | 2.010646529 | -0.478327043 | 1.3048551 | -0.366575 | 0.713936 | NA |
| otud4 | 108.6170114 | -0.053341717 | 0.2420032 | -0.220417 | 0.825546 | 0.982196 |
| sox11a | 3076.701384 | -0.057435967 | 0.0720156 | -0.797548 | 0.425133 | 0.908819 |
| slc5a3b | 57.77524383 | 0.272080297 | 0.2734754 | 0.9948987 | 0.319786 | 0.86809 |
| si:dkey-34f9.3 | 6.153259384 | -0.304038593 | 0.817008 | -0.372137 | 0.709791 | NA |
| cdc26 | 227.9090482 | -0.284651632 | 0.1408939 | -2.020327 | 0.04335 | 0.408576 |
| cxxc4 | 274.6185362 | 0.035582064 | 0.1298336 | 0.2740591 | 0.784039 | 0.97627 |
| nrg2a | 100.6346007 | 0.121630991 | 0.2052408 | 0.5926257 | 0.553432 | 0.947265 |
| si:dkey-6i22.5 | 83.97536399 | -0.001588807 | 0.228362 | -0.006957 | 0.994449 | 0.998694 |
| hmgxb3 | 60.72041335 | 0.041426914 | 0.2596906 | 0.1595241 | 0.873256 | 0.987846 |
| efcc1 | 112.1470748 | -0.030506595 | 0.1910492 | -0.159679 | 0.873134 | 0.987846 |
| slc29a3 | 301.7204171 | -0.221730985 | 0.1376859 | -1.610412 | 0.107308 | 0.617344 |
| borcs5 | 102.8048963 | -0.194085852 | 0.2089803 | -0.928728 | 0.35303 | 0.881552 |
| ttc22 | 56.14737435 | 0.314987349 | 0.2692078 | 1.1700527 | 0.24198 | 0.810713 |
| dhx30 | 219.2985931 | 0.184755843 | 0.1814605 | 1.0181603 | 0.308602 | 0.861088 |
| meis2a | 3137.526301 | -0.089464306 | 0.0869531 | -1.02888 | 0.303536 | 0.857769 |
| ajuba | 487.6668873 | 0.084960045 | 0.1144021 | 0.7426439 | 0.457697 | 0.921978 |
| si:ch211-67f13.7 | 11.19279538 | -0.624561589 | 0.6031121 | -1.035565 | 0.300405 | 0.856251 |
| olfm2a | 1327.751758 | -0.004071221 | 0.0861576 | -0.047253 | 0.962311 | 0.995907 |
| lgals3a | 1202.226982 | 0.054566893 | 0.0862884 | 0.6323781 | 0.52714 | 0.941186 |
| samd11 | 916.2045343 | -0.097148063 | 0.0998046 | -0.973383 | 0.330363 | 0.874098 |
| ttl12 | 14.76337052 | -1.764033822 | 0.5600225 | -3.149934 | 0.001633 | 0.046066 |
| znrf2a | 88.70360498 | -0.02863915 | 0.2401833 | -0.119239 | 0.905086 | 0.990702 |
| asipl | 34.96510625 | -0.049503795 | 0.3346576 | -0.147924 | 0.882403 | 0.988344 |
| ndufaf4 | 152.8216798 | -0.002689581 | 0.1649165 | -0.016309 | 0.986988 | 0.997073 |
| ankhd1 | 1948.136238 | -0.035548462 | 0.1049328 | -0.338774 | 0.73478 | 0.972021 |
| sowahaa | 25.80833419 | -0.549917635 | 0.3856738 | -1.425862 | 0.153908 | 0.702738 |
| si:dkey-169i5.4 | 60.20966984 | -0.101463269 | 0.2502664 | -0.405421 | 0.685168 | 0.966146 |
| mettl22 | 101.4938682 | 0.291612108 | 0.204267 | 1.4276026 | 0.153406 | 0.702578 |
| rasgrp3 | 13.68764224 | -0.023718341 | 0.5181029 | -0.045779 | 0.963486 | 0.995927 |
| nostrin | 8.692397609 | -0.186155844 | 0.6768405 | -0.275036 | 0.783288 | NA |
| taf9 | 666.6263588 | -0.111740088 | 0.0950982 | -1.174997 | 0.239996 | 0.808111 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| CR626907.1 | 160.135731 | -0.021076969 | 0.1808747 | -0.116528 | 0.907234 | 0.990702 |
| vwa10.1 | 33.21999571 | -0.292243943 | 0.3437432 | -0.850181 | 0.395224 | 0.899244 |
| slc2a5 | 36.6657793 | 0.472600225 | 0.3292831 | 1.4352397 | 0.151219 | 0.699388 |
| znf11h | 0.356300316 | 0.005884122 | 3.214964 | 0.0018302 | 0.99854 | NA |
| si:dkey-192118.9 | 27.96681947 | -0.013858488 | 0.3557005 | -0.038961 | 0.968921 | 0.996315 |
| si:ch211-255i20.3 | 31.2048984 | 0.014405241 | 0.342563 | 0.0420514 | 0.966458 | 0.996315 |
| chl1a | 386.5694767 | 0.044535207 | 0.1318883 | 0.3376736 | 0.735609 | 0.972535 |
| ccn5 | 11.21942793 | 0.240348985 | 0.5787027 | 0.4153238 | 0.677905 | 0.965257 |
| fam83d | 101.449603 | -0.06909967 | 0.2124646 | -0.325229 | 0.745008 | 0.974094 |
| znf296 | 435.0186161 | 0.174427334 | 0.1114218 | 1.5654691 | 0.117473 | 0.641157 |
| wu:fj20b03 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:dkey-28d5.11 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:ch211-141o9.10 | 7.537355208 | -0.119373855 | 0.694377 | -0.171915 | 0.863504 | NA |
| herc1 | 1936.5903 | 0.056012717 | 0.105475 | 0.5310523 | 0.595383 | 0.954434 |
| csmd3a | 29.57451361 | 0.138319114 | 0.3531835 | 0.3916353 | 0.695328 | 0.96736 |
| rnf165a | 468.7546536 | -0.202819489 | 0.1160891 | -1.747102 | 0.08062 | 0.550664 |
| si:dkey-183p4.10 | 10.27066177 | 0.079988321 | 0.6280715 | 0.1273554 | 0.898659 | NA |
| rcela | 4.409274686 | -0.538020283 | 0.9151813 | -0.587884 | 0.55661 | NA |
| si:zfos-1897c11.1 | 5.739527168 | 1.506912587 | 0.854667 | 1.7631576 | 0.077874 | NA |
| treh | 3.832200632 | 0.129192191 | 0.9969006 | 0.1295938 | 0.896888 | NA |
| bcor11 | 365.0355479 | 0.041781194 | 0.1203946 | 0.3470355 | 0.728565 | 0.970604 |
| lmx1a1 | 2.680813421 | -0.313857236 | 1.2231765 | -0.256592 | 0.797494 | NA |
| dnase2b | 12.27820272 | -0.227096868 | 0.5471191 | -0.415078 | 0.678085 | 0.965257 |
| csmd3a | 30.18542878 | 0.033469944 | 0.3962165 | 0.0844739 | 0.93268 | 0.992702 |
| si:dkey-48p11.3 | 75.17279807 | -0.170953546 | 0.2364288 | -0.723066 | 0.469639 | 0.924505 |
| ccdc173 | 30.32788364 | -0.19714183 | 0.3432236 | -0.574383 | 0.565709 | 0.948739 |
| tegt | 2913.456321 | -0.137177255 | 0.079189 | -1.732276 | 0.083224 | 0.556259 |
| cd248b | 314.3626674 | 0.147919339 | 0.1212235 | 1.2202204 | 0.222381 | 0.788748 |
| ints5 | 201.0396206 | -0.11904012 | 0.1511725 | -0.787446 | 0.431021 | 0.91234 |
| smarcc2 | 1416.02748 | 0.079822168 | 0.07843 | 1.0177503 | 0.308797 | 0.861088 |
| usp54a | 579.6972813 | 0.009060066 | 0.1046708 | 0.0865577 | 0.931023 | 0.992702 |
| tor1 | 435.3869587 | -0.08826338 | 0.1182729 | -0.746269 | 0.455505 | 0.921215 |
| rnf6 | 381.9605161 | 0.039843376 | 0.1179124 | 0.3379065 | 0.735434 | 0.972535 |
| CU207281.2 | 1.709828404 | 0.638900379 | 1.5032996 | 0.4249987 | 0.670838 | NA |
| si:ch211-186e20.7 | 103.1150464 | 0.225233605 | 0.2096891 | 1.0741314 | 0.282764 | 0.844235 |
| gltpb | 5.017881036 | 0.581047288 | 0.8482582 | 0.6849887 | 0.493351 | NA |
| si:ch211-140m22.7 | 1034.347439 | 0.153860418 | 0.1064856 | 1.4448935 | 0.148488 | 0.696298 |
| si:ch73-34314.8 | 0.948309339 | 0.013153536 | 2.2227673 | 0.0059176 | 0.995278 | NA |
| tmem26a | 13.76220032 | 0.52571565 | 0.5632912 | 0.9332929 | 0.350669 | 0.880195 |
| elf3 | 995.4027535 | -0.646673564 | 0.1160345 | -5.573116 | 2.50E-08 | 3.89E-06 |
| GPR89B | 38.78174868 | -0.06397141 | 0.3141409 | -0.203639 | 0.838635 | 0.984979 |
| kiss2 | 2.641863189 | 0.029941083 | 1.1787311 | 0.0254011 | 0.979735 | NA |
| TMEM151A | 211.3115524 | -0.039497472 | 0.1450401 | -0.272321 | 0.785375 | 0.97627 |
| zfat | 143.7865933 | 0.367368686 | 0.1763796 | 2.0828295 | 0.037267 | 0.377702 |
| abcc10 | 222.1466293 | -0.011734332 | 0.1421932 | -0.082524 | 0.93423 | 0.992702 |
| b4galt2 | 22.37362418 | -0.006912651 | 0.410026 | -0.016859 | 0.986549 | 0.996965 |
| cdh24b | 37.36387699 | -0.031094015 | 0.3529882 | -0.088088 | 0.929807 | 0.992702 |
| nitr3a | 5.826696216 | 0.410620039 | 0.8124535 | 0.5054074 | 0.613273 | NA |
| kbtbd7 | 37.00593163 | -0.044951073 | 0.3344603 | -0.134399 | 0.893087 | 0.989291 |
| si:dkey-13n15.11 | 18.02694198 | -0.216493556 | 0.4676098 | -0.462979 | 0.643379 | 0.959994 |
| drl | 3.178925761 | -0.157254919 | 1.1006051 | -0.14288 | 0.886385 | NA |
| wscdlb | 318.6012538 | -0.035268539 | 0.1239481 | -0.284543 | 0.775994 | 0.975826 |
| NAV1 (1 of many) | 50.43229307 | -0.261375143 | 0.2746767 | -0.951574 | 0.341313 | 0.878134 |
| zgc:162060 | 0.317831496 | 1.808837541 | 3.5779923 | 0.5055454 | 0.613176 | NA |

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| pacsin2 | 667.0398887 | -0.072378115 | 0.1000904 | -0.723127 | 0.469602 | 0.924505 |
| dtx4b | 12.41027378 | -0.119926803 | 0.5649994 | -0.21226 | 0.831904 | 0.98349 |
| si:dkey-79d12.4 | 49.09063533 | -0.214005346 | 0.2742087 | -0.780447 | 0.435128 | 0.914408 |
| fycolb | 39.94624546 | -0.109873142 | 0.3043864 | -0.360966 | 0.718125 | 0.96909 |
| zcchc24 | 575.9665077 | 0.131299886 | 0.0995875 | 1.3184379 | 0.187357 | 0.751481 |
| zgc:l12001 | 229.6728834 | -0.0221647 | 0.1454216 | -0.152417 | 0.878858 | 0.987881 |
| chpfb | 117.4552645 | 0.002278454 | 0.1861818 | 0.0122378 | 0.990236 | 0.997679 |
| xpola | 2873.100748 | -0.08239945 | 0.0717589 | -1.148282 | 0.250852 | 0.820469 |
| il10rb | 438.4402806 | -0.059253494 | 0.1188657 | -0.498491 | 0.618138 | 0.957354 |
| phf19 | 139.6512578 | 0.260898032 | 0.1734222 | 1.5044097 | 0.132476 | 0.666729 |
| emilin3a | 407.587575 | 0.079522013 | 0.1235913 | 0.6434273 | 0.519947 | 0.938995 |
| acd | 79.22606323 | -0.19269972 | 0.2238156 | -0.860975 | 0.389252 | 0.896362 |
| RNF208 | 350.3135434 | 0.169011427 | 0.1213621 | 1.3926208 | 0.163734 | 0.71945 |
| snx8b | 239.9306962 | 0.293907061 | 0.1722939 | 1.7058469 | 0.088037 | 0.568063 |
| dip2a | 394.7191304 | -0.035117197 | 0.1165576 | -0.301286 | 0.763196 | 0.975374 |
| nudcd2 | 236.5208258 | 0.077641223 | 0.1490723 | 0.5208294 | 0.602486 | 0.956045 |
| syt7b | 234.4506823 | 0.09870207 | 0.144333 | 0.6838497 | 0.49407 | 0.931926 |
| ftr05 | 9.116757351 | -0.014301885 | 0.6703193 | -0.021336 | 0.982978 | NA |
| elk1 | 72.58981999 | -0.143817151 | 0.2364721 | -0.608178 | 0.543069 | 0.944974 |
| abcg4b | 43.09243945 | 0.215006055 | 0.3000179 | 0.7166441 | 0.473594 | 0.924993 |
| rrm2 | 560.2534587 | 1.400793692 | 0.1203798 | 11.636451 | 2.69E-31 | 1.06E-27 |
| si:ch211-232i5.1 | 70.60438876 | -0.248657276 | 0.249321 | -0.997338 | 0.318601 | 0.867746 |
| nudt5 | 444.7308677 | -0.039710286 | 0.112562 | -0.352786 | 0.724249 | 0.970402 |
| ilrun | 537.110857 | 0.014020198 | 0.1018917 | 0.137599 | 0.890557 | 0.989291 |
| nab2 | 48.03189154 | -0.279318615 | 0.296508 | -0.942027 | 0.346179 | 0.87905 |
| dph2 | 111.9963303 | -0.232128093 | 0.1874802 | -1.238147 | 0.215662 | 0.78305 |
| lrfn4b | 360.8495952 | 0.024585158 | 0.1163721 | 0.2112634 | 0.832682 | 0.983557 |
| armac5 | 255.4353981 | 0.073806937 | 0.1322403 | 0.5581274 | 0.576757 | 0.950653 |
| CNNM1 | 68.90896076 | 0.197674901 | 0.237273 | 0.8331116 | 0.404782 | 0.901305 |
| si:ch211-186j3.6 | 491.3614756 | 0.170196649 | 0.1148684 | 1.4816669 | 0.138429 | 0.676209 |
| limd2 | 241.4375777 | 0.235775723 | 0.1397609 | 1.6869939 | 0.091605 | 0.57849 |
| zgc:l72065 | 6.503892741 | -0.221218798 | 0.7429939 | -0.29774 | 0.765902 | NA |
| lmf2a | 56.83201158 | -0.321229523 | 0.2602715 | -1.23421 | 0.217125 | 0.784302 |
| cipcb | 1093.383148 | 0.046179639 | 0.0844936 | 0.5465462 | 0.584691 | 0.952411 |
| nlrc9 | 0.846174082 | -0.46494763 | 2.1994676 | -0.211391 | 0.832582 | NA |
| psda | 120.2951922 | 0.240400888 | 0.1848455 | 1.3005504 | 0.193412 | 0.757219 |
| depdc5 | 598.8405449 | 0.050603888 | 0.1220674 | 0.414557 | 0.678466 | 0.965257 |
| ocr1 | 661.5088898 | 0.058759687 | 0.0963609 | 0.6097874 | 0.542003 | 0.944974 |
| dok1a | 75.77773244 | 0.446581204 | 0.2446659 | 1.8252694 | 0.06796 | 0.510097 |
| uspl2a | 614.8673579 | -0.23428755 | 0.0992654 | -2.360215 | 0.018264 | 0.251504 |
| ap5z1 | 134.2497443 | 0.038567515 | 0.1869228 | 0.2063285 | 0.836534 | 0.984386 |
| atp5mea | 702.9308531 | 0.094617684 | 0.1232903 | 0.7674379 | 0.442821 | 0.916336 |
| si:ch73-237c6.1 | 248.7545752 | 0.426956625 | 0.1389075 | 3.0736769 | 0.002114 | 0.055672 |
| sinhcafl | 942.147905 | -0.265648914 | 0.0974326 | -2.726489 | 0.006401 | 0.122179 |
| sh3bp1 | 3.060489361 | -0.173789435 | 1.1622837 | -0.149524 | 0.88114 | NA |
| slitrk3a | 277.428986 | 0.14268141 | 0.1282403 | 1.1126098 | 0.265876 | 0.831945 |
| ruse1 | 131.3452239 | 0.379611937 | 0.1789925 | 2.1208265 | 0.033936 | 0.358663 |
| neur14 | 307.4254818 | -0.009778704 | 0.1310914 | -0.074595 | 0.940537 | 0.992857 |
| CR391986.1 | 56.01616897 | 0.019957013 | 0.2690179 | 0.0741847 | 0.940863 | 0.992857 |
| tex2l | 113.2261139 | 0.218978924 | 0.2113888 | 1.0359058 | 0.300246 | 0.856251 |
| kdm2ab | 1604.805363 | -0.042630903 | 0.0820808 | -0.519378 | 0.603497 | 0.956045 |
| crygm2f | 39.0959287 | -0.355396931 | 0.3355618 | -1.05911 | 0.28955 | 0.846246 |
| mrc2 | 53.37500229 | -0.018938497 | 0.2808251 | -0.067439 | 0.946232 | 0.99381 |
| wdr47a | 150.0656463 | -0.156598371 | 0.1798749 | -0.870596 | 0.383975 | 0.895192 |

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| si:ch211-202h22.8 | 73.65625258 | -0.278752816 | 0.2315759 | -1.203721 | 0.228697 | 0.796173 |
| appl2 | 93.28114838 | -0.009463847 | 0.2058769 | -0.045968 | 0.963335 | 0.995927 |
| si:dkey-18j18.3 | 30.75297053 | 0.506015255 | 0.3721182 | 1.3598238 | 0.173886 | 0.733946 |
| SPAG9 | 1030.576859 | -0.022418797 | 0.1019074 | -0.219992 | 0.825878 | 0.982196 |
| si:ch211-218g4.2 | 104.2289454 | -0.267284628 | 0.2009145 | -1.33034 | 0.183406 | 0.747151 |
| il10 | 4.477210104 | -0.330422478 | 0.9353167 | -0.353273 | 0.723884 | NA |
| grin2ca | 230.3140073 | -0.287136992 | 0.14353 | -2.000536 | 0.045442 | 0.418148 |
| si:ch211-264f5.8 | 261.4907768 | -0.014481386 | 0.1332079 | -0.108713 | 0.91343 | 0.991119 |
| si:dkey-56i24.1 | 11.79735592 | -0.565981091 | 0.6040858 | -0.936922 | 0.348799 | 0.880195 |
| inavaa | 297.5315895 | 0.171018134 | 0.1398091 | 1.2232261 | 0.221244 | 0.787842 |
| SLC18A1 | 2.756485174 | 0.88743765 | 1.2490485 | 0.710491 | 0.4774 | NA |
| zgc:175284 | 65.94136827 | -0.417818179 | 0.2391768 | -1.746901 | 0.080654 | 0.550687 |
| pimr208 | 2.149913281 | 0.186176459 | 1.3397624 | 0.1389623 | 0.88948 | NA |
| hpse2 | 4.971410095 | -0.960578608 | 0.883573 | -1.087153 | 0.276969 | NA |
| znf576.2 | 748.1816578 | -0.050228818 | 0.0915283 | -0.548779 | 0.583157 | 0.952214 |
| si:dkey-78p8.1 | 86.13534285 | -0.080893081 | 0.2176808 | -0.371613 | 0.710181 | 0.968928 |
| si:dkeyp-100h4.1 | 14.41050614 | -0.331818584 | 0.5613017 | -0.591159 | 0.554414 | 0.947449 |
| cacna2d2b | 185.5292242 | 0.026754419 | 0.1708449 | 0.1566006 | 0.87556 | 0.987881 |
| CU984600.1 | 511.6161456 | 0.058262497 | 0.1042401 | 0.5589258 | 0.576212 | 0.950611 |
| cxcr3.1 | 0.647689638 | -2.824814845 | 2.5064236 | -1.12703 | 0.25973 | NA |
| art4 | 7.81656062 | -0.82223139 | 0.7206247 | -1.140998 | 0.253871 | NA |
| fn3c3ba | 478.2671784 | 0.106469853 | 0.1075898 | 0.989591 | 0.322374 | 0.870226 |
| sc:d0202 | 1.473262941 | -0.365764327 | 1.5700333 | -0.232966 | 0.815788 | NA |
| zgc:194443 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |
| zgc:165453 | 1.663695949 | -0.5971764 | 1.4430799 | -0.413821 | 0.679005 | NA |
| pacs2 | 34.28589669 | 0.124945625 | 0.3268178 | 0.3823097 | 0.702232 | 0.968134 |
| tex2 | 243.2796123 | -0.001887195 | 0.1396039 | -0.013518 | 0.989214 | 0.997589 |
| slc12a5b | 114.6188187 | 0.210898041 | 0.2112917 | 0.9981371 | 0.318213 | 0.867746 |
| fam160a2 | 149.0157257 | 0.065683608 | 0.171741 | 0.3824574 | 0.702122 | 0.968134 |
| crygm3 | 13.94186517 | -0.493154413 | 0.518692 | -0.950765 | 0.341724 | 0.878134 |
| zbtb46 | 112.6692306 | -0.108356902 | 0.1873284 | -0.578433 | 0.562972 | 0.948728 |
| si:ch211-67e16.3 | 4.39916239 | 0.241870285 | 0.9175928 | 0.2635922 | 0.792094 | NA |
| fhit | 99.91635955 | -0.119108142 | 0.2086809 | -0.570767 | 0.568158 | 0.948983 |
| vcamla | 2.499850502 | -0.167781508 | 1.1959875 | -0.140287 | 0.888433 | NA |
| BX072576.1 | 5.733879701 | -0.844443711 | 0.8342363 | -1.012236 | 0.311425 | NA |
| ccl34b.9 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| zgc:171506 | 0.983671166 | -0.053965044 | 1.9476354 | -0.027708 | 0.977895 | NA |
| tulplb | 38.51999261 | -0.150548131 | 0.3153423 | -0.477412 | 0.633069 | 0.957356 |
| espnla | 19.1281299 | 0.402637329 | 0.4377037 | 0.9198855 | 0.357633 | 0.884199 |
| mybbpla | 903.9496164 | -0.18297414 | 0.0929903 | -1.967669 | 0.049106 | 0.435115 |
| rbsn | 22.3064494 | 0.139206024 | 0.4106267 | 0.3390087 | 0.734603 | 0.972021 |
| eps15 | 596.9315389 | -0.071769129 | 0.0995649 | -0.720828 | 0.471016 | 0.924838 |
| cb1c | 88.26904522 | -0.046401292 | 0.2211304 | -0.209837 | 0.833795 | 0.983583 |
| BX323458.1 | 11.34854618 | 0.393092076 | 0.597778 | 0.6575888 | 0.510802 | 0.936253 |
| si:ch211-204d2.4 | 20.11743529 | 0.216755883 | 0.4505296 | 0.4811135 | 0.630436 | 0.957354 |
| aatka | 188.9852462 | 0.19685045 | 0.1492268 | 1.3191357 | 0.187124 | 0.751002 |
| ora4 | 1.331721622 | 1.594539771 | 1.8084122 | 0.8817347 | 0.37792 | NA |
| cdh12a | 17.40270362 | -0.344487807 | 0.4691777 | -0.734237 | 0.462804 | 0.922698 |
| cspg4 | 108.8385431 | 0.071999734 | 0.19753 | 0.3645003 | 0.715484 | 0.96909 |
| ctnnd1 | 1654.453175 | -0.035101105 | 0.0774107 | -0.45344 | 0.650232 | 0.960708 |
| n1rc7 | 2.990509915 | -2.352076253 | 1.2669899 | -1.856429 | 0.063392 | NA |
| nacclb | 7.278991651 | -0.082609925 | 0.7847817 | -0.105265 | 0.916166 | NA |
| map7a | 27.31336056 | 0.121120724 | 0.3721212 | 0.3254873 | 0.744812 | 0.974094 |
| si:ch211-19719.2 | 204.239924 | 0.000286985 | 0.1585389 | 0.0018102 | 0.998556 | 0.999364 |

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|---------------------|-------------|--------------|-----------|-----------|----------|----------|
| gal3st1b | 40.72322079 | 0.544141653 | 0.3044189 | 1.7874765 | 0.073861 | 0.529749 |
| si:ch211-114113.4 | 7.293945833 | 0.512988314 | 0.7300351 | 0.70269 | 0.482249 | NA |
| vip | 135.2456485 | -0.118086108 | 0.1904054 | -0.620182 | 0.535138 | 0.943336 |
| unc13d | 21.25263469 | 0.594038778 | 0.4291595 | 1.3841913 | 0.1663 | 0.722887 |
| zgc:194398 | 82.11434494 | 0.27750893 | 0.2253529 | 1.2314417 | 0.218158 | 0.785379 |
| TESK1 | 363.9183706 | -0.026490833 | 0.1149415 | -0.230472 | 0.817725 | 0.981594 |
| ftr14l | 12.88370772 | 0.9213478 | 0.5402868 | 1.705294 | 0.08814 | 0.568452 |
| ovollb | 13.70839312 | 0.314012899 | 0.5130376 | 0.6120661 | 0.540494 | 0.944563 |
| ora5 | 1.356046616 | 0.792643957 | 1.7222439 | 0.4602391 | 0.645345 | NA |
| CABZ01049847.1 | 113.1733694 | 0.351413803 | 0.1931106 | 1.8197542 | 0.068796 | 0.513259 |
| bnipla | 41.66895465 | 0.137314147 | 0.3151879 | 0.435658 | 0.663085 | 0.964736 |
| nphp3 | 56.74570148 | 0.455833232 | 0.2605552 | 1.749469 | 0.08021 | 0.549641 |
| twist2 | 185.835974 | 0.059072408 | 0.1551266 | 0.3808012 | 0.703351 | 0.968134 |
| si:dkey-181m9.8 | 74.58146016 | 0.062913013 | 0.2426934 | 0.2592284 | 0.795459 | 0.978498 |
| CU467961.1 | 85.27263094 | 0.198228928 | 0.2254748 | 0.8791622 | 0.379313 | 0.895192 |
| si:ch211-57m13.8 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| F0704871.1 | 3.321777663 | -1.21677839 | 1.0491541 | -1.159771 | 0.246142 | NA |
| foxp3b | 1.365706081 | 3.891476754 | 1.8557422 | 2.0969922 | 0.035994 | NA |
| nkx3-1 | 13.82231315 | 0.063768111 | 0.5249816 | 0.1214673 | 0.903321 | 0.990121 |
| zgc:173575 | 76.21742004 | -0.05437742 | 0.2249758 | -0.241703 | 0.80901 | 0.980642 |
| si:zfos-323e3.4 | 91.49300226 | -0.275387141 | 0.2221631 | -1.239572 | 0.215134 | 0.78275 |
| phkb | 1362.879798 | 0.18218693 | 0.0877467 | 2.0762825 | 0.037868 | 0.381068 |
| pik3ap1 | 44.57473755 | 0.205368574 | 0.2967925 | 0.6919601 | 0.488962 | 0.931926 |
| CABZ01046425.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| ptprh | 0.964730988 | -0.018658301 | 1.9582344 | -0.009528 | 0.992398 | NA |
| si:ch211-13f8.2 | 26.40673413 | -0.271335563 | 0.4064322 | -0.667604 | 0.504387 | 0.935541 |
| zgc:162255 | 178.7924581 | -0.158956545 | 0.1599814 | -0.993594 | 0.320421 | 0.868301 |
| brinpl | 180.6753903 | 0.149389638 | 0.1645848 | 0.9076758 | 0.36405 | 0.886323 |
| spry2 | 977.31521 | 0.038604359 | 0.0875066 | 0.4411596 | 0.659097 | 0.962839 |
| fam83b | 56.62669116 | -0.237111937 | 0.2700033 | -0.878182 | 0.379845 | 0.895192 |
| cecr2 | 463.9486366 | -0.249860338 | 0.1127826 | -2.215416 | 0.026732 | 0.315011 |
| dcaf6 | 605.3435199 | 0.181559962 | 0.0990039 | 1.8338659 | 0.066674 | 0.504944 |
| pimr22 | 0.325573202 | 0.005883621 | 3.3172783 | 0.0017736 | 0.998585 | NA |
| MY09B | 556.7384827 | 0.022051597 | 0.1090461 | 0.2022227 | 0.839743 | 0.984979 |
| zgc:110063 | 448.9336608 | 0.206114955 | 0.105721 | 1.9496123 | 0.051222 | 0.443542 |
| si:dkey-175m17.7 | 45.22644699 | -0.278038642 | 0.3250642 | -0.855335 | 0.392366 | 0.897688 |
| tmod1 | 62.46067241 | 0.441894734 | 0.2539811 | 1.7398726 | 0.081881 | 0.552725 |
| coll2a1a | 7732.843063 | 0.271366689 | 0.0786647 | 3.4496648 | 0.000561 | 0.019327 |
| si:ch211-263k4.2 | 204.1492496 | -0.271397605 | 0.1512114 | -1.794822 | 0.072682 | 0.52617 |
| arhgap10 | 421.4910178 | 0.052560752 | 0.1168189 | 0.4499335 | 0.652758 | 0.960708 |
| CEP170B (1 of many) | 36.34097078 | -0.010655812 | 0.3149901 | -0.033829 | 0.973013 | 0.996315 |
| sec22a | 332.9454865 | -0.111870077 | 0.1186645 | -0.942743 | 0.345813 | 0.878481 |
| rec8a | 0.706508242 | 2.93232624 | 2.4625218 | 1.1907818 | 0.233739 | NA |
| best1 | 6.624116657 | 0.889067779 | 0.7553241 | 1.1770679 | 0.239168 | NA |
| tmem234 | 55.1216727 | 0.06253692 | 0.2726093 | 0.2294013 | 0.818557 | 0.981594 |
| amot | 297.5539499 | -0.050954141 | 0.1297762 | -0.392631 | 0.694592 | 0.96736 |
| tcf20 | 1688.377227 | 0.009969437 | 0.0929269 | 0.1072825 | 0.914565 | 0.991119 |
| zmp:0000000845 | 2.445499181 | 3.680838207 | 1.6029974 | 2.2962222 | 0.021663 | NA |
| lyrm4 | 131.5153638 | 0.040719201 | 0.1830474 | 0.2224517 | 0.823962 | 0.982196 |
| zc3h4 | 1288.459448 | -0.148765428 | 0.1046055 | -1.422156 | 0.154981 | 0.704624 |
| zmp:0000000846 | 755.3649534 | 0.218682228 | 0.0989904 | 2.2091251 | 0.027166 | 0.31767 |
| mcoln3a | 82.18020994 | -0.149958498 | 0.2348061 | -0.638648 | 0.523052 | 0.939336 |
| AL954361.1 | 1.338473762 | 1.655884431 | 1.8743577 | 0.883441 | 0.376998 | NA |
| robo2 | 106.6082949 | -0.054980823 | 0.205165 | -0.267984 | 0.788712 | 0.976703 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| unm_sa808 | 29.84348468 | 0.065581754 | 0.3644439 | 0.1799502 | 0.857192 | 0.985643 |
| trip11 | 826.2260731 | -0.013057151 | 0.0879858 | -0.148401 | 0.882027 | 0.988344 |
| mcripl | 440.758153 | -0.107026766 | 0.1222007 | -0.875828 | 0.381124 | 0.895192 |
| dyncli2a | 1485.880082 | -0.096119929 | 0.0820502 | -1.171477 | 0.241407 | 0.810468 |
| si:dkey-92i15.4 | 25.86328619 | -0.811193995 | 0.3947998 | -2.054697 | 0.039908 | 0.391511 |
| glis2a | 164.2270269 | 0.015142495 | 0.1747644 | 0.0866452 | 0.930954 | 0.992702 |
| ifi46 | 10.08023371 | -1.365466547 | 0.6335813 | -2.155156 | 0.03115 | NA |
| fam98a | 427.0082865 | 0.143973115 | 0.1260726 | 1.1419855 | 0.25346 | 0.823246 |
| chpfa | 65.60325387 | 0.041592918 | 0.2426358 | 0.1714212 | 0.863893 | 0.985952 |
| CABZ01059627.1 | 2.516392505 | -0.179090833 | 1.1950274 | -0.149863 | 0.880872 | NA |
| si:ch211-163m17.4 | 0.341366344 | 1.891903201 | 3.2128156 | 0.5888614 | 0.555954 | NA |
| acsl2 | 132.3592352 | -0.405161977 | 0.2009026 | -2.016709 | 0.043726 | 0.410733 |
| larp4aa | 458.9271185 | 0.139649556 | 0.1079734 | 1.2933702 | 0.195883 | 0.76113 |
| cdh26.1 | 103.5896615 | -0.136693465 | 0.2068808 | -0.660735 | 0.508782 | 0.935875 |
| hspl15 | 172.3320871 | 0.157043958 | 0.1682995 | 0.9331219 | 0.350757 | 0.880195 |
| lrrc3 | 23.06721094 | -0.142905567 | 0.3985949 | -0.358523 | 0.719952 | 0.969318 |
| zeb2b | 1043.894067 | -0.009559277 | 0.0964312 | -0.09913 | 0.921035 | 0.992138 |
| plxcl | 38.22037911 | -0.360577568 | 0.3303597 | -1.09147 | 0.275066 | 0.839541 |
| filipla | 31.27194161 | 0.489566428 | 0.3720402 | 1.3158967 | 0.188209 | 0.753063 |
| zgc:194285 | 100.2109554 | 0.289473454 | 0.2037485 | 1.4207389 | 0.155393 | 0.705158 |
| oat | 243.6329428 | 0.439454601 | 0.1522909 | 2.8856256 | 0.003906 | 0.085637 |
| BX901889.2 | 0.476747244 | 2.393381959 | 3.0525537 | 0.7840589 | 0.433006 | NA |
| si:ch211-256e16.4 | 4.193097878 | 0.140116853 | 0.9380964 | 0.149363 | 0.881267 | NA |
| vtg4 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| tiamla | 1344.737427 | 0.02208987 | 0.0813321 | 0.271601 | 0.785929 | 0.97627 |
| spc25 | 211.3264653 | -0.035109951 | 0.1579931 | -0.222225 | 0.824139 | 0.982196 |
| znf692 | 46.67628176 | 0.160752659 | 0.2795111 | 0.5751208 | 0.56521 | 0.948739 |
| anapc13 | 154.9161454 | -0.17959101 | 0.1744158 | -1.029672 | 0.303164 | 0.85729 |
| ccdc88aa | 101.9935749 | -0.112422122 | 0.1975247 | -0.569155 | 0.569251 | 0.948983 |
| ppip5k2 | 812.2827953 | 0.001271974 | 0.094099 | 0.0135174 | 0.989215 | 0.997589 |
| AL954696.1 | 180.8519555 | -0.04371395 | 0.1655725 | -0.264017 | 0.791767 | 0.977853 |
| ftr07 | | 0 NA | NA | NA | NA | NA |
| tctnl | 139.4005002 | -0.077574572 | 0.1724046 | -0.449957 | 0.652742 | 0.960708 |
| gpr137ba | 82.30208205 | 0.428149148 | 0.2309478 | 1.8538781 | 0.063757 | 0.493627 |
| gzm3 | 1.686094135 | 0.672481678 | 1.5803796 | 0.4255191 | 0.670458 | NA |
| hmox2b | 27.43171773 | 0.866602841 | 0.3858487 | 2.2459656 | 0.024706 | 0.302486 |
| best4 | 4.4836638 | -1.755957374 | 1.0247125 | -1.71361 | 0.0866 | NA |
| ppplr37 | 1026.096151 | 0.007251293 | 0.0903799 | 0.0802312 | 0.936053 | 0.992702 |
| cuxla | 1322.934623 | -0.032835921 | 0.0910801 | -0.360517 | 0.71846 | 0.96909 |
| fap | 680.9367602 | 0.244554696 | 0.0970222 | 2.5206062 | 0.011715 | 0.190352 |
| nucksla | 6539.21815 | 0.013961983 | 0.0711685 | 0.1961819 | 0.844468 | 0.985174 |
| myo15ab | 23.42441521 | -0.042215117 | 0.4018192 | -0.10506 | 0.916328 | 0.991314 |
| klh123 | 29.8391902 | 0.122727489 | 0.3801397 | 0.3228484 | 0.74681 | 0.97419 |
| znf990 | 25.21461121 | 0.036786008 | 0.3788522 | 0.0970986 | 0.922648 | 0.99233 |
| mocsl | 19.42772906 | -0.005052463 | 0.4570781 | -0.011054 | 0.99118 | 0.997679 |
| zgc:195081 | 21.55659476 | 0.05910156 | 0.4308983 | 0.137159 | 0.890905 | 0.989291 |
| snpha | 0.666819193 | 1.487924459 | 2.4081466 | 0.6178712 | 0.53666 | NA |
| si:ch211-284d12.3 | 1.957363094 | -1.608186298 | 1.6308555 | -0.9861 | 0.324084 | NA |
| swi5 | 104.8813698 | -0.297918621 | 0.1943706 | -1.532735 | 0.125341 | 0.654648 |
| adamts14 | 38.56174719 | 0.133133769 | 0.3330368 | 0.399757 | 0.689336 | 0.966763 |
| timeless | 674.2274361 | -0.048865301 | 0.0950905 | -0.513882 | 0.607334 | 0.956718 |
| dap3 | 645.0023346 | -0.04213356 | 0.0985948 | -0.427341 | 0.669131 | 0.965037 |
| si:ch211-150o23.3 | 83.24766766 | 0.167130883 | 0.2448668 | 0.682538 | 0.494899 | 0.931926 |
| si:dkey-76b14.2 | 9.164935971 | -0.532949311 | 0.6398173 | -0.832971 | 0.404861 | NA |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| si:ch73-60h1.1 | 237.7802242 | 0.057318786 | 0.1410858 | 0.406269 | 0.684545 | 0.966043 |
| wnt8a | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-266m15.6 | 246.7048966 | 0.264511712 | 0.1443801 | 1.8320508 | 0.066944 | 0.506105 |
| socs4 | 3.711597735 | 0.862629428 | 1.0885705 | 0.7924424 | 0.428103 | NA |
| acaca | 1302.25401 | 0.147400451 | 0.079277 | 1.8593093 | 0.062983 | 0.489719 |
| kazald2 | 6.898132546 | 0.688778634 | 0.7584005 | 0.9081991 | 0.363773 | NA |
| si:ch73-256j6.4 | 1.336676355 | -1.486211065 | 1.8623398 | -0.798034 | 0.424851 | NA |
| ikbip | 393.163521 | 0.150575304 | 0.1244905 | 1.2095329 | 0.226458 | 0.793959 |
| si:ch211-80h18.1 | 2144.863968 | 0.354984763 | 0.0754412 | 4.7054472 | 2.53E-06 | 0.000223 |
| ddr1 | 870.245887 | 0.192687825 | 0.0898436 | 2.1447023 | 0.031977 | 0.347421 |
| noctb | 132.2411722 | -0.110663592 | 0.1859909 | -0.594995 | 0.551847 | 0.947215 |
| lingo4b | 127.619088 | -0.039997067 | 0.1799992 | -0.222207 | 0.824153 | 0.982196 |
| adgrblb | 877.8437687 | 0.16900765 | 0.1071681 | 1.5770328 | 0.114788 | 0.635447 |
| pocla | 27.88300732 | -0.078033813 | 0.3722569 | -0.209624 | 0.833962 | 0.983583 |
| lrrccl | 141.9660363 | -0.362209268 | 0.1746974 | -2.073352 | 0.03814 | 0.382634 |
| si:ch211-158d24.2 | 78.53442195 | -0.058410828 | 0.237156 | -0.246297 | 0.805452 | 0.979883 |
| cers3a | 135.3614954 | -0.533515237 | 0.1859499 | -2.869135 | 0.004116 | 0.08895 |
| inpp5ja | 13.29024861 | 0.103442851 | 0.5548327 | 0.1864397 | 0.8521 | 0.985174 |
| cars2 | 115.3332544 | -0.1237961 | 0.1930714 | -0.641193 | 0.521397 | 0.939056 |
| si:ch211-264f5.2 | 21.83071871 | -0.178619834 | 0.456122 | -0.391605 | 0.69535 | 0.96736 |
| zgc:194839 | 35.90595888 | 0.101293337 | 0.3378041 | 0.2998582 | 0.764285 | 0.975374 |
| zgc:171242 | 45.63196594 | -0.294881506 | 0.3190857 | -0.924145 | 0.355411 | 0.882347 |
| grhl3 | 111.1368748 | 0.020664613 | 0.2103251 | 0.0982508 | 0.921733 | 0.992138 |
| si:ch211-57n23.4 | 1.203102906 | -1.262120851 | 1.8388013 | -0.686382 | 0.492472 | NA |
| si:dkey-22i16.10 | 0 NA | NA | NA | NA | NA | NA |
| slc9a5 | 184.0029427 | -0.149142662 | 0.1579155 | -0.944446 | 0.344942 | 0.878434 |
| lrig2 | 757.8779642 | -0.012530953 | 0.0894238 | -0.14013 | 0.888557 | 0.989291 |
| lonrf11 | 1115.698198 | 0.194631356 | 0.1103005 | 1.7645561 | 0.077638 | 0.542865 |
| mpegl.3 | 0.332524763 | 0.005883742 | 3.292841 | 0.0017868 | 0.998574 | NA |
| wdr6 | 272.256758 | -0.025098115 | 0.1339053 | -0.187432 | 0.851322 | 0.985174 |
| stox2b | 1103.800897 | 0.035400606 | 0.0848606 | 0.417162 | 0.67656 | 0.965257 |
| si:dkey-21c19.3 | 541.3866031 | -0.0649024 | 0.1064204 | -0.609868 | 0.541949 | 0.944974 |
| setd5 | 192.3051305 | 0.011925253 | 0.1490095 | 0.0800301 | 0.936213 | 0.992702 |
| fam222bb | 396.7508586 | 0.161275228 | 0.1208697 | 1.33429 | 0.182109 | 0.744502 |
| myo16 | 205.0137101 | 0.135030335 | 0.1543697 | 0.8747205 | 0.381726 | 0.895192 |
| monla | 167.3632992 | -0.017861518 | 0.1681574 | -0.106219 | 0.915409 | 0.991171 |
| nomo | 2654.166042 | 0.037923061 | 0.0730338 | 0.5192536 | 0.603584 | 0.956045 |
| vwa8 | 282.9280896 | 0.084996593 | 0.1328189 | 0.6399433 | 0.522209 | 0.939056 |
| si:ch1073-184j22.2 | 92.50277913 | 0.401450065 | 0.2221217 | 1.807343 | 0.070709 | 0.520162 |
| micu3a | 309.4684153 | 0.112080778 | 0.122806 | 0.9126655 | 0.361419 | 0.885719 |
| ldlrad3 | 220.2512742 | 0.161931679 | 0.1553785 | 1.0421755 | 0.29733 | 0.853945 |
| ptgerlc | 1.637563505 | -0.572814497 | 1.5077409 | -0.379916 | 0.704008 | NA |
| myo1hb | 21.43395459 | 0.02766099 | 0.4183616 | 0.0661174 | 0.947284 | 0.99381 |
| tblcl10b | 1155.177746 | 0.096383651 | 0.0842766 | 1.143659 | 0.252765 | 0.822335 |
| ptgerla | 29.50675629 | 0.298384954 | 0.3471411 | 0.8595495 | 0.390037 | 0.897023 |
| zgc:194224 | 50.2160356 | -0.057699433 | 0.2829538 | -0.203918 | 0.838417 | 0.984797 |
| CT573423.1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| lrriq3 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| vh11 | 19.54925111 | 0.455758821 | 0.4363198 | 1.0445523 | 0.29623 | 0.853273 |
| CABZ01085419.1 | 157.8000351 | -0.103277289 | 0.1679466 | -0.614941 | 0.538594 | 0.943336 |
| inpp5kb | 171.3982559 | 0.094484549 | 0.169097 | 0.5587594 | 0.576326 | 0.950611 |
| pnp5a | 1808.460831 | 0.418633079 | 0.0921083 | 4.545008 | 5.49E-06 | 0.000429 |
| si:dkey-156m2.3 | 17.51553568 | 0.464599941 | 0.4982927 | 0.9323837 | 0.351138 | 0.880473 |
| scpp5 | 377.4399013 | -0.147737086 | 0.1335896 | -1.105903 | 0.268769 | 0.834131 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| arhgef9b | 771.8626796 | 0.126322403 | 0.0903526 | 1.3981055 | 0.162081 | 0.716681 |
| fgf9 | 0.474898508 | 0.855240867 | 2.7202602 | 0.3143967 | 0.75322 | NA |
| BX322577.1 | 7.09719002 | -0.05948655 | 0.7084583 | -0.083966 | 0.933083 | NA |
| zgc:171750 | 0 | NA | NA | NA | NA | NA |
| fam117aa | 285.851994 | -0.072523405 | 0.1276312 | -0.568226 | 0.569881 | 0.948983 |
| vtcn1 | 18.23242642 | 0.756968379 | 0.4444486 | 1.703163 | 0.088538 | 0.569447 |
| theg | 6.439989007 | 0.216927896 | 0.7308752 | 0.2968057 | 0.766615 | NA |
| si:ch73-62121.1 | 13.82226058 | 0.254248778 | 0.5103331 | 0.4982016 | 0.618342 | 0.957354 |
| samsn1b | 216.1394613 | 0.155822922 | 0.150939 | 1.032357 | 0.301905 | 0.856944 |
| il21r.2 | 0.31759079 | 1.807926197 | 3.579045 | 0.5051421 | 0.613459 | NA |
| kcna4 | 26.91569521 | -0.024441577 | 0.3878879 | -0.063012 | 0.949757 | 0.99381 |
| zfyvel | 145.960564 | -0.144128161 | 0.1753435 | -0.821976 | 0.41109 | 0.903291 |
| ralbp1 | 81.25015988 | 0.02058163 | 0.2396138 | 0.085895 | 0.93155 | 0.992702 |
| tpx2 | 1349.406185 | -0.097726122 | 0.0784767 | -1.245288 | 0.213026 | 0.781631 |
| FNDC10 | 154.2865672 | 0.01239918 | 0.1754714 | 0.0706621 | 0.943667 | 0.993364 |
| supt20 | 167.8756921 | -0.156157998 | 0.1735978 | -0.899539 | 0.368366 | 0.887976 |
| tmem176 | 257.4347813 | 0.166455087 | 0.1501463 | 1.1086191 | 0.267595 | 0.833349 |
| cdk5r2b | 431.8380983 | 0.428048668 | 0.1093316 | 3.9151399 | 9.04E-05 | 0.004478 |
| hspb9 | 0.474778155 | 0.852397662 | 2.898154 | 0.2941175 | 0.768668 | NA |
| dock7 | 1705.181376 | -0.041410145 | 0.0782683 | -0.529079 | 0.596751 | 0.954913 |
| myrf | 44.74478563 | 0.110399211 | 0.305732 | 0.3610979 | 0.718026 | 0.96909 |
| zmp:0000000524 | 283.4959879 | -0.198662308 | 0.1345765 | -1.476204 | 0.139889 | 0.678981 |
| rufyl | 190.8941049 | -0.075448529 | 0.1722758 | -0.437952 | 0.661421 | 0.964234 |
| arl8a | 2272.901533 | 0.016464802 | 0.0796263 | 0.2067761 | 0.836185 | 0.984209 |
| frs3 | 19.81017626 | 0.091687948 | 0.4465053 | 0.2053457 | 0.837302 | 0.984645 |
| gigyf1b | 1040.450056 | -0.056978479 | 0.0858861 | -0.663419 | 0.507062 | 0.935734 |
| phlpp1 | 578.5958372 | -0.177520444 | 0.1109699 | -1.599717 | 0.109661 | 0.623766 |
| synpo21b | 248.3268165 | 0.157267553 | 0.1442465 | 1.0902696 | 0.275594 | 0.839541 |
| prdm13 | 413.7901931 | 0.004907927 | 0.1158163 | 0.0423768 | 0.966198 | 0.996315 |
| unm_hu7910 | 216.8914747 | 0.061471634 | 0.1464927 | 0.4196225 | 0.674761 | 0.965257 |
| sema7a | 45.14069986 | 0.310886559 | 0.2962607 | 1.0493682 | 0.294009 | 0.849999 |
| itga8 | 284.5103669 | 0.241598761 | 0.1423922 | 1.696714 | 0.089751 | 0.573763 |
| clip1a | 360.5565635 | 0.015263949 | 0.1190684 | 0.1281948 | 0.897995 | 0.990121 |
| noslapa | 579.1143254 | 0.003690603 | 0.0985656 | 0.0374431 | 0.970132 | 0.996315 |
| znf1068 | 4.196630456 | -0.351037918 | 0.9205702 | -0.381327 | 0.702961 | NA |
| ackr4a | 9.226063391 | 0.615291819 | 0.6294717 | 0.9774733 | 0.328335 | NA |
| si:dkey-85k7.12 | 22.67478702 | 0.694448475 | 0.4251872 | 1.6332771 | 0.102411 | 0.608235 |
| cnnm2b | 75.08407378 | 0.044151166 | 0.2623508 | 0.1682905 | 0.866355 | 0.986673 |
| myo1f | 34.35167554 | -0.061062767 | 0.3541156 | -0.172437 | 0.863094 | 0.985841 |
| doc2a | 58.71066753 | 0.013788985 | 0.2689693 | 0.051266 | 0.959114 | 0.995095 |
| si:dkey-145c18.3 | 1.487060251 | 0.360976966 | 1.5663761 | 0.2304536 | 0.817739 | NA |
| FRMD1 | 198.5554436 | 0.078284268 | 0.1602997 | 0.488362 | 0.625293 | 0.957354 |
| oxgr1a.2 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| pnpla8 | 623.6208996 | 0.136024376 | 0.1003127 | 1.3560041 | 0.175098 | 0.735545 |
| si:ch211-137a8.4 | 5628.373593 | -0.052206156 | 0.0640832 | -0.814662 | 0.415266 | 0.906237 |
| b4galnt3a | 14.13793136 | 0.256616758 | 0.6030499 | 0.4255316 | 0.670449 | 0.965257 |
| tpp2 | 849.5573387 | 0.006912157 | 0.0908708 | 0.0760658 | 0.939367 | 0.992857 |
| rubcn | 24.94586883 | 0.542084396 | 0.4186958 | 1.2946974 | 0.195425 | 0.760412 |
| gra | 37.74503 | 0.077227489 | 0.3203365 | 0.2410824 | 0.809491 | 0.980642 |
| plppr4b | 66.15220305 | 0.062393438 | 0.2467719 | 0.2528385 | 0.800393 | 0.979377 |
| si:ch211-212c13.8 | 198.7842686 | 0.133018842 | 0.2033533 | 0.6541267 | 0.51303 | 0.936253 |
| dna2 | 138.7596537 | 0.132171341 | 0.1771373 | 0.7461518 | 0.455576 | 0.921215 |
| cacna2d3 | 517.7484219 | 0.092684579 | 0.1079118 | 0.8588921 | 0.3904 | 0.897304 |
| rmdn2 | 43.83496922 | 0.049304495 | 0.2945406 | 0.1673946 | 0.86706 | 0.986978 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| tmem169b | 20.41122977 | -0.445932727 | 0.4477378 | -0.995968 | 0.319266 | 0.867746 |
| igl3v3 | | 0 NA | NA | NA | NA | NA |
| yeats2 | 123.6834325 | -0.05010726 | 0.180621 | -0.277417 | 0.78146 | 0.97627 |
| abhd15a | 121.4186305 | -0.038960392 | 0.186935 | -0.208417 | 0.834904 | 0.984089 |
| si:ch73-21k16.5 | 101.2003241 | -0.5876567 | 0.2011621 | -2.921309 | 0.003486 | 0.079224 |
| nbr1b | 1233.396926 | -0.048917512 | 0.0854378 | -0.572551 | 0.566949 | 0.948739 |
| tmem70 | 116.0605899 | 0.036082952 | 0.1950405 | 0.1850024 | 0.853227 | 0.985174 |
| RASA2 | 16.71402522 | 0.019435932 | 0.4698374 | 0.0413674 | 0.967003 | 0.996315 |
| lrchl | 323.8475664 | -0.098763565 | 0.1259047 | -0.784431 | 0.432787 | 0.91326 |
| si:ch211-161c3.6 | 115.4342111 | -0.094263118 | 0.2029259 | -0.46452 | 0.642275 | 0.959994 |
| mgaa | 603.6608983 | -0.102284452 | 0.1036574 | -0.986755 | 0.323763 | 0.870928 |
| tmem258 | 275.1041336 | -0.171594521 | 0.1343081 | -1.277619 | 0.201384 | 0.767338 |
| tmem184c | 396.3350781 | 0.016445164 | 0.1179775 | 0.1393924 | 0.88914 | 0.989291 |
| lrrc18a | 3.440647801 | -0.084995799 | 1.1229163 | -0.075692 | 0.939664 | NA |
| dennd3a | 223.9771253 | 0.003100023 | 0.155148 | 0.0199811 | 0.984058 | 0.996944 |
| slc26a10 | 13.06609509 | -0.110821591 | 0.5159442 | -0.214794 | 0.829928 | 0.982821 |
| msantd1 | 81.61241272 | -0.112363005 | 0.2203256 | -0.509986 | 0.610061 | 0.95688 |
| rnfl11 | 1071.5537 | -0.061543077 | 0.0864187 | -0.71215 | 0.476372 | 0.926505 |
| gas211 | 418.8533749 | -0.028440984 | 0.1226874 | -0.231817 | 0.81668 | 0.981594 |
| ap5b1 | 153.5241397 | -0.06455418 | 0.1623785 | -0.397554 | 0.690959 | 0.967157 |
| paxx | 49.81328184 | 0.199601916 | 0.2756372 | 0.7241473 | 0.468975 | 0.924394 |
| zgc:174320 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:dkey-34m19.3 | 143.77145 | -0.08486598 | 0.1836184 | -0.462187 | 0.643947 | 0.96009 |
| grk5l | 232.285424 | 0.184447893 | 0.1371999 | 1.3443736 | 0.178828 | 0.739486 |
| rnf165b | 128.5733467 | -0.052092903 | 0.1858561 | -0.280286 | 0.779258 | 0.976146 |
| si:ch211-225k7.5 | | 0 NA | NA | NA | NA | NA |
| ccdc18 | 106.4237695 | 0.122974696 | 0.2084166 | 0.5900428 | 0.555162 | 0.947449 |
| si:ch211-66e2.3 | 22.815349 | 0.460443339 | 0.3989659 | 1.1540919 | 0.248463 | 0.817939 |
| bub1ba | 149.2144781 | -0.150732559 | 0.1683745 | -0.895222 | 0.370668 | 0.890626 |
| npb | 193.7884688 | 0.186137396 | 0.1506041 | 1.2359386 | 0.216481 | 0.783724 |
| ccdc149a | 14.73000416 | -0.331790468 | 0.5193855 | -0.638814 | 0.522944 | 0.939336 |
| si:dkey-73p2.3 | 28.43645303 | -0.138547155 | 0.4849639 | -0.285685 | 0.775119 | 0.975687 |
| mrpl58 | 49.1335896 | -0.294158355 | 0.2792887 | -1.053241 | 0.29223 | 0.848075 |
| si:dkey-28o19.1 | 9.688435222 | 0.04922996 | 0.6758376 | 0.0728429 | 0.941931 | NA |
| si:ch211-195b13.6 | 3.686878275 | -0.806547985 | 0.9935615 | -0.811775 | 0.416921 | NA |
| tnsla | 1019.213201 | 0.059122911 | 0.0833643 | 0.7092115 | 0.478193 | 0.926857 |
| BX571839.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:dkey-238o13.4 | 139.5018073 | -0.019673051 | 0.1741513 | -0.112965 | 0.910058 | 0.990702 |
| plekhh2 | 185.2632891 | -0.027820018 | 0.1602394 | -0.173615 | 0.862168 | 0.985841 |
| arhgef19 | 73.05784038 | 0.158090848 | 0.2494791 | 0.6336837 | 0.526287 | 0.940506 |
| tusc3 | 1037.223124 | 0.078064803 | 0.0863186 | 0.9043793 | 0.365794 | 0.887084 |
| slc22a23 | 407.0261569 | 0.089840554 | 0.1137704 | 0.7896657 | 0.429723 | 0.911615 |
| g0s2 | 29.64869933 | -0.430375924 | 0.3521696 | -1.22207 | 0.221681 | 0.78829 |
| lats2 | 125.0490743 | 0.212262468 | 0.1915236 | 1.1082836 | 0.267739 | 0.833349 |
| cxxc5a | 848.1519398 | -0.044706944 | 0.0967997 | -0.46185 | 0.644189 | 0.960129 |
| sdkla | 404.2224254 | 0.030473803 | 0.1268278 | 0.2402769 | 0.810116 | 0.980789 |
| tmem74b | 1.923637035 | 0.46347727 | 1.4525078 | 0.3190876 | 0.74966 | NA |
| adm2b | 7.38397438 | 0.560865271 | 0.7499772 | 0.7478431 | 0.454555 | NA |
| si:ch73-244f7.3 | 8.103132261 | -0.304576328 | 0.6761921 | -0.450429 | 0.652401 | NA |
| slc22a31 | 290.2015774 | -0.079586816 | 0.1341496 | -0.593269 | 0.553001 | 0.947265 |
| atp10d | 288.8660815 | -0.333187513 | 0.1406204 | -2.369411 | 0.017816 | 0.247181 |
| iqgap1 | 1164.730001 | 0.01868367 | 0.0813477 | 0.2296766 | 0.818343 | 0.981594 |
| wdfy3 | 187.3418846 | 0.102655996 | 0.1565611 | 0.6556929 | 0.512022 | 0.936253 |
| map11 | 560.5169135 | 0.085018721 | 0.1142483 | 0.7441574 | 0.456781 | 0.921215 |

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| hemk1 | 161.5851578 | -0.314089685 | 0.1602409 | -1.96011 | 0.049983 | 0.437835 |
| pcdh7a | 1376.914601 | 0.089001234 | 0.0861897 | 1.0326202 | 0.301782 | 0.856944 |
| ankslab | 51.72783836 | 0.037434846 | 0.2826786 | 0.132429 | 0.894645 | 0.989716 |
| rims1b | 63.18872878 | 0.318035725 | 0.2595276 | 1.2254409 | 0.220409 | 0.787278 |
| brd4 | 1073.636232 | 0.044335643 | 0.1111444 | 0.3989013 | 0.689966 | 0.966857 |
| fbxo41 | 26.39484143 | 0.069930873 | 0.3764426 | 0.1857677 | 0.852627 | 0.985174 |
| zgc:163098 | 650.8540122 | -0.181489176 | 0.0950167 | -1.910077 | 0.056123 | 0.464732 |
| si:ch73-24k9.2 | 14.55916441 | -0.7301354 | 0.5190229 | -1.40675 | 0.159502 | 0.710997 |
| mmp17a | 32.22755676 | -0.25612243 | 0.3460741 | -0.74008 | 0.459252 | 0.921978 |
| chrd12 | 14.86229685 | 0.138541911 | 0.4890881 | 0.2832657 | 0.776973 | 0.975826 |
| zgc:195245 | 49.57066313 | 0.048813222 | 0.283473 | 0.1721971 | 0.863283 | 0.985841 |
| comtd1 | 162.9633692 | 0.207624947 | 0.177297 | 1.1710576 | 0.241576 | 0.810471 |
| CR790388.1 | 3.247854248 | -0.114233917 | 1.0822121 | -0.105556 | 0.915935 | NA |
| tmco4 | 59.39259131 | -0.268652161 | 0.2653271 | -1.012532 | 0.311284 | 0.863542 |
| BX323994.1 | 0.489712128 | -0.887840729 | 2.693685 | -0.329601 | 0.741702 | NA |
| abhd16a | 923.2369361 | 0.028604336 | 0.0852933 | 0.3353643 | 0.73735 | 0.972535 |
| ttl14 | 1527.400384 | 0.104872602 | 0.0761496 | 1.377191 | 0.168453 | 0.725919 |
| CR936408.1 | | 0 NA | NA | NA | NA | NA |
| ano9a | | 0 NA | NA | NA | NA | NA |
| enox2 | 385.3455745 | -0.013995126 | 0.1148578 | -0.121847 | 0.90302 | 0.990121 |
| sdccag8 | 75.35405695 | -0.067328531 | 0.228312 | -0.294897 | 0.768073 | 0.975687 |
| epn3a | 448.0625286 | -0.031020073 | 0.1091887 | -0.284096 | 0.776337 | 0.975826 |
| rxrba | 377.7497894 | 0.056165732 | 0.130843 | 0.4292606 | 0.667734 | 0.964736 |
| tpcn3 | 108.8003841 | -0.056489349 | 0.1904902 | -0.296547 | 0.766812 | 0.975687 |
| duox2 | 4.670875973 | 0.228338941 | 1.0304061 | 0.2216009 | 0.824625 | NA |
| BX901881.1 | 0.498674062 | 0.926637565 | 2.6784892 | 0.3459553 | 0.729376 | NA |
| esyt2b | 204.5003299 | 0.211516069 | 0.1463297 | 1.4454764 | 0.148324 | 0.696298 |
| rbm15b | 508.7384443 | 0.017543169 | 0.1028103 | 0.1706362 | 0.86451 | 0.98601 |
| il7r | 7.529411668 | -0.027144877 | 0.7035839 | -0.038581 | 0.969225 | NA |
| uck11b | 472.8510136 | -0.04316957 | 0.1125819 | -0.38345 | 0.701386 | 0.968134 |
| COA4 | 77.16615071 | -0.207581516 | 0.2340209 | -0.887021 | 0.375067 | 0.894316 |
| igllc3 | 0.864444467 | 0.614560748 | 2.0893881 | 0.2941343 | 0.768655 | NA |
| arhgef40 | 47.46623495 | 0.561731305 | 0.291128 | 1.9294993 | 0.053669 | 0.45394 |
| faxcb | 104.0443359 | 0.009591682 | 0.1932515 | 0.0496332 | 0.960415 | 0.995421 |
| fam118b | 90.75998319 | -0.099365369 | 0.2067042 | -0.480713 | 0.630721 | 0.957354 |
| mplkip | 252.2400619 | 0.018804123 | 0.1401479 | 0.1341735 | 0.893265 | 0.989291 |
| alpk3a | 116.5529499 | 0.486602339 | 0.2023811 | 2.4043861 | 0.0162 | 0.234928 |
| si:ch211-195e19.1 | 469.9652814 | -0.101142233 | 0.1080369 | -0.936182 | 0.349179 | 0.880195 |
| wnk1a | 2074.792806 | -0.069824884 | 0.0824436 | -0.846941 | 0.397028 | 0.899672 |
| muc2.2 | 0.325573202 | 0.005883621 | 3.3172783 | 0.0017736 | 0.998585 | NA |
| tex11 | 16.85723571 | 0.509510729 | 0.4704686 | 1.0829857 | 0.278815 | 0.842767 |
| dclk3 | 4.550041397 | 0.222136616 | 0.9937966 | 0.2235232 | 0.823128 | NA |
| tp53bp1 | 1520.347729 | -0.067700162 | 0.0813919 | -0.831781 | 0.405533 | 0.901305 |
| si:dkey-7f3.9 | 572.7011695 | 0.081440792 | 0.1016389 | 0.8012762 | 0.422972 | 0.90714 |
| abcalb | 1443.115868 | 0.469240394 | 0.0904312 | 5.188924 | 2.12E-07 | 2.67E-05 |
| si:dkey-7i4.5 | 16.01975355 | 0.658434083 | 0.5072655 | 1.2980068 | 0.194285 | 0.758049 |
| coll7a1b | 544.1593091 | -0.02876409 | 0.1054394 | -0.272802 | 0.785005 | 0.97627 |
| cbfa2t3 | 76.89485744 | -0.191826947 | 0.2305176 | -0.832158 | 0.40532 | 0.901305 |
| dpy1913 | 920.1533108 | 0.110216963 | 0.0947936 | 1.1627047 | 0.244949 | 0.814877 |
| brca2 | 150.7298529 | -0.131323601 | 0.1721644 | -0.76278 | 0.445594 | 0.917154 |
| tlnr1 | 83.70322442 | 0.017129119 | 0.2305542 | 0.0742954 | 0.940775 | 0.992857 |
| gcfc2 | 179.2611465 | 0.076551642 | 0.170322 | 0.4494526 | 0.653105 | 0.960792 |
| rps6kl1 | 91.36544541 | -0.08245855 | 0.2175946 | -0.378955 | 0.704721 | 0.968134 |
| chsyl | 572.8741141 | 0.030625961 | 0.1017842 | 0.300891 | 0.763498 | 0.975374 |

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| dhx32b | 402.8057628 | -0.089523316 | 0.1223421 | -0.731746 | 0.464324 | 0.923325 |
| ftr39p | 13.24534282 | -0.084169578 | 0.5416398 | -0.155398 | 0.876508 | 0.987881 |
| si:ch211-22d5.2 | 63.6967672 | 0.583604966 | 0.2586995 | 2.2559188 | 0.024076 | 0.299543 |
| zpax4 | 13.08568823 | 0.566285191 | 0.5523002 | 1.0253214 | 0.305212 | 0.85982 |
| zgc:174573 | 16.46694152 | -0.570654937 | 0.4882592 | -1.168754 | 0.242503 | 0.811298 |
| znfl1k | 1.312859516 | -1.608377215 | 1.7182901 | -0.936034 | 0.349256 | NA |
| si:dkeyp-75b4.10 | 0.837332501 | -1.876981437 | 2.1230279 | -0.884106 | 0.376639 | NA |
| opn8b | 34.02452353 | 0.540901981 | 0.3307048 | 1.6356038 | 0.101923 | 0.60687 |
| rab16a | 84.4449194 | 0.333825539 | 0.2187372 | 1.5261486 | 0.126973 | 0.656588 |
| cercam | 274.0918596 | 0.095766706 | 0.1319433 | 0.7258169 | 0.467951 | 0.924328 |
| adgre8 | 0.347458735 | -1.908042286 | 3.4571486 | -0.551912 | 0.581009 | NA |
| si:dkey-85a20.4 | 129.8716175 | 0.030923504 | 0.1803493 | 0.1714645 | 0.863859 | 0.985952 |
| si:ch211-194c3.5 | 619.7777859 | -0.069397712 | 0.0964993 | -0.719152 | 0.472047 | 0.924838 |
| retreg1 | 11.11186573 | -0.039459008 | 0.5817824 | -0.067824 | 0.945925 | 0.993759 |
| samd1b | 129.4076607 | 0.019793961 | 0.1904996 | 0.1039055 | 0.917244 | 0.991572 |
| CABZ01079080.1 | 4.152147317 | -0.605711483 | 0.9528364 | -0.635693 | 0.524977 | NA |
| zgc:172215 | 23.84902863 | 0.070245666 | 0.401158 | 0.1751072 | 0.860995 | 0.985773 |
| mms19 | 241.2889203 | 0.090440017 | 0.139477 | 0.6484223 | 0.516712 | 0.938543 |
| adam12 | 13.93306573 | 0.565419495 | 0.5230774 | 1.0809481 | 0.27972 | 0.843169 |
| jam2b | 126.8188523 | 0.153438691 | 0.2116636 | 0.7249176 | 0.468503 | 0.924328 |
| frmpd1a | 21.08659587 | 0.531063372 | 0.424314 | 1.251581 | 0.210723 | 0.778412 |
| si:ch211-71m22.3 | 4.558195236 | -0.51527898 | 0.9159303 | -0.562574 | 0.573725 | NA |
| hgfb | 15.53033527 | 0.074519917 | 0.4921993 | 0.1514019 | 0.879659 | 0.987881 |
| si:ch211-5k11.8 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| sult1st7 | 0.341366344 | 1.891903201 | 3.2128156 | 0.5888614 | 0.555954 | NA |
| etfbkmt | 40.96168212 | 0.444656461 | 0.3022941 | 1.4709399 | 0.141307 | 0.681968 |
| fbxw8 | 176.5981528 | -0.106883979 | 0.1766304 | -0.605128 | 0.545094 | 0.945463 |
| rin1a | 37.55129008 | 0.309565132 | 0.3405396 | 0.909043 | 0.363327 | 0.885944 |
| tanc2a | 1102.6012 | -0.0585553 | 0.1011474 | -0.57891 | 0.56265 | 0.948728 |
| PRRG3 | 11.38454414 | 0.006600361 | 0.5708231 | 0.0115629 | 0.990774 | 0.997679 |
| mfhas1 | 494.1139688 | -0.040740057 | 0.1077871 | -0.377968 | 0.705455 | 0.968412 |
| mhc2dab | 0.974750517 | -1.023458015 | 2.0966828 | -0.488132 | 0.625456 | NA |
| clecl1a | 26.43369542 | 0.697545319 | 0.3988045 | 1.7490908 | 0.080275 | 0.549641 |
| cluapl | 138.9163979 | -0.15454194 | 0.1947948 | -0.793357 | 0.42757 | 0.91075 |
| actclc | 1036.193193 | 0.09475663 | 0.0841311 | 1.1262978 | 0.26004 | 0.828288 |
| si:ch211-229d2.5 | 502.281076 | 0.062619573 | 0.1049032 | 0.596927 | 0.550556 | 0.946549 |
| tmx2a | 60.22652258 | 0.633992451 | 0.2654305 | 2.388544 | 0.016915 | 0.240289 |
| ikkb | 58.01829906 | 0.096535561 | 0.2847044 | 0.3390729 | 0.734555 | 0.972021 |
| MTERF4 | 102.9163216 | -0.106395707 | 0.2004156 | -0.530875 | 0.595505 | 0.954434 |
| sowahab | 69.11880476 | 0.01796374 | 0.2385929 | 0.0752903 | 0.939984 | 0.992857 |
| znfl1i | 0.341366344 | 1.891903201 | 3.2128156 | 0.5888614 | 0.555954 | NA |
| becn1 | 338.8180387 | -0.015261215 | 0.1253949 | -0.121705 | 0.903132 | 0.990121 |
| opn4xa | 10.93833804 | -0.002671833 | 0.5637858 | -0.004739 | 0.996219 | NA |
| si:dkeyp-118b1.2 | 85.43858879 | 0.080635473 | 0.2118334 | 0.3806551 | 0.703459 | 0.968134 |
| si:dkey-10c21.1 | 6.858347577 | 0.21564233 | 0.7604692 | 0.2835648 | 0.776744 | NA |
| si:ch73-278m9.1 | 80.11861197 | -0.010567812 | 0.2261355 | -0.046732 | 0.962727 | 0.995927 |
| bc12l11 | 5.485346572 | 0.619488097 | 0.8355098 | 0.7414493 | 0.458421 | NA |
| CABZ01077217.1 | 119.8103003 | -0.039045817 | 0.1851713 | -0.210863 | 0.832994 | 0.983557 |
| nckap5l | 116.4888551 | 0.032798668 | 0.1842391 | 0.1780223 | 0.858705 | 0.985773 |
| si:ch211-276i12.9 | 932.7988628 | -0.039572646 | 0.0989574 | -0.399896 | 0.689233 | 0.966763 |
| si:ch211-67f13.8 | 7.433398707 | 0.560412357 | 0.7123264 | 0.7867354 | 0.431437 | NA |
| thpo | 1.432557583 | 0.317312701 | 1.6575224 | 0.191438 | 0.848182 | NA |
| srxn1 | 18.4275548 | -0.611111424 | 0.4437706 | -1.377089 | 0.168485 | 0.725919 |
| bsnb | 661.5718887 | -0.028718841 | 0.0961566 | -0.298667 | 0.765194 | 0.975374 |

| | | | | | | |
|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| best2 | 4.790127156 | -0.110031518 | 0.8495571 | -0.129516 | 0.896949 | NA |
| galrlb | 26.33574545 | -0.489473716 | 0.3751379 | -1.304783 | 0.191967 | 0.756256 |
| ace | 751.8880255 | -0.339710338 | 0.1013354 | -3.352337 | 0.000801 | 0.025849 |
| si:ch211-230g15.5 | 521.8427647 | -0.218013861 | 0.1103323 | -1.975974 | 0.048158 | 0.432457 |
| si:ch211-79k12.1 | 344.1858052 | 0.085114718 | 0.1243162 | 0.6846634 | 0.493556 | 0.931926 |
| sod3b | 31.49651038 | -0.089052939 | 0.3366553 | -0.264523 | 0.791377 | 0.977616 |
| si:ch211-163m16.7 | | 0 NA | NA | NA | NA | NA |
| tbx19 | 9.840960812 | 0.449932468 | 0.7029656 | 0.6400491 | 0.522141 | NA |
| nxph2b | 129.2682272 | 0.149245827 | 0.212533 | 0.7022241 | 0.482539 | 0.928998 |
| zgc:172122 | 57.64569409 | 0.045716189 | 0.259819 | 0.175954 | 0.86033 | 0.985773 |
| uspl3 | 419.7831611 | 0.162981195 | 0.1116229 | 1.4601053 | 0.144261 | 0.68854 |
| megf6a | 75.94807293 | 0.233934075 | 0.2364116 | 0.9895203 | 0.322409 | 0.870226 |
| tshz2 | 918.5744613 | -0.135278405 | 0.0919485 | -1.471241 | 0.141226 | 0.681968 |
| parp2 | 315.8655408 | -0.045039308 | 0.1266312 | -0.355673 | 0.722085 | 0.97014 |
| adam11 | 87.61956265 | 0.020742117 | 0.2160619 | 0.0960008 | 0.92352 | 0.992588 |
| dpep2 | 13.30772109 | -0.355470795 | 0.5220807 | -0.680873 | 0.495952 | 0.932377 |
| bbs9 | 189.5060895 | 0.076292429 | 0.1600739 | 0.4766074 | 0.633642 | 0.957703 |
| mfn1b | 779.4550389 | 0.078213097 | 0.0950572 | 0.8228004 | 0.410622 | 0.903084 |
| wdr20a | 178.4306491 | 0.0566715 | 0.1572575 | 0.3603739 | 0.718568 | 0.96909 |
| si:ch211-162k9.6 | 0.983001374 | 0.918633527 | 2.0854433 | 0.440498 | 0.659576 | NA |
| zgc:174315 | 58.39341498 | -0.017193409 | 0.2753711 | -0.062437 | 0.950215 | 0.99381 |
| plekhs1 | 41.78132788 | -0.012483307 | 0.3451181 | -0.036171 | 0.971146 | 0.996315 |
| znf414 | 3.579873268 | 0.264645662 | 1.0101716 | 0.2619809 | 0.793336 | NA |
| slc7a14b | 4.200088464 | 0.160877098 | 1.0087392 | 0.1594833 | 0.873288 | NA |
| si:ch211-160f23.5 | 165.6308284 | 0.003531667 | 0.1626071 | 0.021719 | 0.982672 | 0.996944 |
| si:ch211-285c6.2 | 0.31598276 | 0.005883445 | 3.3523626 | 0.001755 | 0.9986 | NA |
| si:dkey-253d23.11 | 33.68878383 | 0.163087679 | 0.3281366 | 0.4970115 | 0.619181 | 0.957354 |
| trim59 | 70.12837957 | -0.334608131 | 0.2397435 | -1.395692 | 0.162807 | 0.717803 |
| wdr90 | 131.742195 | -0.004164053 | 0.1932707 | -0.021545 | 0.982811 | 0.996944 |
| BX901889.3 | | 0 NA | NA | NA | NA | NA |
| pigw | 97.96926125 | -0.088573378 | 0.2061388 | -0.429678 | 0.66743 | 0.964736 |
| si:dkey-73p2.2 | 7.972719547 | -0.691643629 | 0.7608207 | -0.909076 | 0.36331 | NA |
| mn1b | 480.8087885 | -0.00681123 | 0.1139741 | -0.059761 | 0.952346 | 0.993904 |
| ogdhl | 112.7847175 | 0.031211379 | 0.1907896 | 0.1635906 | 0.870053 | 0.987399 |
| BX323590.1 | 8.275786206 | 0.60353402 | 0.7194153 | 0.838923 | 0.401513 | NA |
| nlg2b | 247.4009169 | -0.018299747 | 0.134242 | -0.136319 | 0.891569 | 0.989291 |
| fam117ab | 19.28695666 | -0.183870463 | 0.4491438 | -0.40938 | 0.682261 | 0.965476 |
| plchl | 259.4488917 | -0.153279078 | 0.1436879 | -1.06675 | 0.286085 | 0.845942 |
| zgc:174935 | 82.89018489 | -0.151526905 | 0.2253206 | -0.672495 | 0.501269 | 0.934613 |
| gemin5 | 305.3527067 | -0.134415712 | 0.1350861 | -0.995037 | 0.319718 | 0.86809 |
| si:dkeyp-2e4.2 | 8.916533085 | -0.019470973 | 0.6582864 | -0.029578 | 0.976403 | NA |
| baiap3 | 50.45088174 | 0.137583093 | 0.299416 | 0.4595048 | 0.645872 | 0.96029 |
| foxel | 57.75554182 | -0.007652846 | 0.2518096 | -0.030391 | 0.975755 | 0.996762 |
| im:7154036 | 19.99637549 | 0.254077089 | 0.4257174 | 0.596821 | 0.550627 | 0.946549 |
| CR589947.1 | 12.06558348 | -0.584057261 | 0.555247 | -1.051887 | 0.292851 | 0.848607 |
| dcxr | 150.7866223 | -0.170917018 | 0.1740982 | -0.981728 | 0.326234 | 0.872104 |
| prss59.1 | 514.7231201 | -0.663638309 | 0.139816 | -4.746513 | 2.07E-06 | 0.000186 |
| ube2q11 | 79.85983679 | 0.357553532 | 0.2341653 | 1.5269281 | 0.126779 | 0.656588 |
| zgc:174877 | 178.4608238 | 0.143663579 | 0.1599152 | 0.8983733 | 0.368987 | 0.888432 |
| dhrrsx | 457.4370597 | 0.094521965 | 0.1139226 | 0.8297031 | 0.406707 | 0.901305 |
| si:dkeyp-75h12.2 | 175.2655681 | 0.020603774 | 0.163044 | 0.1263694 | 0.89944 | 0.990121 |
| si:ch211-247j9.1 | 749.7272879 | 0.127201401 | 0.093586 | 1.3591927 | 0.174086 | 0.734137 |
| bcr | 1174.148756 | 0.03015692 | 0.084921 | 0.3551172 | 0.722502 | 0.970375 |
| si:ch211-162k9.5 | 7.578549013 | -1.824319501 | 0.7531535 | -2.422241 | 0.015425 | NA |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| rapgef3 | 46.07281686 | 0.100903783 | 0.2879446 | 0.3504278 | 0.726018 | 0.970402 |
| gdpd4b | 67.78228689 | 0.482010393 | 0.2406655 | 2.0028227 | 0.045196 | 0.417766 |
| or115-15 | 2.93081305 | -0.652912877 | 1.1963471 | -0.545755 | 0.585234 | NA |
| cacnalbb | 53.88943539 | 0.430908572 | 0.276698 | 1.5573244 | 0.119393 | 0.643644 |
| gcga | 162.0072056 | -0.129692749 | 0.2106451 | -0.615693 | 0.538097 | 0.943336 |
| and2 | 4164.100218 | 0.61062905 | 0.0808513 | 7.5524967 | 4.27E-14 | 1.84E-11 |
| hbae3 | 12686.89491 | 0.154512396 | 0.2841662 | 0.5437396 | 0.586621 | 0.953319 |
| rlim | 989.9821207 | 0.051549995 | 0.0842728 | 0.611704 | 0.540734 | 0.944633 |
| si:dkey-205h13.1 | 90.45670435 | -0.158086435 | 0.2156899 | -0.732934 | 0.463599 | 0.922875 |
| tor3a | 268.2847175 | -0.11629153 | 0.1328126 | -0.875606 | 0.381244 | 0.895192 |
| st3gal11 | 15.41622798 | -0.351929807 | 0.4897269 | -0.718625 | 0.472372 | 0.924838 |
| kmt2ca | 712.7362434 | 0.038231389 | 0.0948821 | 0.4029356 | 0.686996 | 0.966376 |
| pelpl | 1448.191877 | -0.222879274 | 0.0878153 | -2.538047 | 0.011147 | 0.183384 |
| lpxn | 12.13124659 | -0.185549198 | 0.5692691 | -0.325943 | 0.744468 | 0.974094 |
| d1c1 | 274.6819103 | -0.184386207 | 0.1324799 | -1.391805 | 0.163981 | 0.71945 |
| rgmb | 1281.246668 | -0.020824739 | 0.0841813 | -0.24738 | 0.804614 | 0.979705 |
| ano9b | 205.1929191 | -0.326576944 | 0.1477066 | -2.210985 | 0.027037 | 0.31691 |
| CABZ01046432.1 | | 0 NA | NA | NA | NA | NA |
| cabin1 | 62.02689682 | -0.155959855 | 0.2494458 | -0.625226 | 0.531823 | 0.942359 |
| hmen2 | 972.272356 | 0.162719696 | 0.093668 | 1.737196 | 0.082353 | 0.553931 |
| pgbd4 | 23.63058646 | 0.083862292 | 0.4081053 | 0.2054918 | 0.837188 | 0.984645 |
| cop1 | 399.9221722 | 0.158249204 | 0.1140024 | 1.3881219 | 0.1651 | 0.721223 |
| AL928650.1 | 3.446489196 | 1.311621177 | 1.0935374 | 1.1994296 | 0.230361 | NA |
| cd401g | 1.529345901 | -1.744664827 | 1.7410432 | -1.00208 | 0.316305 | NA |
| strc1 | 30.51487105 | 0.494471904 | 0.3956045 | 1.2499147 | 0.211331 | 0.778917 |
| slc47a4 | 57.3034441 | 0.153470373 | 0.2787535 | 0.5505594 | 0.581936 | 0.951952 |
| si:ch211-217k17.10 | 1.959600626 | 0.424286044 | 1.4640552 | 0.289802 | 0.771968 | NA |
| zgc:194659 | 41.88303969 | -1.021024024 | 0.858898 | -1.18876 | 0.234534 | 0.803509 |
| GRIN2B (1 of many) | 21.45306297 | 0.44167984 | 0.4450717 | 0.9923792 | 0.321013 | 0.868715 |
| znf654 | 522.3897686 | -0.24002119 | 0.1068261 | -2.246841 | 0.02465 | 0.302262 |
| sap130b | 388.0814376 | 0.072583509 | 0.1238724 | 0.5859539 | 0.557907 | 0.948478 |
| si:ch211-165d12.4 | 59.96111203 | -0.391272549 | 0.2842002 | -1.37675 | 0.16859 | 0.725919 |
| flrt2 | 292.7964756 | 0.18241567 | 0.1272527 | 1.4334913 | 0.151717 | 0.700137 |
| abcg2b | 62.73124551 | -0.860228255 | 0.2628692 | -3.272457 | 0.001066 | 0.032585 |
| CR377211.1 | 1.006415869 | 0.95573537 | 2.0728081 | 0.4610824 | 0.644739 | NA |
| ppplr9ba | 1207.792191 | -0.063523183 | 0.0886078 | -0.716903 | 0.473434 | 0.924993 |
| si:ch211-212g7.6 | 481.2181908 | 0.195377905 | 0.1089432 | 1.7933932 | 0.07291 | 0.526902 |
| lrrc3ca | 19.86238215 | -0.002042001 | 0.4357557 | -0.004686 | 0.996261 | 0.998888 |
| si:ch211-264f5.6 | 229.267214 | 0.155861487 | 0.1541288 | 1.0112418 | 0.311901 | 0.864401 |
| fosl1b | 4.462268347 | 0.554654817 | 0.9465966 | 0.5859463 | 0.557912 | NA |
| tjplb | 1365.14224 | -0.049106963 | 0.0977412 | -0.502418 | 0.615373 | 0.95688 |
| zgc:174153 | 0.515095711 | 0.926015374 | 2.6527421 | 0.3490785 | 0.72703 | NA |
| arhgef38 | 74.84856182 | -0.257667983 | 0.2371239 | -1.086639 | 0.277196 | 0.840688 |
| phldb1b | 101.9449185 | 0.07549895 | 0.1971719 | 0.3829093 | 0.701787 | 0.968134 |
| hdx | 381.5196819 | -0.116838278 | 0.1178498 | -0.991417 | 0.321482 | 0.869201 |
| si:ch211-235m3.5 | 33.04490782 | -0.406473387 | 0.3489213 | -1.164943 | 0.244042 | 0.813415 |
| si:ch211-102c2.4 | 25.9005165 | 0.029510585 | 0.3805997 | 0.0775371 | 0.938196 | 0.99279 |
| agnr | 2850.524161 | -0.003612751 | 0.0788926 | -0.045793 | 0.963475 | 0.995927 |
| mrpl42 | 222.0482765 | -0.127883955 | 0.156604 | -0.816607 | 0.414153 | 0.906114 |
| tmprss15 | 5.310538659 | -0.729024935 | 0.8154237 | -0.894044 | 0.371298 | NA |
| lrfn5b | 418.6584803 | 0.014428745 | 0.1177459 | 0.1225414 | 0.90247 | 0.990121 |
| cerkl | 64.29221886 | -0.05771875 | 0.2463773 | -0.23427 | 0.814776 | 0.981081 |
| F2RL3 | 34.06545559 | 0.034889637 | 0.3422124 | 0.1019532 | 0.918794 | 0.991623 |
| si:dkey-197c15.6 | 170.698188 | -0.210902818 | 0.1653046 | -1.275843 | 0.202011 | 0.76789 |

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| tapbp.1 | 18.53362229 | 0.077021734 | 0.4759122 | 0.1618402 | 0.871432 | 0.987754 |
| si:dkey-204111.1 | 3.241575888 | 0.897200768 | 1.1249781 | 0.7975273 | 0.425145 | NA |
| ftr02 | 35.06095982 | -0.821918735 | 0.3634533 | -2.261415 | 0.023734 | 0.29703 |
| sez6b | 60.46664452 | -0.198897517 | 0.2485548 | -0.800216 | 0.423586 | 0.907829 |
| dnajc30b | 52.35789889 | 0.13621199 | 0.2693289 | 0.505746 | 0.613035 | 0.95688 |
| zgc:174895 | 58.05822363 | 0.580217713 | 0.2597654 | 2.2336222 | 0.025508 | 0.309193 |
| dpp4 | 385.5287915 | -0.916588254 | 0.1320252 | -6.942524 | 3.85E-12 | 1.25E-09 |
| npbwr2a | 15.52844175 | -0.006749838 | 0.4800143 | -0.014062 | 0.988781 | 0.997589 |
| si:dkey-12f6.5 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| tmem1311 | 944.4057499 | -0.192652666 | 0.0880213 | -2.188706 | 0.028618 | 0.328246 |
| pkp3b | 359.5911701 | -0.03921748 | 0.1220203 | -0.321401 | 0.747906 | 0.97419 |
| coro2ba | 299.5966791 | 0.067976943 | 0.1330887 | 0.5107642 | 0.609516 | 0.956718 |
| BX649448.1 | 5.633579786 | -0.194298342 | 0.8591359 | -0.226156 | 0.82108 | NA |
| vipb | 61.75765175 | -0.661335621 | 0.2540393 | -2.603281 | 0.009234 | 0.161152 |
| si:dkey-238f9.1 | 210.6354894 | 0.110413057 | 0.1492904 | 0.7395858 | 0.459551 | 0.921978 |
| rbm46 | 2.493245458 | -0.612411926 | 1.1997045 | -0.510469 | 0.609723 | NA |
| atp8b4 | 21.29302423 | -0.158618802 | 0.4101168 | -0.386765 | 0.69893 | 0.967998 |
| nlgn4xa | 663.0336449 | 0.179193785 | 0.1020243 | 1.7563842 | 0.079023 | 0.547489 |
| si:ch211-149a19.3 | 108.4565101 | 0.18692456 | 0.1911048 | 0.978126 | 0.328012 | 0.872701 |
| si:dkey-57h18.1 | 57.27284746 | 0.101712754 | 0.260536 | 0.3903981 | 0.696242 | 0.96736 |
| pimr126 | | 0 NA | NA | NA | NA | NA |
| si:ch211-131k2.3 | 45.72056513 | 0.54764901 | 0.3236106 | 1.6923085 | 0.090587 | 0.576398 |
| man2b2 | 292.0878263 | -0.062198206 | 0.1524859 | -0.407895 | 0.683351 | 0.965476 |
| si:ch73-15b2.5 | 75.21180319 | -0.120089766 | 0.230491 | -0.521017 | 0.602355 | 0.956045 |
| rhobtb1 | 3.858683095 | -0.106030642 | 0.9572831 | -0.110762 | 0.911805 | NA |
| trpc7b | 11.42569328 | -0.03773704 | 0.5522072 | -0.068339 | 0.945516 | 0.993589 |
| cdk17 | 210.86551 | -0.170242082 | 0.1555527 | -1.094433 | 0.273765 | 0.838381 |
| si:dkey-88j15.4 | | 0 NA | NA | NA | NA | NA |
| CABZ01071020.1 | 20.34105896 | -0.430966649 | 0.460774 | -0.93531 | 0.349628 | 0.880195 |
| map3k21 | 73.78018237 | -0.155759027 | 0.2302019 | -0.676619 | 0.498648 | 0.934006 |
| MSANTD2 | 84.32495677 | 0.093545543 | 0.22113 | 0.4230341 | 0.67227 | 0.965257 |
| nckipsd | 304.9369685 | 0.06845894 | 0.1345128 | 0.50894 | 0.610794 | 0.95688 |
| mvb12bb | 16.29714242 | -0.968397734 | 0.4775561 | -2.02782 | 0.042579 | 0.405759 |
| gpr4 | 1.60255145 | 1.190672731 | 1.6167718 | 0.7364507 | 0.461456 | NA |
| GID4 | 49.94094379 | 0.737575512 | 0.2770957 | 2.6618077 | 0.007772 | 0.141128 |
| CABZ01072096.1 | 14.9931221 | 0.1663423 | 0.5046069 | 0.3296473 | 0.741666 | 0.973154 |
| kcntl | 15.20359732 | 0.317309614 | 0.5166615 | 0.6141538 | 0.539114 | 0.943733 |
| fam20a | 36.51900264 | 0.131375895 | 0.3198517 | 0.41074 | 0.681263 | 0.965476 |
| zgc:195282 | 4.112858351 | -0.851055301 | 0.9724183 | -0.875195 | 0.381468 | NA |
| bicd1a | 107.2782631 | 0.061869333 | 0.1971254 | 0.3138578 | 0.753629 | 0.975024 |
| tcima | 1505.107528 | -0.088928251 | 0.0801492 | -1.109534 | 0.2672 | 0.833191 |
| stk32a | | 0 NA | NA | NA | NA | NA |
| kif3cb | 573.6106234 | 0.004207531 | 0.1030151 | 0.0408438 | 0.96742 | 0.996315 |
| si:ch211-14911.2 | 49.72441389 | -0.113578733 | 0.2767943 | -0.410336 | 0.681559 | 0.965476 |
| gal3st2 | 36.51266939 | 0.176677957 | 0.3302317 | 0.535012 | 0.592642 | 0.954434 |
| mfn2 | 1248.866541 | 0.060822123 | 0.0877424 | 0.6931893 | 0.488191 | 0.93189 |
| fam114a2 | 439.3631234 | -0.127534788 | 0.1104516 | -1.154667 | 0.248227 | 0.817664 |
| ptx3b | 8.402266544 | -0.177328041 | 0.6458811 | -0.274552 | 0.78366 | NA |
| cisd1 | 797.0951576 | -0.000715678 | 0.0903139 | -0.007924 | 0.993677 | 0.998672 |
| nitr1f | | 0 NA | NA | NA | NA | NA |
| eyes | 2.713536368 | -0.335873978 | 1.2215424 | -0.274959 | 0.783348 | NA |
| si:ch211-184m13.4 | 0.65919784 | 2.852228985 | 2.3514193 | 1.2129819 | 0.225137 | NA |
| znfl1g | 0.513487682 | -0.887846295 | 2.6557956 | -0.334305 | 0.738149 | NA |
| slc39a5 | 90.28551505 | -0.1658435 | 0.2310988 | -0.71763 | 0.472985 | 0.924993 |

| | | | | | | |
|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| si:dkey-17m8.1 | 208.4421886 | -0.020460316 | 0.1531684 | -0.133581 | 0.893734 | 0.989291 |
| zgc:194242 | 5.164783683 | 0.873084348 | 0.9001936 | 0.9698851 | 0.332104 | NA |
| zgc:175135 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| ftr13 | 12.60352719 | -0.244544628 | 0.6184785 | -0.395397 | 0.69255 | 0.96736 |
| stard13a | 406.3451085 | 0.060124208 | 0.111082 | 0.5412596 | 0.588329 | 0.953319 |
| dpys | 220.602476 | 0.614055275 | 0.1413774 | 4.3433763 | 1.40E-05 | 0.00095 |
| si:ch1073-464p5.5 | 439.5644904 | 0.429260542 | 0.1115248 | 3.8490127 | 0.000119 | 0.005637 |
| zbtb47b | 1.451106703 | -1.806925218 | 1.770077 | -1.020817 | 0.307341 | NA |
| cdc42ep1a | 45.61357436 | -0.000588225 | 0.2920883 | -0.002014 | 0.998393 | 0.999364 |
| maml3 | 507.3030137 | -0.083087666 | 0.1060433 | -0.783526 | 0.433319 | 0.913654 |
| cd83 | 32.52410824 | -0.508681373 | 0.3469902 | -1.465982 | 0.142653 | 0.684998 |
| ccdc85cb | 171.0911908 | -0.064478714 | 0.1632835 | -0.394888 | 0.692925 | 0.96736 |
| ptprh | 24.68395717 | -1.150749823 | 0.401284 | -2.867669 | 0.004135 | 0.089168 |
| myh7 | 1511.665598 | -0.090517665 | 0.0833324 | -1.086224 | 0.27738 | 0.840857 |
| rspo2 | 199.1054275 | 0.06641918 | 0.151346 | 0.4388566 | 0.660765 | 0.963994 |
| mfsd4b | 164.4510649 | -0.143700316 | 0.1585691 | -0.906232 | 0.364813 | 0.886714 |
| plcd3b | 164.5604742 | 0.258637403 | 0.1689765 | 1.5306113 | 0.125865 | 0.654803 |
| aff3 | 207.6201444 | 0.038244294 | 0.1522786 | 0.2511469 | 0.801701 | 0.979492 |
| rbpms2b | 945.8266625 | 0.08573153 | 0.0896588 | 0.9561977 | 0.338972 | 0.87745 |
| nyap2a | 61.64606288 | -0.036180113 | 0.2548227 | -0.141982 | 0.887095 | 0.989231 |
| zgc:194930 | 9.963817193 | 0.008834805 | 0.6177047 | 0.0143026 | 0.988589 | NA |
| pkn3 | 225.7055337 | -0.04153534 | 0.1463569 | -0.283795 | 0.776568 | 0.975826 |
| gabrb2a | 501.5082296 | 0.182364414 | 0.1163222 | 1.5677525 | 0.116939 | 0.639958 |
| castor1 | 182.994792 | 0.063011573 | 0.1631712 | 0.3861685 | 0.699372 | 0.967998 |
| si:dkeyp-73d8.6 | 2.476775735 | 2.681623393 | 1.4401944 | 1.8619872 | 0.062605 | NA |
| si:ch211-203d1.3 | 84.68508524 | 0.016167068 | 0.2177823 | 0.074235 | 0.940823 | 0.992857 |
| calhm3 | 15.7036261 | 0.759475726 | 0.4922719 | 1.5427973 | 0.12288 | 0.650905 |
| si:ch211-256e16.6 | 11.49203647 | -0.278390873 | 0.5642327 | -0.493397 | 0.621732 | 0.957354 |
| prmt5 | 593.9208158 | -0.058454353 | 0.1127503 | -0.518441 | 0.604151 | 0.95651 |
| SGPP2 | 34.92487413 | -0.037446903 | 0.3280255 | -0.114159 | 0.909112 | 0.990702 |
| akap9 | 1888.131525 | -0.030852678 | 0.0861868 | -0.357974 | 0.720363 | 0.969318 |
| sema4c | 414.6301214 | -0.024718921 | 0.1126264 | -0.219477 | 0.826278 | 0.982196 |
| sall3a | 259.0743272 | 0.117041475 | 0.1418229 | 0.8252647 | 0.409221 | 0.90181 |
| ftr34 | 0.849390142 | 1.928131185 | 2.2127708 | 0.8713651 | 0.383555 | NA |
| cramp1 | 805.6370365 | -0.12297133 | 0.0937149 | -1.312186 | 0.189457 | 0.754244 |
| sik2a | 39.87067499 | -0.049117413 | 0.3039561 | -0.161594 | 0.871626 | 0.987766 |
| amigol | 52.0847983 | -0.137604183 | 0.268078 | -0.513299 | 0.607742 | 0.956718 |
| frmd5 | 142.7321399 | 0.069057188 | 0.1716674 | 0.4022733 | 0.687483 | 0.966376 |
| ubtd1b | 22.43252843 | 0.516162279 | 0.4101155 | 1.2585778 | 0.208183 | 0.775404 |
| amer1 | 668.7401465 | -0.02836933 | 0.0970288 | -0.292381 | 0.769996 | 0.975687 |
| atr | 211.8116877 | 0.038227573 | 0.1529187 | 0.2499862 | 0.802598 | 0.979592 |
| elf2b | 664.3714122 | -0.121129113 | 0.1047941 | -1.155877 | 0.247731 | 0.81711 |
| si:ch211-113e8.10 | 546.1447057 | -0.085936136 | 0.1080367 | -0.795434 | 0.426361 | 0.909969 |
| si:dkey-28b4.7 | 342.6939854 | -0.155075739 | 0.1269956 | -1.221111 | 0.222044 | 0.788551 |
| filip1b | 128.9878875 | -0.055616885 | 0.1807441 | -0.307711 | 0.758302 | 0.975374 |
| fam177a1 | 828.0734125 | -0.113899383 | 0.0926638 | -1.229168 | 0.219009 | 0.785734 |
| alpk2 | 174.959816 | 0.016669786 | 0.1658233 | 0.1005274 | 0.919926 | 0.991857 |
| PRRC2B | 2515.436824 | 0.006470221 | 0.1171601 | 0.0552255 | 0.955959 | 0.994543 |
| sc:d217 | | 0 NA | NA | NA | NA | NA |
| muc13b | 289.2759405 | -1.257670062 | 0.1357197 | -9.266672 | 1.92E-20 | 1.90E-17 |
| si:ch1073-174d20.2 | 1305.550428 | 0.162373912 | 0.0991761 | 1.6372283 | 0.101583 | 0.605756 |
| caapl | 273.2767066 | 0.031220091 | 0.1329639 | 0.2348013 | 0.814363 | 0.981081 |
| cyp2x6 | 2.465707907 | -0.926370273 | 1.3158955 | -0.703985 | 0.481442 | NA |
| st3gall | 1.630691012 | -0.616903343 | 1.4938275 | -0.412968 | 0.67963 | NA |

| | | | | | | |
|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| fam171a2b | 49.68364661 | 0.406971571 | 0.2853449 | 1.4262445 | 0.153798 | 0.702599 |
| si:dkey-53k12.1 | 0 NA | NA | NA | NA | NA | NA |
| wdr53 | 193.8511528 | 0.144631962 | 0.1491802 | 0.9695119 | 0.33229 | 0.874653 |
| CU855821.1 | 0.965400781 | -1.006309521 | 1.9906007 | -0.505531 | 0.613186 | NA |
| zgc:172341 | 111.7155208 | 0.219135195 | 0.194601 | 1.1260742 | 0.260134 | 0.828288 |
| gpr158b | 233.797119 | 0.240857171 | 0.1479178 | 1.6283174 | 0.103458 | 0.609625 |
| lrrc7 | 371.5624248 | 0.145750459 | 0.1178184 | 1.2370777 | 0.216058 | 0.783484 |
| plppr4a | 519.9323309 | 0.190205468 | 0.1049775 | 1.8118685 | 0.070007 | 0.516704 |
| efl1 | 148.5810595 | -0.064953245 | 0.1726939 | -0.376118 | 0.706829 | 0.968664 |
| cep112 | 121.5426277 | 0.011443182 | 0.1857536 | 0.0616041 | 0.950878 | 0.99381 |
| CABZ01059627.2 | 1.797940186 | 0.8407671 | 1.545573 | 0.5439841 | 0.586452 | NA |
| taf6l | 364.6395904 | 0.011466485 | 0.121309 | 0.094523 | 0.924694 | 0.992676 |
| naa30 | 653.8843674 | 0.173072261 | 0.0981247 | 1.7637989 | 0.077766 | 0.543372 |
| rnf10 | 6544.872545 | -0.035191188 | 0.0659413 | -0.533674 | 0.593567 | 0.954434 |
| tnrc6a | 2524.51558 | -0.028845053 | 0.0773138 | -0.373091 | 0.709081 | 0.968664 |
| zgc:194908 | 1.511182322 | -0.351757116 | 1.5857123 | -0.221829 | 0.824447 | NA |
| asb13a.1 | 71.92419583 | 0.142237856 | 0.233717 | 0.6085901 | 0.542796 | 0.944974 |
| zgc:162612 | 77.97010033 | -0.113314549 | 0.2255662 | -0.502356 | 0.615417 | 0.95688 |
| b3galt1a | 13.30169974 | 0.279153072 | 0.5450748 | 0.5121371 | 0.608555 | 0.956718 |
| wdr81 | 307.1291096 | 0.051851261 | 0.1325254 | 0.3912553 | 0.695609 | 0.96736 |
| si:dkey-18p12.4 | 9.488163816 | -1.224801753 | 0.7413175 | -1.652196 | 0.098495 | NA |
| si:ch211-152p11.4 | 38.78652932 | -0.094607242 | 0.3055345 | -0.309645 | 0.756831 | 0.975374 |
| gal3st4 | 1032.065737 | 0.058545318 | 0.0848979 | 0.6895972 | 0.490448 | 0.931926 |
| ccl27b | 5.692456476 | 0.716721644 | 0.8226503 | 0.8712349 | 0.383626 | NA |
| sin3aa | 980.7287643 | -0.051793644 | 0.0865639 | -0.598329 | 0.549621 | 0.946312 |
| rbml2b | 586.6589141 | 0.059747999 | 0.0998043 | 0.5986513 | 0.549405 | 0.946312 |
| si:dkey-46g23.1 | 93.40129121 | 0.156241055 | 0.2182661 | 0.7158282 | 0.474097 | 0.924993 |
| dhx9 | 1704.732454 | 0.03544826 | 0.0799433 | 0.4434175 | 0.657464 | 0.962444 |
| selenop2 | 193.9958134 | 0.552661256 | 0.1988185 | 2.7797275 | 0.00544 | 0.10944 |
| fuz | 40.99608795 | -0.356024094 | 0.3321314 | -1.071938 | 0.283748 | 0.84466 |
| kif13ba | 696.4487739 | -0.0610426 | 0.0924355 | -0.66038 | 0.50901 | 0.936123 |
| znf219 | 898.2237717 | -0.048380395 | 0.088095 | -0.549184 | 0.582879 | 0.952214 |
| efna2b | 40.49568666 | 0.220515167 | 0.3005075 | 0.7338093 | 0.463065 | 0.922698 |
| CSRNP3 | 11.21184312 | 0.285899965 | 0.6250277 | 0.4574197 | 0.647369 | 0.960581 |
| mcf212 | 30.40551985 | 0.191201738 | 0.3817225 | 0.500892 | 0.616447 | 0.95688 |
| si:ch211-166a6.5 | 1712.011492 | -0.075046245 | 0.0864324 | -0.868265 | 0.385249 | 0.89551 |
| megf8 | 1007.085989 | 0.114579689 | 0.0890886 | 1.2861315 | 0.198397 | 0.763597 |
| col6a4a | 1691.029991 | 0.187402886 | 0.0755916 | 2.4791509 | 0.01317 | 0.205051 |
| kiz | 182.7476578 | -0.018676293 | 0.1526052 | -0.122383 | 0.902596 | 0.990121 |
| peak1 | 37.40868752 | 0.00668309 | 0.3331963 | 0.0200575 | 0.983997 | 0.996944 |
| zgc:112998 | 23.92828121 | -0.18747588 | 0.3902479 | -0.480402 | 0.630942 | 0.957354 |
| si:dkey-253d23.4 | 365.0740827 | 0.113189461 | 0.1176527 | 0.9620642 | 0.336017 | 0.876088 |
| si:ch211-112f3.4 | 86.273426 | -0.136712335 | 0.2256543 | -0.605849 | 0.544615 | 0.945438 |
| tap1 | 9.972711251 | 0.234237533 | 0.6339689 | 0.369478 | 0.711771 | NA |
| si:ch73-296e2.3 | 0 NA | NA | NA | NA | NA | NA |
| peal5 | 34.53012808 | -0.058333809 | 0.3291734 | -0.177213 | 0.859341 | 0.985773 |
| nox5 | 13.22278319 | -0.617889041 | 0.5663929 | -1.090919 | 0.275308 | 0.839541 |
| map6d1 | 99.96214129 | 0.218189376 | 0.201564 | 1.0824819 | 0.279038 | 0.842806 |
| radil | 108.0454367 | 0.231380896 | 0.1899145 | 1.2183424 | 0.223094 | 0.789115 |
| hnrnpull1 | 3944.006131 | -0.026989832 | 0.0749054 | -0.360319 | 0.718609 | 0.96909 |
| slitrk4 | 445.3267031 | 0.181729595 | 0.1063907 | 1.7081348 | 0.087611 | 0.566637 |
| myh71 | 557.3446994 | 0.005736241 | 0.105545 | 0.0543488 | 0.956657 | 0.994543 |
| isg20 | 271.7288235 | 0.052157266 | 0.143008 | 0.3647158 | 0.715324 | 0.96909 |
| si:ch211-235o23.1 | 308.996519 | -0.048028469 | 0.1366108 | -0.351571 | 0.72516 | 0.970402 |

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|---------------------|-------------|--------------|-----------|-----------|----------|----------|
| si:dkeyp-73a2. 2 | | 0 NA | NA | NA | NA | NA |
| fam171a1 | 442.3082585 | 0.035610803 | 0.1099009 | 0.3240266 | 0.745918 | 0.97419 |
| L0018102. 1 | 77.5521385 | -0.073722584 | 0.2358234 | -0.312618 | 0.754571 | 0.975114 |
| si:ch211-176g6. 2 | 14.76203357 | 0.089668959 | 0.4977835 | 0.1801364 | 0.857045 | 0.985597 |
| CABZ01033206. 1 | 62.44689818 | -0.068424465 | 0.2827054 | -0.242035 | 0.808753 | 0.980642 |
| ldah | 100.8700878 | -0.045861238 | 0.2076551 | -0.220853 | 0.825207 | 0.982196 |
| aanat2 | 52.33983914 | 0.00408835 | 0.2710919 | 0.015081 | 0.987968 | 0.997369 |
| tagln3a | 11.96503142 | -0.084380308 | 0.5471291 | -0.154224 | 0.877433 | 0.987881 |
| si:ch73-208g10. 1 | 8.199427119 | -0.342481134 | 0.7367463 | -0.464856 | 0.642034 | NA |
| micall1a | 35.30497783 | -0.066596127 | 0.3249511 | -0.204942 | 0.837617 | 0.984665 |
| lyrm7 | 159.2217184 | -0.101468788 | 0.1740302 | -0.583053 | 0.559858 | 0.948478 |
| rhbdd3 | 92.80304619 | 0.075672725 | 0.2187288 | 0.3459659 | 0.729368 | 0.970822 |
| helq | 55.30701308 | -0.448106197 | 0.2594842 | -1.726911 | 0.084184 | 0.55797 |
| mrps36 | 881.5897937 | 0.024907263 | 0.0933471 | 0.2668242 | 0.789605 | 0.977238 |
| ninj2 | 15.82974228 | 0.106626111 | 0.5024487 | 0.2122129 | 0.831941 | 0.98349 |
| gpr174 | 4.841161772 | 0.081035297 | 0.8820666 | 0.0918698 | 0.926801 | NA |
| srbdl | 29.6036639 | -0.163442691 | 0.378992 | -0.431256 | 0.666282 | 0.964736 |
| ccr2 | 1.515470518 | 0.323632373 | 1.5591799 | 0.2075658 | 0.835568 | NA |
| kdf1a | 128.8893525 | -0.047828234 | 0.1853249 | -0.258078 | 0.796347 | 0.978498 |
| man2c1 | 148.5671972 | -0.219118095 | 0.1757886 | -1.246486 | 0.212586 | 0.780627 |
| arrdclb | 83.59906088 | 0.382934726 | 0.2148038 | 1.7827185 | 0.074632 | 0.532003 |
| kcnmala | 484.9171384 | 0.01696998 | 0.1060878 | 0.1599617 | 0.872911 | 0.987846 |
| igl4v8 | 0.497574187 | -2.437446738 | 2.6012773 | -0.937019 | 0.348749 | NA |
| zgc:194578 | 982.2700158 | 0.062294842 | 0.0897857 | 0.6938166 | 0.487797 | 0.931809 |
| gmps | 1080.961327 | -0.07808083 | 0.0850375 | -0.918193 | 0.358518 | 0.884398 |
| nrtn | 17.83125746 | 0.147602612 | 0.4543743 | 0.3248481 | 0.745296 | 0.974094 |
| dchs1b | 1032.445111 | 0.030503732 | 0.0892316 | 0.3418488 | 0.732465 | 0.971719 |
| scyll | 868.4055478 | 0.060074433 | 0.089105 | 0.6741983 | 0.500185 | 0.934224 |
| si:ch211-189k9. 2 | 484.7513189 | 0.165567499 | 0.103832 | 1.5945718 | 0.110808 | 0.625858 |
| tmem163a | 20.71840184 | -0.124242049 | 0.4281829 | -0.290161 | 0.771693 | 0.975687 |
| ppplr16b | 30.29533782 | -0.498748589 | 0.353851 | -1.409488 | 0.158691 | 0.709303 |
| kl | 21.78648011 | 0.465015697 | 0.4115739 | 1.1298474 | 0.258541 | 0.826711 |
| si:ch211-218o21. 4 | 21.5449805 | -0.04104144 | 0.4032907 | -0.101766 | 0.918942 | 0.991623 |
| rapgef4 | 54.28361055 | 0.411727571 | 0.2714668 | 1.5166777 | 0.129348 | 0.661083 |
| SLC29A4 (1 of many) | 138.1175584 | 0.062550476 | 0.1764684 | 0.354457 | 0.722996 | 0.970375 |
| CU855878. 1 | 125.5927283 | 0.131973868 | 0.1789234 | 0.7375996 | 0.460758 | 0.921978 |
| tmem151bb | 3.585485091 | 0.718358313 | 1.0865596 | 0.6611311 | 0.508528 | NA |
| tas2r200. 1 | | 0 NA | NA | NA | NA | NA |
| tcaim | 183.7282009 | 0.081980677 | 0.1654233 | 0.4955811 | 0.62019 | 0.957354 |
| trim107 | 67.15651315 | -0.017169043 | 0.2533283 | -0.067774 | 0.945966 | 0.993759 |
| otulinb | 161.2645481 | -0.141600162 | 0.1657424 | -0.854339 | 0.392917 | 0.897836 |
| phldb2a | 26.11507803 | -0.5842371 | 0.3734699 | -1.564348 | 0.117736 | 0.641446 |
| dnajc6 | 1299.210941 | 0.18165304 | 0.0857397 | 2.118656 | 0.03412 | 0.359261 |
| si:dkey-183c2. 4 | 22.31726519 | 1.350980199 | 0.422247 | 3.1995024 | 0.001377 | 0.039915 |
| ehbp111b | 225.9340427 | 0.059106622 | 0.1469741 | 0.4021568 | 0.687569 | 0.966379 |
| si:dkey-7k24. 5 | 20.55863567 | 0.328045156 | 0.4151579 | 0.7901696 | 0.429429 | 0.911489 |
| shroom4 | 355.5906231 | -0.120545484 | 0.1300294 | -0.927063 | 0.353894 | 0.881976 |
| si:ch73-15n24. 1 | 11.95535837 | 0.83248352 | 0.5709175 | 1.4581504 | 0.144799 | 0.688986 |
| si:ch73-34314. 2 | 1.829337094 | 0.319794686 | 1.4914512 | 0.2144185 | 0.830221 | NA |
| mark2a | 900.7714519 | -0.07801916 | 0.1003813 | -0.777228 | 0.437024 | 0.914408 |
| ptger4c | 11.22391446 | 0.327217641 | 0.5946502 | 0.5502691 | 0.582135 | 0.952028 |
| tmem151a | 168.6943742 | 0.080747975 | 0.1574053 | 0.5129941 | 0.607955 | 0.956718 |
| rapgef11 | 68.27472049 | -0.230260152 | 0.2352464 | -0.978804 | 0.327677 | 0.872701 |
| stoml3a | 13.19528941 | 0.534171551 | 0.5773497 | 0.9252132 | 0.354855 | 0.882185 |

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|---------------------|-------------|--------------|-----------|-----------|----------|----------|
| pot1 | 75.36904769 | -0.402152873 | 0.2294872 | -1.752398 | 0.079705 | 0.548406 |
| rassf7a | 160.3177024 | 0.00625309 | 0.1637135 | 0.0381953 | 0.969532 | 0.996315 |
| klf4 | 15.92329771 | 0.429375702 | 0.4704503 | 0.912691 | 0.361405 | 0.885719 |
| AL954695.2 | 2.180330666 | -1.193210315 | 1.3920002 | -0.857191 | 0.391339 | NA |
| syt15 | 23.14234004 | -0.25524417 | 0.4105754 | -0.621674 | 0.534156 | 0.943276 |
| si:dkeyp-68b7.5 | 37.52486281 | -0.121106989 | 0.3137435 | -0.386006 | 0.699492 | 0.967998 |
| snx19b | 398.8553488 | 0.077970542 | 0.1155415 | 0.6748274 | 0.499785 | 0.934186 |
| zgc:152830 | 1388.501799 | -0.270120201 | 0.085093 | -3.174413 | 0.001501 | 0.042656 |
| SLC46A3 (1 of many) | 72.4550638 | 0.516221166 | 0.2365416 | 2.1823698 | 0.029082 | 0.330497 |
| zgc:162200 | 456.9045495 | 0.074269142 | 0.1106876 | 0.67098 | 0.502233 | 0.935304 |
| jmjdlcb | 2729.358346 | -0.080076112 | 0.0839905 | -0.953395 | 0.34039 | 0.87805 |
| pjvk | 3.888165651 | -0.24817662 | 1.0128631 | -0.245025 | 0.806437 | NA |
| sqlea | 134.9209098 | -0.312793611 | 0.1857456 | -1.683989 | 0.092184 | 0.57849 |
| gfilb | 7.178842437 | 0.193498069 | 0.7118709 | 0.2718162 | 0.785763 | NA |
| supt16h | 2265.69363 | -0.127353741 | 0.0729192 | -1.746504 | 0.080723 | 0.550801 |
| eloa1 | 3.14001781 | 1.491919797 | 1.1146651 | 1.3384467 | 0.180751 | NA |
| doc2d | 217.4639448 | -0.006982392 | 0.145864 | -0.047869 | 0.96182 | 0.995907 |
| dlx2a | 391.2074037 | -0.160357896 | 0.1162926 | -1.378917 | 0.16792 | 0.725624 |
| prkd3 | 91.23636132 | -0.14403068 | 0.2095059 | -0.687478 | 0.491782 | 0.931926 |
| nfatc2b | 9.487795352 | -0.910052452 | 0.6610793 | -1.376616 | 0.168631 | NA |
| pus10 | 177.9060626 | -0.036763239 | 0.1549453 | -0.237266 | 0.81245 | 0.981081 |
| nhsb | 597.8923796 | -0.180260579 | 0.1048451 | -1.719303 | 0.085559 | 0.561521 |
| samd10a | 101.1044027 | 0.037681683 | 0.2098176 | 0.1795926 | 0.857472 | 0.985703 |
| fam89a | 39.51415813 | -0.07153951 | 0.3666215 | -0.195132 | 0.84529 | 0.985174 |
| si:ch211-202h22.9 | 2.857879201 | 0.18673648 | 1.1359627 | 0.1643861 | 0.869427 | NA |
| agbl2 | 39.14864948 | 0.236315119 | 0.3329854 | 0.7096861 | 0.477899 | 0.926857 |
| nrip2 | 548.3168587 | 0.10264447 | 0.1125838 | 0.911716 | 0.361918 | 0.885944 |
| BX927329.1 | 5.316339016 | -0.546352055 | 0.8634332 | -0.632767 | 0.526886 | NA |
| igl3v5 | | 0 NA | NA | NA | NA | NA |
| senp6b | 0.488104098 | -2.415107183 | 2.7936704 | -0.864493 | 0.387317 | NA |
| akap13 | 378.4210344 | -0.055127986 | 0.1132188 | -0.486915 | 0.626318 | 0.957354 |
| si:zfos-223e1.2 | 16.64776335 | 0.179847437 | 0.4599396 | 0.391024 | 0.695779 | 0.96736 |
| si:dkey-178e17.1 | 2.5015376 | 0.17069564 | 1.2767871 | 0.1336916 | 0.893646 | NA |
| tmem41b | 102.0474248 | 0.313029451 | 0.1982266 | 1.5791493 | 0.114302 | 0.633643 |
| bahcc1b | 1185.630104 | -0.094234172 | 0.0871257 | -1.081588 | 0.279436 | 0.842882 |
| adh5 | 1715.206362 | -0.279223687 | 0.0892138 | -3.129825 | 0.001749 | 0.048577 |
| lrrtm41l | 42.09664269 | 0.177566829 | 0.3097937 | 0.5731777 | 0.566524 | 0.948739 |
| si:cabz01032454.3 | 46.97510189 | -0.030759702 | 0.3029923 | -0.10152 | 0.919138 | 0.991623 |
| kif16bb | 64.93121083 | 0.208690567 | 0.2672294 | 0.7809416 | 0.434837 | 0.914408 |
| UBA6 | 307.6676903 | 0.026490488 | 0.1241806 | 0.2133222 | 0.831076 | 0.982994 |
| il13ral | 182.4848118 | -0.181901957 | 0.164163 | -1.108057 | 0.267837 | 0.833349 |
| zmat3 | 15.30073141 | -0.222765484 | 0.494329 | -0.450642 | 0.652247 | 0.960708 |
| RF00001 | 1.450079108 | 1.819886428 | 1.7323838 | 1.0505099 | 0.293484 | NA |
| dre-mir-125b-2 | | 0 NA | NA | NA | NA | NA |
| RF00001 | 0.794578739 | 3.129658898 | 2.5486248 | 1.2279794 | 0.219455 | NA |
| dre-let-7d-2 | | 0 NA | NA | NA | NA | NA |
| RF00001 | 0.476386185 | 2.392464142 | 3.0533824 | 0.7835455 | 0.433307 | NA |
| dre-mir-192 | 0.679516628 | 0.149584948 | 2.5505337 | 0.0586485 | 0.953232 | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| dre-mir-459 | | 0 NA | NA | NA | NA | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| dre-mir-133c | 9.612367637 | 0.505598406 | 0.6792769 | 0.7443186 | 0.456684 | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| RF00001 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |

| | | | | | | |
|----------------|-------------|--------------|-----------|-----------|----------|----------|
| dre-mir-135c-1 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| NC_002333.1 | 5.669769664 | 1.73759832 | 0.8785041 | 1.9779057 | 0.047939 | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 38.72609277 | 0.146157328 | 0.3212878 | 0.4549109 | 0.649173 | 0.960708 |
| NC_002333.2 | 27.44623464 | -0.644579154 | 0.4502464 | -1.431614 | 0.152254 | 0.701157 |
| dre-mir-29b-1 | 6.201260407 | -0.718930114 | 0.7987389 | -0.900082 | 0.368077 | NA |
| RF00088 | 0.961236193 | 2.170866656 | 2.290243 | 0.9478761 | 0.343193 | NA |
| RF00093 | 0 | NA | NA | NA | NA | NA |
| dre-mir-15a-1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00440 | 0 | NA | NA | NA | NA | NA |
| dre-mir-124-5 | 96.92911533 | 0.475943379 | 0.2018949 | 2.3573822 | 0.018404 | 0.252376 |
| dre-mir-499 | 0 | NA | NA | NA | NA | NA |
| RF00571 | 5.119707652 | 0.066909561 | 0.9493068 | 0.0704825 | 0.94381 | NA |
| mir338-2 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.323844819 | -1.825095364 | 3.274639 | -0.557342 | 0.577293 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00612 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.325573202 | 0.005883621 | 3.3172783 | 0.0017736 | 0.998585 | NA |
| RF00001 | 2.030514901 | 2.311190427 | 1.6633927 | 1.3894436 | 0.164698 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| dre-let-7c-2 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.492110303 | -0.89618148 | 2.8628934 | -0.313033 | 0.754255 | NA |
| RF00001 | 0.863695607 | 1.965711988 | 2.22386 | 0.8839189 | 0.37674 | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.31759079 | 1.807926197 | 3.579045 | 0.5051421 | 0.613459 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| NC_002333.3 | 16.9145956 | 0.148778326 | 0.5031951 | 0.2956673 | 0.767484 | 0.975687 |
| NC_002333.4 | 15799.68608 | 0.633726969 | 0.2986533 | 2.1219489 | 0.033842 | 0.357857 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| dre-mir-130b | 1.013460044 | -2.21473548 | 2.0108742 | -1.101379 | 0.270732 | NA |
| dre-mir-456 | 0 | NA | NA | NA | NA | NA |
| RF00413 | 1.133237178 | 0.375573287 | 1.8721312 | 0.2006127 | 0.841001 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00581 | 0.325452849 | 0.005883619 | 3.3177086 | 0.0017734 | 0.998585 | NA |
| RF00001 | 2.528020063 | -0.187679332 | 1.1943971 | -0.157133 | 0.87514 | NA |
| NC_002333.5 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00548 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00211 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00604 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |

| | | | | | | |
|----------------|-------------|--------------|-----------|-----------|----------|----------|
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00566 | 3.304397441 | 1.229539124 | 1.0627073 | 1.1569875 | 0.247277 | NA |
| mir140 | 3.219275555 | 2.458081228 | 1.265492 | 1.9423917 | 0.05209 | NA |
| RF00342 | 0.658957134 | 2.851427774 | 2.5143902 | 1.1340434 | 0.256776 | NA |
| dre-mir-183 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| dre-mir-21-2 | 1.521673218 | 1.029857275 | 1.5956979 | 0.6453961 | 0.518671 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| dre-mir-141 | 0.635422286 | 2.809933352 | 2.5211574 | 1.114541 | 0.265047 | NA |
| RF00377 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00396 | 4.878267767 | 0.546166147 | 0.8752242 | 0.62403 | 0.532608 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| dre-mir-125c | 0 | NA | NA | NA | NA | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| dre-let-7j | 2.187832662 | 0.192877281 | 1.3358529 | 0.1443851 | 0.885196 | NA |
| RF01299 | 0.498553709 | 0.926267934 | 2.6786929 | 0.345791 | 0.7295 | NA |
| RF00089 | 1.32527496 | -2.703143513 | 1.9371225 | -1.395443 | 0.162882 | NA |
| RF00056 | 0.347458735 | -1.908042286 | 3.4571486 | -0.551912 | 0.581009 | NA |
| dre-mir-23a-1 | 0 | NA | NA | NA | NA | NA |
| dre-mir-153a | 0 | NA | NA | NA | NA | NA |
| RF00619 | 1.689949989 | -0.450849563 | 1.7054564 | -0.264357 | 0.791505 | NA |
| dre-mir-212 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| dre-mir-731 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| dre-mir-135c-2 | 0 | NA | NA | NA | NA | NA |
| dre-mir-455-2 | 0.330916733 | -1.849579229 | 3.2489867 | -0.569279 | 0.569167 | NA |
| dre-mir-26b | 1.493073575 | -0.932799967 | 1.6069462 | -0.58048 | 0.561591 | NA |
| mir223 | 0 | NA | NA | NA | NA | NA |
| dre-mir-26a-1 | 0 | NA | NA | NA | NA | NA |
| dre-mir-9-3 | 0.317831496 | 1.808837541 | 3.5779923 | 0.5055454 | 0.613176 | NA |
| dre-mir-24-3 | 1.300753802 | 1.583438483 | 1.7347538 | 0.9127742 | 0.361361 | NA |
| dre-mir-724 | 0 | NA | NA | NA | NA | NA |
| dre-mir-9-2 | 0.523937293 | 2.50362281 | 2.7291625 | 0.9173594 | 0.358954 | NA |
| NC_002333.6 | 7.130473445 | -0.079191027 | 0.7101226 | -0.111517 | 0.911206 | NA |
| RF00096 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00093 | 0.5046461 | -2.45370851 | 2.7629627 | -0.888072 | 0.374502 | NA |
| dre-mir-10b-1 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00396 | 2.579150702 | 0.696969378 | 1.3432688 | 0.5188607 | 0.603858 | NA |
| dre-mir-124-1 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| si:dkey-71b5.7 | 433.3745737 | 0.062406983 | 0.1269557 | 0.491565 | 0.623027 | 0.957354 |
| dre-mir-730 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00407 | 0.996127896 | -0.965496869 | 1.8966759 | -0.509047 | 0.610719 | NA |
| RF00070 | 0.349228403 | 0.005884014 | 3.2372587 | 0.0018176 | 0.99855 | NA |
| dre-mir-375-2 | 4.90868856 | 0.810005845 | 0.9074219 | 0.8926453 | 0.372047 | NA |
| dre-mir-200c | 0 | NA | NA | NA | NA | NA |
| NC_002333.7 | 0.811320409 | -1.830272858 | 2.4089013 | -0.759796 | 0.447377 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 1.618155215 | -0.032684466 | 1.5883641 | -0.020577 | 0.983583 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| dre-mir-17a-2 | 0.330916733 | -1.849579229 | 3.2489867 | -0.569279 | 0.569167 | NA |

| | | | | | | |
|----------------|-------------|--------------|-----------|-----------|----------|----------|
| RF00611 | 0 | NA | NA | NA | NA | NA |
| RF00007 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| dre-mir-181a-2 | 0.333314908 | -1.858695402 | 3.5126701 | -0.52914 | 0.596708 | NA |
| RF00004 | 0 | NA | NA | NA | NA | NA |
| RF00571 | 13.74387229 | -0.228262375 | 0.5434343 | -0.420037 | 0.674459 | 0.965257 |
| RF01225 | 0.531799352 | 0.999478841 | 2.790358 | 0.3581902 | 0.720201 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| mir16c | 0 | NA | NA | NA | NA | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00045 | 1.430708847 | -0.318075374 | 1.6858966 | -0.188668 | 0.850353 | NA |
| dre-mir-27b | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0.316103113 | 0.005883447 | 3.3519121 | 0.0017553 | 0.9986 | NA |
| dre-mir-152 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00396 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| dre-mir-194a | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00056 | 1.154923291 | -0.397128357 | 1.7479381 | -0.227198 | 0.82027 | NA |
| dre-mir-1788 | 0 | NA | NA | NA | NA | NA |
| dre-let-7a-5 | 0.673073222 | -1.460830855 | 2.4012698 | -0.608358 | 0.54295 | NA |
| dre-mir-722 | 0 | NA | NA | NA | NA | NA |
| RF01291 | 6.758949206 | 1.094214529 | 0.7731084 | 1.4153442 | 0.156968 | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.500161739 | 2.450146464 | 2.7711133 | 0.8841741 | 0.376602 | NA |
| RF00001 | 1.410428931 | 0.838481333 | 1.7650076 | 0.4750582 | 0.634746 | NA |
| dre-mir-24-1 | 0 | NA | NA | NA | NA | NA |
| RF00152 | 0.508023798 | 0.926122713 | 2.6636728 | 0.3476864 | 0.728076 | NA |
| dre-mir-18b | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00049 | 0 | NA | NA | NA | NA | NA |
| RF00575 | 0 | NA | NA | NA | NA | NA |
| RF00572 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| dre-mir-30c | 0 | NA | NA | NA | NA | NA |
| dre-mir-31 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00030 | 19.01839035 | 0.931446928 | 0.5459697 | 1.7060413 | 0.088 | 0.568063 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00066 | 0 | NA | NA | NA | NA | NA |
| RF00020 | 0.506415768 | -0.866825728 | 2.6674086 | -0.324969 | 0.745204 | NA |
| RF00273 | 0.317831496 | 1.808837541 | 3.5779923 | 0.5055454 | 0.613176 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| dre-mir-125a-2 | 2.451512504 | 1.983296058 | 1.3229665 | 1.499128 | 0.13384 | NA |
| dre-mir-135a | 5.81489598 | 0.251814402 | 0.7716281 | 0.3263417 | 0.744166 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00190 | 0 | NA | NA | NA | NA | NA |
| dre-mir-728 | 0 | NA | NA | NA | NA | NA |
| dre-mir-182 | 0.48448895 | 0.85344211 | 2.878836 | 0.2964539 | 0.766883 | NA |
| RF00001 | 0.673031937 | -1.510323851 | 2.4021096 | -0.628749 | 0.529513 | NA |

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|----------------|-------------|--------------|-----------|-----------|----------|----------|
| mir196d | 0 | NA | NA | NA | NA | NA |
| RF01290 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| dre-mir-204-1 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.48448895 | 0.85344211 | 2.878836 | 0.2964539 | 0.766883 | NA |
| dre-mir-7b | 5.727422749 | -0.525682013 | 0.8270204 | -0.635634 | 0.525015 | NA |
| RF00001 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF01296 | 3.626781327 | 0.262713658 | 1.0782921 | 0.2436387 | 0.807511 | NA |
| dre-mir-181b-1 | 11.33621417 | -0.158374062 | 0.5614172 | -0.282097 | 0.777869 | 0.975942 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| dre-mir-153c | 0.339758314 | 0.005883863 | 3.2682461 | 0.0018003 | 0.998564 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| dre-mir-15b | 0 | NA | NA | NA | NA | NA |
| dre-mir-132-1 | 0.655741074 | 0.077611818 | 2.4374018 | 0.031842 | 0.974598 | NA |
| RF00020 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00002 | 24.80453346 | 1.214334441 | 1.0671853 | 1.1378853 | 0.255168 | 0.823839 |
| dre-mir-34a | 0 | NA | NA | NA | NA | NA |
| dre-mir-26a-3 | 0 | NA | NA | NA | NA | NA |
| dre-mir-454b | 0.484368597 | 0.855487352 | 2.7040894 | 0.316368 | 0.751723 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| dre-mir-16b | 5.298700393 | -0.18298347 | 0.8107874 | -0.225686 | 0.821446 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| rn7sk | 313.6195769 | 0.587252098 | 0.4676292 | 1.2558071 | 0.209186 | 0.776073 |
| NC_002333.8 | 24.98486023 | 0.057236006 | 0.4226647 | 0.135417 | 0.892282 | 0.989291 |
| dre-mir-29b-2 | 0.95259428 | -3.385964433 | 2.2372857 | -1.513425 | 0.130172 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| BX936308.1 | 69.85611105 | 0.150376761 | 0.243083 | 0.6186232 | 0.536165 | 0.943336 |
| mir363 | 1.158779144 | -2.454178177 | 2.015231 | -1.217815 | 0.223294 | NA |
| dre-mir-124-2 | 19.56098018 | -0.406067699 | 0.4496112 | -0.903153 | 0.366445 | 0.887239 |
| dre-mir-9-7 | 0 | NA | NA | NA | NA | NA |
| mir99-2 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| dre-mir-138-1 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| mir196b | 0 | NA | NA | NA | NA | NA |
| dre-mir-101b | 0 | NA | NA | NA | NA | NA |
| dre-mir-125b-1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| dre-mir-9-5 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| dre-mir-15c | 0 | NA | NA | NA | NA | NA |
| NC_002333.9 | 13.90282923 | 0.092495702 | 0.5264614 | 0.1756932 | 0.860535 | 0.985773 |
| dre-mir-457b | 3.477775794 | 0.112172945 | 1.0077155 | 0.1113141 | 0.911367 | NA |
| RF00096 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |
| dre-mir-200a | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| dre-mir-124-3 | 5.754700009 | -0.065998096 | 0.794745 | -0.083043 | 0.933817 | NA |
| RF00004 | 0 | NA | NA | NA | NA | NA |

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|----------------|-------------|--------------|-----------|-----------|----------|----------|
| dre-mir-429a | 0 | NA | NA | NA | NA | NA |
| RF00072 | 0 | NA | NA | NA | NA | NA |
| dre-let-7c-1 | 0.349228403 | 0.005884014 | 3.2372587 | 0.0018176 | 0.99855 | NA |
| NC_002333.10 | 0 | NA | NA | NA | NA | NA |
| RF00020 | 0 | NA | NA | NA | NA | NA |
| RF00581 | 0.806485033 | -1.864932549 | 2.2428596 | -0.831498 | 0.405693 | NA |
| mir100-2 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.325452849 | 0.005883619 | 3.3177086 | 0.0017734 | 0.998585 | NA |
| CR847953.2 | 0 | NA | NA | NA | NA | NA |
| NC_002333.11 | 0.648507523 | -0.035374916 | 2.4454854 | -0.014465 | 0.988459 | NA |
| dre-mir-126a | 0 | NA | NA | NA | NA | NA |
| dre-mir-23a-2 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| dre-mir-301c | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| dre-mir-375-1 | 1.457659176 | 0.9469376 | 1.6749778 | 0.5653434 | 0.57184 | NA |
| dre-mir-100-1 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| dre-mir-204-2 | 0.340386822 | -1.882368278 | 3.2159502 | -0.585323 | 0.558331 | NA |
| dre-mir-23b | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| dre-mir-30d | 0 | NA | NA | NA | NA | NA |
| dre-mir-181b-2 | 0.830098949 | -1.902766313 | 2.1285797 | -0.893914 | 0.371368 | NA |
| RF00001 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00133 | 0 | NA | NA | NA | NA | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| RF00608 | 0 | NA | NA | NA | NA | NA |
| dre-mir-103 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| dre-mir-144 | 0 | NA | NA | NA | NA | NA |
| mir150 | 0 | NA | NA | NA | NA | NA |
| dre-mir-734 | 0 | NA | NA | NA | NA | NA |
| dre-mir-216a | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00577 | 0 | NA | NA | NA | NA | NA |
| RF00377 | 0 | NA | NA | NA | NA | NA |
| dre-mir-7a-3 | 0.330916733 | -1.849579229 | 3.2489867 | -0.569279 | 0.569167 | NA |
| dre-mir-190a | 0.474898508 | 0.855240867 | 2.7202602 | 0.3143967 | 0.75322 | NA |
| dre-mir-10c | 0.861574924 | -3.219550392 | 2.3111143 | -1.393073 | 0.163598 | NA |
| RF00001 | 0.476506538 | 2.394892832 | 2.8161716 | 0.8504073 | 0.395099 | NA |
| dre-mir-205 | 1.96109959 | -0.479788712 | 1.4100909 | -0.340254 | 0.733665 | NA |
| RF00410 | 0.643404698 | 1.436206627 | 2.5980397 | 0.552804 | 0.580398 | NA |
| RF00186 | 3.221721803 | -0.098073118 | 1.1145211 | -0.087996 | 0.92988 | NA |
| mir206-2 | 0 | NA | NA | NA | NA | NA |
| dre-mir-133a-2 | 0 | NA | NA | NA | NA | NA |
| RF00092 | 1.975822855 | 0.45282007 | 1.4368084 | 0.3151569 | 0.752643 | NA |
| dre-mir-107b | 0.347458735 | -1.908042286 | 3.4571486 | -0.551912 | 0.581009 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| dre-mir-218a-1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| NC_002333.12 | 23.27625586 | -0.693625326 | 0.4012497 | -1.728663 | 0.083869 | 0.557501 |
| dre-mir-184-1 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| mir24-4 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |

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|----------------|-------------|--------------|-----------|-----------|----------|----------|
| dre-mir-203a | 1.656194948 | -0.02003601 | 1.5061657 | -0.013303 | 0.989386 | NA |
| dre-mir-155 | 0 | NA | NA | NA | NA | NA |
| dre-let-7a-2 | 0 | NA | NA | NA | NA | NA |
| RF00288 | 0.5046461 | -2.45370851 | 2.7629627 | -0.888072 | 0.374502 | NA |
| CU929237.1 | 9.102050632 | -0.037556884 | 0.6332932 | -0.059304 | 0.95271 | NA |
| RF00581 | 0.703759051 | -1.526884723 | 2.5277341 | -0.604053 | 0.545809 | NA |
| dre-let-7b | 0.481032184 | -2.398473301 | 2.80721 | -0.854398 | 0.392885 | NA |
| dre-let-7h | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| dre-mir-15a-2 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| mir29a-1 | 0.825545564 | -1.896597388 | 2.3991135 | -0.790541 | 0.429212 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00151 | 0 | NA | NA | NA | NA | NA |
| RF00425 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.349228403 | 0.005884014 | 3.2372587 | 0.0018176 | 0.99855 | NA |
| dre-mir-200b | 0 | NA | NA | NA | NA | NA |
| dre-mir-199-3 | 13.1249596 | -0.634174927 | 0.5920218 | -1.071202 | 0.284079 | 0.844697 |
| RF00609 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CABZ01078244.1 | 0 | NA | NA | NA | NA | NA |
| dre-mir-338-3 | 0 | NA | NA | NA | NA | NA |
| RF00411 | 0 | NA | NA | NA | NA | NA |
| dre-mir-128-1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| dre-mir-1306 | 0 | NA | NA | NA | NA | NA |
| CR847548.1 | 0 | NA | NA | NA | NA | NA |
| RF00133 | 2.166936942 | -1.634451512 | 1.5496276 | -1.054738 | 0.291545 | NA |
| RF00190 | 0 | NA | NA | NA | NA | NA |
| RF00421 | 11.90742958 | 0.679291354 | 0.6348961 | 1.0699253 | 0.284653 | 0.844955 |
| NC_002333.13 | 455.4348111 | -0.032685591 | 0.3493231 | -0.093568 | 0.925452 | 0.992676 |
| RF00091 | 0 | NA | NA | NA | NA | NA |
| RF00581 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00613 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00288 | 0 | NA | NA | NA | NA | NA |
| dre-let-7e | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| dre-mir-729 | 6.862821894 | 0.226582971 | 0.7236118 | 0.3131278 | 0.754184 | NA |
| dre-mir-457a | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 1.229586365 | 1.377206388 | 1.8794026 | 0.7327894 | 0.463687 | NA |
| RF00026 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00016 | 1.30115289 | -1.524277999 | 1.8450057 | -0.826164 | 0.408711 | NA |
| dre-mir-9-1 | 0 | NA | NA | NA | NA | NA |
| RF00265 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| NC_002333.14 | 4.560168822 | 0.611080918 | 0.9786353 | 0.6244215 | 0.532351 | NA |
| RF00089 | 1.321151658 | -0.00170508 | 1.7199258 | -0.000991 | 0.999209 | NA |

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|----------------|-------------|--------------|-----------|-----------|----------|----------|
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.657349104 | 1.487939685 | 2.418178 | 0.6153144 | 0.538347 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| NC_002333.15 | 7.655128604 | -0.907176017 | 0.6938673 | -1.30742 | 0.19107 | NA |
| RF00001 | 0.484248244 | 0.852636534 | 2.8793247 | 0.2961238 | 0.767136 | NA |
| RF00066 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| dre-mir-101a | 0 | NA | NA | NA | NA | NA |
| dre-mir-92a-2 | 3.687589353 | -1.067482214 | 1.0129471 | -1.053838 | 0.291957 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| dre-mir-142a | 0.323844819 | -1.825095364 | 3.274639 | -0.557342 | 0.577293 | NA |
| CU442763.1 | 0 | NA | NA | NA | NA | NA |
| dre-mir-301b | 0.492110303 | -0.89618148 | 2.8628934 | -0.313033 | 0.754255 | NA |
| dre-let-7a-6 | 1.651679593 | -3.043323949 | 1.7468161 | -1.742212 | 0.081471 | NA |
| dre-mir-20b | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| dre-mir-21-1 | 68.67329239 | -0.286662407 | 0.2430981 | -1.179205 | 0.238317 | 0.807449 |
| dre-mir-181c | 0.325452849 | 0.005883619 | 3.3177086 | 0.0017734 | 0.998585 | NA |
| dre-mir-99-1 | 0 | NA | NA | NA | NA | NA |
| RF00211 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| dre-mir-137-1 | 11.38054922 | -0.315937067 | 0.5724383 | -0.551915 | 0.581007 | 0.951731 |
| RF00045 | 10.06796961 | -0.52807497 | 0.5910693 | -0.893423 | 0.371631 | NA |
| RF00001 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| dre-mir-1388 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| dre-mir-219-1 | 4.38383736 | -0.180872101 | 0.9374998 | -0.19293 | 0.847014 | NA |
| dre-mir-454a | 4.010914731 | -0.236911565 | 0.969921 | -0.244259 | 0.807031 | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| dre-let-7a-3 | 0.863695607 | 1.965711988 | 2.22386 | 0.8839189 | 0.37674 | NA |
| RF01229 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| dre-mir-10a | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00004 | 6.185309129 | -0.863997944 | 0.8002892 | -1.079607 | 0.280317 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| dre-mir-34b | 0 | NA | NA | NA | NA | NA |
| dre-mir-462 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00066 | 0.696687138 | -1.510024977 | 2.3787501 | -0.634798 | 0.52556 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| dre-mir-130c-1 | 0.983121726 | 0.913084443 | 2.2265742 | 0.4100849 | 0.681744 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| dre-mir-206-1 | 4.548137677 | 0.534682454 | 0.9412951 | 0.5680285 | 0.570016 | NA |
| CR354430.1 | 1.640082033 | -0.57523401 | 1.5155163 | -0.379563 | 0.70427 | NA |
| RF00001 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |
| RF00001 | 0.633693903 | 1.437927987 | 2.4435336 | 0.5884625 | 0.556222 | NA |
| RF00409 | 2.352641381 | -0.426468192 | 1.2232374 | -0.348639 | 0.72736 | NA |
| dre-mir-19c | 1.202474398 | -0.315413906 | 1.8153552 | -0.173748 | 0.862064 | NA |
| dre-mir-740 | 0.474778155 | 0.852397662 | 2.898154 | 0.2941175 | 0.768668 | NA |

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|---------------|-------------|--------------|-----------|-----------|----------|----------|
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00089 | 0 | NA | NA | NA | NA | NA |
| mir199-3a | 0.31759079 | 1.807926197 | 3.579045 | 0.5051421 | 0.613459 | NA |
| dre-mir-27a | 0.645291463 | -2.8201041 | 2.5306349 | -1.114386 | 0.265114 | NA |
| dre-mir-129-4 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| dre-mir-27d | 0 | NA | NA | NA | NA | NA |
| dre-mir-142b | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.341486697 | 1.892317624 | 3.2124068 | 0.5890654 | 0.555817 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00191 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| dre-mir-726 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00093 | 2.306231433 | 0.416484698 | 1.2264274 | 0.3395918 | 0.734164 | NA |
| dre-mir-143 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.317831496 | 1.808837541 | 3.5779923 | 0.5055454 | 0.613176 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| dre-mir-135b | 5.938060856 | 0.466203413 | 0.8008723 | 0.5821195 | 0.560486 | NA |
| dre-mir-460 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00068 | 0 | NA | NA | NA | NA | NA |
| RF00319 | 1.230565887 | 3.733090424 | 1.9706951 | 1.8943013 | 0.058185 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.471562095 | -2.373056629 | 3.0645586 | -0.774355 | 0.438721 | NA |
| dre-mir-34c | 0 | NA | NA | NA | NA | NA |
| RF00003 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF01299 | 1.523921042 | -0.893741451 | 1.7449739 | -0.51218 | 0.608525 | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| RF00270 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.356300316 | 0.005884122 | 3.214964 | 0.0018302 | 0.99854 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.356300316 | 0.005884122 | 3.214964 | 0.0018302 | 0.99854 | NA |
| dre-mir-187 | 0 | NA | NA | NA | NA | NA |
| NC_002333.16 | 31.50318652 | 0.279428087 | 0.4012557 | 0.696384 | 0.486188 | 0.930833 |
| RF00001 | 0.316103113 | 0.005883447 | 3.3519121 | 0.0017553 | 0.9986 | NA |
| RF00004 | 0 | NA | NA | NA | NA | NA |
| dre-let-7i | 1.495661127 | 1.077139194 | 1.7501629 | 0.6154508 | 0.538257 | NA |
| RF00049 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| NC_002333.17 | 6316.732984 | 0.668539354 | 0.3798483 | 1.7600166 | 0.078405 | 0.545524 |
| dre-let-7a-4 | 0 | NA | NA | NA | NA | NA |
| dre-mir-9-6 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| dre-mir-18c | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| NC_002333.18 | 242.4001844 | -0.213985676 | 0.4401731 | -0.48614 | 0.626868 | 0.957354 |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| dre-mir-458 | 0 | NA | NA | NA | NA | NA |
| RF00151 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |

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|----------------|-------------|--------------|-----------|-----------|----------|----------|
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| dre-mir-129-1 | 0 NA | NA | NA | NA | NA | NA |
| dre-let-7d-1 | 0 NA | NA | NA | NA | NA | NA |
| RF00273 | 0 NA | NA | NA | NA | NA | NA |
| RF00020 | 0 NA | NA | NA | NA | NA | NA |
| RF00096 | 0.330916733 | -1.849579229 | 3.2489867 | -0.569279 | 0.569167 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00015 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00150 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| dre-mir-451 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| CR847944.3 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00093 | 4.742081439 | -0.487210118 | 0.9139108 | -0.533105 | 0.593961 | NA |
| dre-mir-10b-2 | 4.330756601 | 0.233064551 | 0.9691394 | 0.2404861 | 0.809953 | NA |
| dre-mir-27e | 0.814536469 | 0.637862482 | 2.230678 | 0.28595 | 0.774916 | NA |
| RF00090 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| dre-mir-130a | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| dre-let-7f | 0 NA | NA | NA | NA | NA | NA |
| RF00068 | 2.456666658 | 0.171472539 | 1.2263118 | 0.1398279 | 0.888796 | NA |
| dre-mir-429b | 8.948580077 | -1.359752513 | 0.6734286 | -2.019149 | 0.043472 | NA |
| RF00001 | 0.5046461 | -2.45370851 | 2.7629627 | -0.888072 | 0.374502 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0.476747244 | 2.393381959 | 3.0525537 | 0.7840589 | 0.433006 | NA |
| RF00001 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0.317831496 | 1.808837541 | 3.5779923 | 0.5055454 | 0.613176 | NA |
| dre-mir-218a-2 | 0.530029684 | -0.939524117 | 2.7937867 | -0.336291 | 0.736652 | NA |
| dre-mir-732 | 0 NA | NA | NA | NA | NA | NA |
| mir214a | 0 NA | NA | NA | NA | NA | NA |
| NC_002333.19 | 16.82842674 | -0.175092226 | 0.4725024 | -0.370564 | 0.710963 | 0.968985 |
| dre-mir-10d | 3.452956192 | -0.119011933 | 1.0565086 | -0.112646 | 0.910311 | NA |
| RF00001 | 11.18204147 | -0.356265669 | 0.6308528 | -0.564737 | 0.572253 | 0.949494 |
| RF01299 | 0 NA | NA | NA | NA | NA | NA |
| RF00619 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00003 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| dre-mir-129-2 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0.365141898 | 1.973577737 | 3.3927314 | 0.5817076 | 0.560764 | NA |
| RF00340 | 0.316103113 | 0.005883447 | 3.3519121 | 0.0017553 | 0.9986 | NA |
| dre-mir-145 | 21.81166475 | -0.372861058 | 0.4382415 | -0.850812 | 0.394874 | 0.899087 |
| RF00045 | 8.898768595 | -0.233683939 | 0.6447654 | -0.362432 | 0.717029 | NA |
| NC_002333.20 | 10.05050441 | 0.188680494 | 0.615502 | 0.3065474 | 0.759188 | NA |
| dre-mir-190b | 0 NA | NA | NA | NA | NA | NA |
| dre-mir-125a-1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| mir96 | 0.489712128 | -0.887840729 | 2.693685 | -0.329601 | 0.741702 | NA |
| dre-mir-7a-2 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00137 | 0 NA | NA | NA | NA | NA | NA |
| RF01277 | 1.172805874 | 1.340994147 | 1.8747961 | 0.7152747 | 0.474439 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00270 | 0.657159727 | -2.841717825 | 2.5166161 | -1.129182 | 0.258821 | NA |

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|----------------|-------------|--------------|-----------|-----------|----------|----------|
| dre-mir-199-2 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| dre-mir-27c | 0.706628594 | 2.93253102 | 2.4623982 | 1.1909248 | 0.233683 | NA |
| arhgap19 | 203.4071735 | 0.046590429 | 0.1637634 | 0.2844985 | 0.776028 | 0.975826 |
| dre-mir-16a | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| dre-mir-130c-2 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| dre-mir-727 | 0 NA | NA | NA | NA | NA | NA |
| RF00152 | 0 NA | NA | NA | NA | NA | NA |
| RF00613 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00581 | 3.784382322 | -0.564770663 | 1.066158 | -0.529725 | 0.596303 | NA |
| RF00611 | 0 NA | NA | NA | NA | NA | NA |
| dre-mir-218b | 0 NA | NA | NA | NA | NA | NA |
| CR354430.2 | 0.482760567 | -0.866527181 | 2.7059286 | -0.320233 | 0.748792 | NA |
| dre-mir-217 | 2.330006987 | 0.432382524 | 1.2175105 | 0.3551366 | 0.722487 | NA |
| dre-let-7g-1 | 4.946297216 | -0.566432912 | 0.8543305 | -0.663014 | 0.507322 | NA |
| RF00001 | 0.52295777 | -0.916487494 | 2.6406233 | -0.347072 | 0.728537 | NA |
| dre-mir-489 | 0 NA | NA | NA | NA | NA | NA |
| mir196a-1 | 0 NA | NA | NA | NA | NA | NA |
| dre-mir-146a | 4.160597841 | -1.077646608 | 0.949349 | -1.135143 | 0.256316 | NA |
| NC_002333.21 | 6.133047496 | -0.204562088 | 0.7769143 | -0.263301 | 0.792319 | NA |
| RF00001 | 1.659102521 | -0.481707176 | 1.6148571 | -0.298297 | 0.765476 | NA |
| RF00001 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF01296 | 1.887684329 | 0.826035529 | 1.4328941 | 0.5764805 | 0.56429 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| dre-mir-210 | 4.930414715 | 0.58250929 | 0.8552164 | 0.681125 | 0.495792 | NA |
| RF00001 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0.317831496 | 1.808837541 | 3.5779923 | 0.5055454 | 0.613176 | NA |
| dre-mir-203b | 6.246316196 | 0.887741531 | 0.8187012 | 1.0843291 | 0.278219 | NA |
| dre-mir-216b | 0 NA | NA | NA | NA | NA | NA |
| dre-mir-146b | 0 NA | NA | NA | NA | NA | NA |
| dre-mir-148 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00092 | 0.500161739 | 2.450146464 | 2.7711133 | 0.8841741 | 0.376602 | NA |
| RF00020 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0.341486697 | 1.892317624 | 3.2124068 | 0.5890654 | 0.555817 | NA |
| RF00191 | 2.651412346 | -0.007849672 | 1.1463432 | -0.006848 | 0.994536 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| dre-mir-153b | 1.504151694 | -0.287778376 | 1.5448187 | -0.186286 | 0.85222 | NA |
| RF00045 | 6.108331292 | -0.579581822 | 0.8860703 | -0.654104 | 0.513045 | NA |
| RF00001 | 27.08154465 | -0.08178602 | 0.3614276 | -0.226286 | 0.820979 | 0.981628 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00548 | 0 NA | NA | NA | NA | NA | NA |
| dre-mir-301a | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| dre-mir-107a | 0 NA | NA | NA | NA | NA | NA |
| RF01234 | 11.14858835 | 0.604505743 | 0.5929432 | 1.0195003 | 0.307966 | 0.861088 |
| dre-let-7g-2 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0.347458735 | -1.908042286 | 3.4571486 | -0.551912 | 0.581009 | NA |
| RF00001 | 0.365141898 | 1.973577737 | 3.3927314 | 0.5817076 | 0.560764 | NA |
| RF00015 | 0 NA | NA | NA | NA | NA | NA |

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|----------------|-------------|--------------|-----------|-----------|----------|----------|
| dre-mir-22b | 0 | NA | NA | NA | NA | NA |
| RF00377 | 0 | NA | NA | NA | NA | NA |
| RF00284 | 0 | NA | NA | NA | NA | NA |
| NC_002333.22 | 0.654133044 | -1.416854166 | 2.5841447 | -0.548287 | 0.583495 | NA |
| NC_002333.23 | 2.36486066 | 0.8593146 | 1.297465 | 0.6623027 | 0.507777 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| dre-mir-128-2 | 0.365141898 | 1.973577737 | 3.3927314 | 0.5817076 | 0.560764 | NA |
| dre-mir-9-4 | 0.492110303 | -0.89618148 | 2.8628934 | -0.313033 | 0.754255 | NA |
| dre-mir-184-2 | 0 | NA | NA | NA | NA | NA |
| dre-mir-30e-2 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| NC_002333.24 | 9.887021234 | -0.380338745 | 0.6112977 | -0.622182 | 0.533822 | NA |
| RF00026 | 0.339758314 | 0.005883863 | 3.2682461 | 0.0018003 | 0.998564 | NA |
| dre-mir-23a-3 | 0 | NA | NA | NA | NA | NA |
| dre-mir-30b | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| dre-mir-133b | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| dre-mir-125b-3 | 5.928270994 | 0.484135521 | 0.7748643 | 0.6248004 | 0.532102 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00396 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00072 | 0.48983248 | -0.887840757 | 2.6934859 | -0.329625 | 0.741683 | NA |
| RF00001 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| dre-mir-181b-3 | 16.55108373 | -0.879784139 | 0.4736596 | -1.857419 | 0.063252 | 0.491256 |
| RF00430 | 2.620924942 | -1.609299439 | 1.2818151 | -1.255485 | 0.209303 | NA |
| dre-mir-22a | 22.36856264 | 0.038741257 | 0.4119365 | 0.0940467 | 0.925072 | 0.992676 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| dre-mir-124-6 | 13.89424023 | 0.115575081 | 0.5506753 | 0.2098788 | 0.833762 | 0.983583 |
| dre-mir-736 | 0 | NA | NA | NA | NA | NA |
| dre-mir-430a-1 | 0 | NA | NA | NA | NA | NA |
| dre-mir-122 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00066 | 5.126070901 | 0.286874758 | 0.8238968 | 0.3481926 | 0.727696 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00100 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0.873165696 | 1.965547116 | 2.2171785 | 0.8865083 | 0.375344 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF01241 | 1.325436598 | -2.680967306 | 1.8525508 | -1.447176 | 0.147848 | NA |
| dre-mir-2193 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00231 | 7.046573029 | 0.605770739 | 0.7600407 | 0.7970241 | 0.425437 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00478 | 1.545407487 | 0.993496468 | 1.6449182 | 0.6039792 | 0.545857 | NA |
| dre-mir-2198 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |

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|--------------|-------------|--------------|-----------|-----------|----------|----|
| RF00001 | 0.506415768 | -0.866825728 | 2.6674086 | -0.324969 | 0.745204 | NA |
| RF00099 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0.340386822 | -1.882368278 | 3.2159502 | -0.585323 | 0.558331 | NA |
| RF00001 | 0.643404698 | 1.436206627 | 2.5980397 | 0.552804 | 0.580398 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00417 | 1.100311556 | -3.586134366 | 3.9466188 | -0.90866 | 0.36353 | NA |
| RF00001 | 0.339758314 | 0.005883863 | 3.2682461 | 0.0018003 | 0.998564 | NA |
| RF00429 | 1.188797441 | -1.322727039 | 1.8673491 | -0.708345 | 0.478731 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| dre-mir-2187 | 0 NA | | NA | NA | NA | NA |
| dre-mir-2192 | 0 NA | | NA | NA | NA | NA |
| RF01225 | 0 NA | | NA | NA | NA | NA |
| dre-mir-2196 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00302 | 0.633814256 | 1.438196278 | 2.4434004 | 0.5886044 | 0.556127 | NA |
| RF00001 | 0.491560863 | 0.853615855 | 2.865157 | 0.2979299 | 0.765757 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00302 | 2.113802594 | 0.707668695 | 1.3492795 | 0.5244789 | 0.599945 | NA |
| RF00001 | 0.680773643 | -2.882718692 | 2.4687055 | -1.167705 | 0.242926 | NA |
| RF00593 | 0.825614588 | 1.890321184 | 2.2486323 | 0.8406538 | 0.400542 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 1.990324486 | -1.631932347 | 1.6062005 | -1.01602 | 0.30962 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00026 | 0 NA | | NA | NA | NA | NA |
| RF01241 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00428 | 0.341366344 | 1.891903201 | 3.2128156 | 0.5888614 | 0.555954 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0.31759079 | 1.807926197 | 3.579045 | 0.5051421 | 0.613459 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0.474778155 | 0.852397662 | 2.898154 | 0.2941175 | 0.768668 | NA |
| RF00431 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0.333314908 | -1.858695402 | 3.5126701 | -0.52914 | 0.596708 | NA |
| RF00001 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0.658218317 | -0.061628513 | 2.4342948 | -0.025317 | 0.979802 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00003 | 0 NA | | NA | NA | NA | NA |

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|--------------|-------------|--------------|-----------|-----------|----------|----|
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00006 | 0.838940531 | -0.561526863 | 2.0217856 | -0.277738 | 0.781213 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 3.034676537 | -0.301987747 | 1.0944881 | -0.275917 | 0.782612 | NA |
| RF00001 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00154 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00411 | 0.665839671 | -1.495777257 | 2.4093426 | -0.620824 | 0.534716 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| dre-mir-2191 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.330916733 | -1.849579229 | 3.2489867 | -0.569279 | 0.569167 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 3.284958157 | -0.577324491 | 1.0337626 | -0.558469 | 0.576524 | NA |
| RF00001 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0.476506538 | 2.394892832 | 2.8161716 | 0.8504073 | 0.395099 | NA |
| RF00001 | 1.014518634 | -0.023592803 | 1.9308724 | -0.012219 | 0.990251 | NA |
| RF00572 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 1.471026404 | -0.306609088 | 1.5202188 | -0.201687 | 0.840161 | NA |
| RF00429 | 0.52295777 | -0.916487494 | 2.6406233 | -0.347072 | 0.728537 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.333314908 | -1.858695402 | 3.5126701 | -0.52914 | 0.596708 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |

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|---------|--------------|---------------|------------|------------|-----------|-----------|
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00322 | 1. 645037762 | -0. 524806043 | 1. 568569 | -0. 334576 | 0. 737945 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF01233 | 1. 21292401 | 1. 413512392 | 1. 8890573 | 0. 7482634 | 0. 454301 | NA |
| RF00001 | 0. 471562095 | -2. 373056629 | 3. 0645586 | -0. 774355 | 0. 438721 | NA |
| RF01233 | 0. 476386185 | 2. 392464142 | 3. 0533824 | 0. 7835455 | 0. 433307 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0. 157187365 | -0. 955901296 | 4. 0804729 | -0. 234262 | 0. 814781 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00443 | 0. 365141898 | 1. 973577737 | 3. 3927314 | 0. 5817076 | 0. 560764 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00009 | 1. 333689715 | -0. 736234712 | 1. 8666381 | -0. 394417 | 0. 693273 | NA |
| RF00001 | 0. 182570949 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| RF00431 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 2. 454535932 | -0. 239433478 | 1. 2394918 | -0. 193171 | 0. 846825 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0. 476747244 | 2. 393381959 | 3. 0525537 | 0. 7840589 | 0. 433006 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0. 158795395 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 25. 21674435 | 0. 089381908 | 0. 3920707 | 0. 227974 | 0. 819666 | 0. 981594 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0. 664231641 | -2. 853946573 | 2. 346554 | -1. 216229 | 0. 223898 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0. 339758314 | 0. 005883863 | 3. 2682461 | 0. 0018003 | 0. 998564 | NA |
| RF00001 | 0. 158915748 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0. 706508242 | 2. 93232624 | 2. 4625218 | 1. 1907818 | 0. 233739 | NA |
| RF00263 | 1. 148909967 | 1. 312490708 | 1. 8001617 | 0. 729096 | 0. 465943 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0. 158795395 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00618 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |

| | | | | | | |
|---------|-------------|--------------|-----------|-----------|----------|----|
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0.347458735 | -1.908042286 | 3.4571486 | -0.551912 | 0.581009 | NA |
| RF00091 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00408 | 1.501522856 | -2.90329683 | 1.7761284 | -1.634621 | 0.102129 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0.476747244 | 2.393381959 | 3.0525537 | 0.7840589 | 0.433006 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0.356300316 | 0.005884122 | 3.214964 | 0.0018302 | 0.99854 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00026 | 1.298595336 | -1.598743955 | 1.8947659 | -0.843769 | 0.398799 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0.332524763 | 0.005883742 | 3.292841 | 0.0017868 | 0.998574 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0.522329263 | 0.999930388 | 2.8066578 | 0.3562709 | 0.721638 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00020 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00004 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 2.149603552 | -1.218704386 | 1.4777127 | -0.824724 | 0.409529 | NA |
| RF00582 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0.655741074 | 0.077611818 | 2.4374018 | 0.031842 | 0.974598 | NA |
| RF00001 | 0.341366344 | 1.891903201 | 3.2128156 | 0.5888614 | 0.555954 | NA |
| RF01192 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00322 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |

| | | | | | | |
|--------------|-------------|--------------|-----------|-----------|----------|----|
| RF00001 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00020 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00218 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00020 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 8.315364946 | 0.361869007 | 0.6682622 | 0.5415075 | 0.588158 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00568 | 4.483934258 | -0.145670252 | 0.9869913 | -0.14759 | 0.882666 | NA |
| RF00009 | 4.031570988 | 0.745354741 | 1.0159156 | 0.7336778 | 0.463145 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| dre-mir-2195 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 2.485036883 | 0.218266609 | 1.2044806 | 0.1812122 | 0.856201 | NA |
| RF00001 | 0.317831496 | 1.808837541 | 3.5779923 | 0.5055454 | 0.613176 | NA |
| RF01192 | 0.476747244 | 2.393381959 | 3.0525537 | 0.7840589 | 0.433006 | NA |
| RF00001 | 3.618300804 | -0.011945638 | 0.9817127 | -0.012168 | 0.990291 | NA |
| RF00001 | 1.121918354 | -0.422914697 | 1.8509454 | -0.228486 | 0.819269 | NA |
| RF00001 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00440 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 1.968321855 | 0.965031282 | 1.4110895 | 0.6838909 | 0.494044 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |

| | | | | | | |
|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| RF00270 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00302 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.332524763 | 0.005883742 | 3.292841 | 0.0017868 | 0.998574 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| dre-mir-2197 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00613 | 3.436399648 | -0.432229431 | 1.0343392 | -0.41788 | 0.676035 | NA |
| RF00553 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| dre-mir-2184 | 2.348628387 | 2.615352647 | 1.4633998 | 1.7871758 | 0.073909 | NA |
| RF00564 | 0.333314908 | -1.858695402 | 3.5126701 | -0.52914 | 0.596708 | NA |
| RF00191 | 0.673891106 | 1.487913167 | 2.4008011 | 0.619757 | 0.535418 | NA |
| RF00001 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.347458735 | -1.908042286 | 3.4571486 | -0.551912 | 0.581009 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| dre-mir-735 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 8.065268707 | -0.15980402 | 0.6734373 | -0.237296 | 0.812427 | NA |
| RF00599 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| BX537109.1 | 7.011048568 | 0.050582143 | 0.7616843 | 0.0664083 | 0.947053 | NA |
| zgc:l53681 | 6.14302574 | -0.374967155 | 0.7806631 | -0.480319 | 0.631001 | NA |
| si:dkey-238d18.7 | 0 | NA | NA | NA | NA | NA |
| si:ch211-168d23.3 | 28.62639026 | -0.044205031 | 0.3907866 | -0.113118 | 0.909937 | 0.990702 |
| igfn1.4 | 0.650905698 | -0.045771139 | 2.5873401 | -0.01769 | 0.985886 | NA |
| tspan5a | 374.8752033 | 0.142087361 | 0.1211419 | 1.1729007 | 0.240836 | 0.809224 |
| nectin1b | 371.5106436 | 0.163135916 | 0.1359418 | 1.200042 | 0.230123 | 0.797833 |
| si:ch211-229i14.2 | 0.49144051 | 0.855669345 | 2.6923358 | 0.3178167 | 0.750624 | NA |
| si:ch211-106k21.5 | 10.91077256 | 0.103042583 | 0.713832 | 0.1443513 | 0.885223 | NA |
| si:dkey-7e14.3 | 5.336619774 | -0.179425931 | 0.8063783 | -0.222508 | 0.823918 | NA |
| plekhg6 | 54.04979102 | -0.054238519 | 0.2933107 | -0.184918 | 0.853293 | 0.985174 |

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|--------------------|--------------|---------------|------------|------------|-----------|-----------|
| plxnd1 | 23. 2310923 | -0. 261966256 | 0. 4145438 | -0. 631939 | 0. 527427 | 0. 941361 |
| hmcn2 | 3. 395883513 | 0. 630730556 | 1. 1821412 | 0. 5335493 | 0. 593653 | NA |
| fgf20b | 46. 78241523 | -0. 22473626 | 0. 2870265 | -0. 782981 | 0. 433638 | 0. 913667 |
| ttc3 | 1061. 457317 | -0. 079630983 | 0. 0907774 | -0. 877211 | 0. 380372 | 0. 895192 |
| kcnn4 | 13. 81646363 | 0. 488648834 | 0. 518082 | 0. 9431881 | 0. 345585 | 0. 878467 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| BX539307. 2 | 1. 810746688 | 2. 157278989 | 1. 6475449 | 1. 3093901 | 0. 190402 | NA |
| cd302 | 109. 814547 | 0. 049131947 | 0. 1881697 | 0. 2611044 | 0. 794012 | 0. 977937 |
| slc37a1 | 222. 0093661 | 0. 310044989 | 0. 1443199 | 2. 148317 | 0. 031689 | 0. 345305 |
| slco5a1a | 1487. 784454 | 0. 127862654 | 0. 1004685 | 1. 2726639 | 0. 203137 | 0. 770099 |
| RF00006 | 0 NA | NA | NA | NA | NA | NA |
| MTERF1 | 116. 1097694 | -0. 094809773 | 0. 1894139 | -0. 500543 | 0. 616693 | 0. 95688 |
| si:ch211-266i6. 3 | 405. 6127849 | -0. 012603847 | 0. 114874 | -0. 109719 | 0. 912632 | 0. 991119 |
| CR792417. 1 | 35. 42424776 | 0. 013602681 | 0. 3623619 | 0. 0375389 | 0. 970055 | 0. 996315 |
| umod | 0. 349228403 | 0. 005884014 | 3. 2372587 | 0. 0018176 | 0. 99855 | NA |
| trim331 | 66. 14565283 | 0. 009216202 | 0. 2621788 | 0. 0351524 | 0. 971958 | 0. 996315 |
| RF00017 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-42i6. 2 | 3. 500761202 | 0. 393235041 | 1. 0328891 | 0. 3807137 | 0. 703416 | NA |
| si:ch73-267c23. 10 | 9. 662793144 | -0. 247837596 | 0. 6313733 | -0. 392537 | 0. 694661 | NA |
| wrap53 | 193. 2599042 | -0. 244258063 | 0. 1538675 | -1. 587457 | 0. 112409 | 0. 627726 |
| ccbel | 28. 21762053 | -0. 180307106 | 0. 3611591 | -0. 499246 | 0. 617606 | 0. 957354 |
| si:ch73-206d17. 1 | 35. 60313336 | 0. 454509256 | 0. 3226568 | 1. 4086463 | 0. 15894 | 0. 709613 |
| znf385d | 59. 92512545 | -0. 178383647 | 0. 2582801 | -0. 69066 | 0. 48978 | 0. 931926 |
| si:ch211-286b5. 9 | 1. 528006315 | -0. 313383006 | 1. 55636 | -0. 201356 | 0. 84042 | NA |
| rskrb | 69. 85715509 | -0. 067799699 | 0. 2400862 | -0. 282397 | 0. 777639 | 0. 975942 |
| ACVR1C | 13. 63599758 | 0. 654941663 | 0. 5390348 | 1. 2150267 | 0. 224356 | 0. 79161 |
| relb | 342. 5528615 | -0. 329876538 | 0. 1227784 | -2. 686764 | 0. 007215 | 0. 133582 |
| si:dkey-3h2. 4 | 5. 024967491 | 0. 811117222 | 0. 8799433 | 0. 9217835 | 0. 356642 | NA |
| vkorc1 | 53. 96107865 | 0. 359700966 | 0. 2883872 | 1. 2472847 | 0. 212293 | 0. 780251 |
| FBX048 | 227. 8215732 | -0. 039524902 | 0. 1568328 | -0. 252019 | 0. 801026 | 0. 979377 |
| opn8a | 2. 030325524 | 0. 485585208 | 1. 440622 | 0. 3370663 | 0. 736067 | NA |
| mgp | 5. 388620869 | 0. 102184602 | 0. 8347452 | 0. 1224141 | 0. 902571 | NA |
| gsg112a | 36. 15674008 | 0. 118825941 | 0. 3248038 | 0. 3658392 | 0. 714485 | 0. 96909 |
| grin2da | 365. 6391494 | -0. 047172953 | 0. 1316244 | -0. 358391 | 0. 720051 | 0. 969318 |
| ntrk3b | 450. 0741051 | 0. 16326542 | 0. 111999 | 1. 4577402 | 0. 144912 | 0. 688986 |
| gpr156 | 26. 64423348 | -0. 024382718 | 0. 3879614 | -0. 062848 | 0. 949887 | 0. 99381 |
| prr13 | 386. 6986218 | -0. 207978783 | 0. 1390487 | -1. 495726 | 0. 134725 | 0. 670689 |
| nkd3 | 0. 365141898 | 1. 973577737 | 3. 3927314 | 0. 5817076 | 0. 560764 | NA |
| si:ch211-226h8. 4 | 0 NA | NA | NA | NA | NA | NA |
| nat16 | 1275. 636005 | 0. 337624353 | 0. 0922044 | 3. 6616943 | 0. 000251 | 0. 010194 |
| si:ch73-144d13. 4 | 54. 67389438 | 0. 043935144 | 0. 2979698 | 0. 1474483 | 0. 882778 | 0. 988508 |
| si:dkey-120c6. 5 | 18. 29212598 | -0. 245739561 | 0. 4598698 | -0. 534368 | 0. 593087 | 0. 954434 |
| F2R (1 of many) | 24. 60156568 | 0. 437207599 | 0. 392498 | 1. 1139104 | 0. 265318 | 0. 831302 |
| si:dkeyp-121d2. 7 | 49. 67465779 | -0. 038440285 | 0. 2821135 | -0. 136258 | 0. 891617 | 0. 989291 |
| zgc:171781 | 0. 31759079 | 1. 807926197 | 3. 579045 | 0. 5051421 | 0. 613459 | NA |
| kcnpjla. 3 | 181. 947858 | -0. 211746922 | 0. 1745292 | -1. 213246 | 0. 225036 | 0. 792185 |
| hh1a2b. 2 | 233. 9746194 | -0. 183143807 | 0. 1385687 | -1. 321682 | 0. 186274 | 0. 750697 |
| si:rp71-1c10. 10 | 4. 59259124 | -1. 589265973 | 0. 9352558 | -1. 699285 | 0. 089266 | NA |
| si:ch211-236p5. 2 | 10. 44274423 | -0. 036194943 | 0. 5879862 | -0. 061557 | 0. 950915 | NA |
| CU469420. 1 | 10. 51531802 | 0. 095429761 | 0. 6292782 | 0. 1516496 | 0. 879463 | NA |
| fhdc4 | 103. 0180729 | 0. 082015418 | 0. 2105351 | 0. 389557 | 0. 696864 | 0. 96736 |
| F2R (1 of many) | 0 NA | NA | NA | NA | NA | NA |
| bsnd | 18. 43435682 | 0. 024246908 | 0. 4667037 | 0. 0519535 | 0. 958566 | 0. 994935 |
| CR925773. 1 | 9. 128624045 | 0. 336149498 | 0. 7087456 | 0. 474288 | 0. 635295 | NA |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| taarl2i | 0.330916733 | -1.849579229 | 3.2489867 | -0.569279 | 0.569167 | NA |
| ndst2a | 848.3155508 | -0.013672339 | 0.0998236 | -0.136965 | 0.891058 | 0.989291 |
| acyp2 | 2.124300278 | -1.709794783 | 1.4128316 | -1.21019 | 0.226206 | NA |
| si:dkey-4p15.5 | 358.4482244 | -0.138659044 | 0.1284801 | -1.079226 | 0.280487 | 0.843423 |
| si:ch211-282j17.5 | 0 | NA | NA | NA | NA | NA |
| cnsta | 112.8602538 | 0.040552719 | 0.2167913 | 0.1870588 | 0.851615 | 0.985174 |
| scg3 | 2144.314245 | 0.025753648 | 0.0775637 | 0.3320323 | 0.739865 | 0.972943 |
| znf1137 | 4.638486244 | -0.182339519 | 0.8674735 | -0.210196 | 0.833515 | NA |
| FAM107A | 30.87666812 | -0.039593155 | 0.3492365 | -0.113371 | 0.909737 | 0.990702 |
| si:dkey-27j5.6 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| proser1 | 1021.365601 | 0.013519315 | 0.0894333 | 0.1511665 | 0.879844 | 0.987881 |
| si:ch211-63b16.4 | 23.54024174 | 0.744093305 | 0.4592984 | 1.6200652 | 0.105218 | 0.613382 |
| erlecl | 757.6238069 | -0.01862036 | 0.0943204 | -0.197416 | 0.843502 | 0.985174 |
| cabcocol | 6.229597274 | -0.027451606 | 0.7897174 | -0.034761 | 0.97227 | NA |
| CU633991.1 | 2.131481258 | -0.271770984 | 1.3260227 | -0.204952 | 0.83761 | NA |
| si:ch211-67e16.4 | 369.1278643 | -0.003196374 | 0.1155012 | -0.027674 | 0.977922 | 0.996762 |
| si:dkey-274m17.3 | 21.84411503 | -0.159062944 | 0.4178591 | -0.380662 | 0.703454 | 0.968134 |
| CABZ01071939.1 | 100.5682914 | 0.018444195 | 0.2138639 | 0.0862427 | 0.931274 | 0.992702 |
| srrm4 | 639.9714249 | -0.047857418 | 0.0991779 | -0.482541 | 0.629422 | 0.957354 |
| bri3 | 1011.790334 | -0.238155166 | 0.0963135 | -2.472709 | 0.013409 | 0.207707 |
| si:ch211-157b11.12 | 179.5489002 | -0.335312331 | 0.1532605 | -2.187859 | 0.02868 | 0.328405 |
| si:dkey-102g19.3 | 20.15395685 | -0.357196088 | 0.4606099 | -0.775485 | 0.438053 | 0.915284 |
| zgc:101566 | 629.7837537 | -0.053552299 | 0.0991308 | -0.540219 | 0.589046 | 0.953345 |
| cux2b | 29.43800286 | -0.175686586 | 0.351141 | -0.500331 | 0.616842 | 0.956957 |
| zp2.1 | 1.180506295 | 0.366333622 | 1.928949 | 0.1899136 | 0.849377 | NA |
| si:dkey-83f18.9 | 0 | NA | NA | NA | NA | NA |
| pou6f2 | 26.98696801 | 0.630514523 | 0.3767943 | 1.6733656 | 0.094255 | 0.583986 |
| si:ch211-167j9.5 | 5.252919949 | 0.72971976 | 0.8265429 | 0.8828577 | 0.377313 | NA |
| isgl5 | 6.424823202 | -0.105571628 | 0.8002381 | -0.131925 | 0.895043 | NA |
| or111-8 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:dkey-246e3.4 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| cald1b | 35.59582354 | 0.032500678 | 0.3285298 | 0.0989277 | 0.921196 | 0.992138 |
| dbx1a | 216.7292979 | 0.018179297 | 0.1457734 | 0.1247093 | 0.900754 | 0.990121 |
| mterf2 | 100.4724571 | 0.007203075 | 0.1974061 | 0.0364886 | 0.970893 | 0.996315 |
| BX950205.1 | 0 | NA | NA | NA | NA | NA |
| srsf10b | 245.1957295 | -0.232607032 | 0.149886 | -1.551893 | 0.120688 | 0.645578 |
| taarl2c | 0.316103113 | 0.005883447 | 3.3519121 | 0.0017553 | 0.9986 | NA |
| med11 | 214.8477557 | -0.287732313 | 0.1694296 | -1.698242 | 0.089462 | 0.572876 |
| si:ch211-236p5.3 | 0.841338706 | -0.563977448 | 2.2263736 | -0.253317 | 0.800024 | NA |
| si:ch211-282j17.13 | 3.802837586 | -0.646157724 | 1.0163545 | -0.63576 | 0.524933 | NA |
| CABZ01046949.1 | 0 | NA | NA | NA | NA | NA |
| si:ch211-212k18.8 | 110.2582918 | 0.266309463 | 0.1879563 | 1.4168689 | 0.156521 | 0.706794 |
| prpf3 | 488.4149005 | 0.101368473 | 0.1130278 | 0.8968457 | 0.369801 | 0.889487 |
| adgrf7 | 12.9963927 | 1.658034394 | 0.5735885 | 2.8906339 | 0.003845 | 0.084754 |
| znf1055 | 24.62849896 | -0.001448385 | 0.3970814 | -0.003648 | 0.99709 | 0.99906 |
| tdg.2 | 495.6310506 | 0.106089786 | 0.1028235 | 1.0317663 | 0.302182 | 0.857048 |
| dthd1 | 5.058281315 | 0.671938937 | 0.8843914 | 0.7597755 | 0.447389 | NA |
| cx52.9 | 39.88216671 | 0.563151512 | 0.3606062 | 1.5616801 | 0.118363 | 0.641743 |
| tnfaip811 | 225.2947626 | -0.181616071 | 0.1522122 | -1.193177 | 0.2328 | 0.801255 |
| hdac10 | 164.9673974 | -0.140808257 | 0.1632064 | -0.862762 | 0.388268 | 0.896271 |
| si:ch211-165g14.1 | 179.5695199 | -0.180642498 | 0.1725363 | -1.046982 | 0.295108 | 0.851519 |
| si:dkey-83f18.10 | 0 | NA | NA | NA | NA | NA |
| klhl13 | 28.1301933 | 0.612489765 | 0.3595529 | 1.703476 | 0.088479 | 0.569447 |

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| pkig | 341.9290508 | -0.021341195 | 0.1339583 | -0.159312 | 0.873423 | 0.987858 |
| mogat3a | 160.8508424 | -0.070587045 | 0.1655453 | -0.426391 | 0.669823 | 0.965223 |
| si:ch211-132p1.4 | 3.411566499 | 0.122552101 | 1.0306589 | 0.1189066 | 0.905349 | NA |
| fbxw10 | 4.937366276 | 0.579792674 | 0.8448495 | 0.6862674 | 0.492544 | NA |
| CU179643.1 | 2.865263104 | 1.272037305 | 1.2029355 | 1.0574443 | 0.290309 | NA |
| si:dkey-92f12.2 | 336.54096 | 0.040045819 | 0.1179086 | 0.3396345 | 0.734132 | 0.971993 |
| mtnr1bb | 15.97618785 | 0.117017388 | 0.4745948 | 0.2465627 | 0.805247 | 0.979883 |
| znf970 | 17.7569909 | -0.212072521 | 0.4601837 | -0.460843 | 0.644911 | 0.96029 |
| BX546500.1 | 0.681753165 | 0.003445546 | 2.2907653 | 0.0015041 | 0.9988 | NA |
| si:ch211-116o3.3 | 0 NA | NA | NA | NA | NA | NA |
| BX323559.1 | 0.703759051 | -1.526884723 | 2.5277341 | -0.604053 | 0.545809 | NA |
| mast3b | 216.5559852 | -0.040894822 | 0.1565825 | -0.261171 | 0.793961 | 0.977937 |
| ptprjb.2 | 0 NA | NA | NA | NA | NA | NA |
| prodhb | 49.773509 | 0.090103549 | 0.2814928 | 0.3200918 | 0.748899 | 0.97419 |
| si:ch211-155o21.3 | 10.7646645 | 0.153431455 | 0.5953802 | 0.2577033 | 0.796636 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| zp2.5 | 3.470233508 | 0.356531717 | 1.1190266 | 0.3186088 | 0.750023 | NA |
| ch25h13 | 257.4379907 | -0.222695627 | 0.1428929 | -1.55848 | 0.11912 | 0.64321 |
| si:dkey-90123.2 | 3.324643703 | -0.338370208 | 1.1511016 | -0.293953 | 0.768794 | NA |
| CABZ01115881.1 | 108.4956628 | 0.099004738 | 0.2013972 | 0.4915894 | 0.62301 | 0.957354 |
| dbf4b | 84.14290216 | 0.001935567 | 0.2157478 | 0.0089714 | 0.992842 | 0.998437 |
| irs4a | 116.0193103 | -0.218162137 | 0.2002314 | -1.08955 | 0.275911 | 0.839541 |
| hist1h2a11 | 4.550913611 | 0.997591157 | 0.9360277 | 1.065771 | 0.286527 | NA |
| n1rc311 | 251.5593899 | -0.1317414 | 0.1360678 | -0.968204 | 0.332943 | 0.874926 |
| si:dkey-201121.2 | 0 NA | NA | NA | NA | NA | NA |
| zgc:172051 | 165.4204824 | 0.501943976 | 0.1680933 | 2.9861028 | 0.002826 | 0.068979 |
| kcna7 | 106.9021916 | 0.312961056 | 0.19617 | 1.5953563 | 0.110633 | 0.625514 |
| omga | 7.839758863 | 0.469734922 | 0.7455881 | 0.6300194 | 0.528682 | NA |
| si:cabz01069012.2 | 16.63477426 | -0.518562391 | 0.4668226 | -1.110834 | 0.26664 | 0.832673 |
| CABZ01077217.2 | 3.552211862 | -0.002907174 | 1.0321791 | -0.002817 | 0.997753 | NA |
| nrg2b | 510.9924481 | 0.022941066 | 0.1018359 | 0.2252748 | 0.821766 | 0.982026 |
| si:ch211-113a14.11 | 23.01997756 | 0.166842761 | 0.4137114 | 0.4032829 | 0.68674 | 0.966376 |
| dre-mir-26a-2 | 1.973157231 | 1.00524485 | 1.3446592 | 0.7475834 | 0.454711 | NA |
| zgc:136963 | 40.89773392 | 0.027786701 | 0.2997543 | 0.0926983 | 0.926143 | 0.992702 |
| si:ch73-269m14.4 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-266f7.10 | 3.639086462 | -0.835415989 | 1.0474994 | -0.797534 | 0.425141 | NA |
| CR846087.1 | 4.915670119 | 1.463763021 | 0.8990625 | 1.6280993 | 0.103504 | NA |
| cabz01093075.1 | 0.979585893 | -0.937756642 | 1.9970899 | -0.469562 | 0.638668 | NA |
| psma3 | 2191.045903 | -0.012193695 | 0.0777565 | -0.156819 | 0.875387 | 0.987881 |
| gckr | 0.965280428 | -1.0079287 | 2.0820225 | -0.48411 | 0.628308 | NA |
| vav3a | 3.861349715 | 0.633340446 | 0.9726405 | 0.6511557 | 0.514946 | NA |
| im:7147486 | 592.7155526 | -0.129616214 | 0.0996792 | -1.300333 | 0.193487 | 0.757219 |
| stk19 | 41.16518747 | -0.106220434 | 0.298714 | -0.355592 | 0.722146 | 0.970155 |
| rnh1 | 14.69461759 | -0.224530955 | 0.4935138 | -0.454964 | 0.649135 | 0.960708 |
| or111-3 | 4.020036043 | 0.035933245 | 0.9556071 | 0.0376025 | 0.970005 | NA |
| RF00017 | 0 NA | NA | NA | NA | NA | NA |
| hs3st3b1b | 839.7837148 | 0.219286009 | 0.0972581 | 2.2546811 | 0.024153 | 0.299817 |
| chrng | 150.9791239 | 0.004681771 | 0.1842668 | 0.0254076 | 0.97973 | 0.99687 |
| ttc41 | 3.951389548 | 0.02458885 | 0.9624272 | 0.0255488 | 0.979617 | NA |
| cb1n11 | 141.2541944 | -0.084820879 | 0.2130062 | -0.398209 | 0.690476 | 0.967097 |
| mkrn2os.1 | 16.72213619 | -0.662085897 | 0.4616464 | -1.434184 | 0.15152 | 0.700127 |
| crygm2d21 | 15307.06832 | 0.102705645 | 0.1014293 | 1.0125837 | 0.311259 | 0.863542 |
| si:ch211-125m10.6 | 16.41021307 | 0.363936567 | 0.5264682 | 0.6912793 | 0.48939 | 0.931926 |
| si:dkey-175g6.2 | 221.6346996 | 0.730059542 | 0.199014 | 3.6683836 | 0.000244 | 0.010076 |

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| edn3b | 4.167473589 | -0.093471996 | 0.9409874 | -0.099334 | 0.920873 | NA |
| ice2 | 168.1248391 | -0.072735554 | 0.1611406 | -0.451379 | 0.651716 | 0.960708 |
| ascc3 | 504.420624 | -0.017182508 | 0.1183756 | -0.145152 | 0.884591 | 0.988801 |
| si:ch211-19719.5 | 3.623139435 | 1.107099738 | 1.013463 | 1.0923929 | 0.27466 | NA |
| trim63b | 244.5233622 | 0.244279521 | 0.1514772 | 1.6126485 | 0.106821 | 0.616004 |
| dnajc12 | 62.63227439 | -0.176521827 | 0.2503385 | -0.705133 | 0.480728 | 0.927601 |
| taarl4a | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| smim15 | 528.5552841 | -0.228446032 | 0.1043568 | -2.189086 | 0.028591 | 0.328246 |
| si:dkey-126g1.7 | 17.4133631 | -0.597703876 | 0.473915 | -1.261205 | 0.207235 | 0.775175 |
| probl | 53.41732332 | 0.179826871 | 0.2821639 | 0.6373135 | 0.523921 | 0.939336 |
| BMERB1 | 200.7831153 | -0.106533449 | 0.1484405 | -0.717684 | 0.472952 | 0.924993 |
| CR847543.1 | 14.12689411 | 0.216529493 | 0.5223836 | 0.4145028 | 0.678506 | 0.965257 |
| si:dkeyp-97b10.3 | 118.6747077 | -0.254578165 | 0.2101543 | -1.211387 | 0.225747 | 0.793245 |
| CU075735.1 | | 0 NA | NA | NA | NA | NA |
| znf1023 | 2.670703538 | 1.14931245 | 1.1680276 | 0.9839771 | 0.325127 | NA |
| im:7151449 | 66.43993356 | 0.177975218 | 0.2623914 | 0.6782815 | 0.497593 | 0.933353 |
| si:ch211-238p8.24 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00274 | 0.547712847 | 2.559541715 | 2.9076406 | 0.8802813 | 0.378707 | NA |
| SAMD4B | 1297.650035 | 0.150976903 | 0.0855942 | 1.7638686 | 0.077754 | 0.543372 |
| tmem68 | 308.5781182 | 0.359214403 | 0.1223263 | 2.9365264 | 0.003319 | 0.077033 |
| si:ch1073-513e17.1 | 30.61335582 | 0.219707611 | 0.3758638 | 0.5845404 | 0.558857 | 0.948478 |
| phyh | 972.4374601 | 0.183769138 | 0.0976653 | 1.8816219 | 0.059887 | 0.478654 |
| znf1152 | 44.68250214 | -0.36674571 | 0.3228389 | -1.136002 | 0.255956 | 0.824633 |
| prodha | 162.1290924 | 0.123327656 | 0.1599935 | 0.7708291 | 0.440808 | 0.916336 |
| L0018205.1 | 8.597751049 | 0.000306059 | 0.6579053 | 0.0004652 | 0.999629 | NA |
| gb:bc139872 | 255.3714345 | -0.026895953 | 0.1327905 | -0.202544 | 0.839491 | 0.984979 |
| RGS9BP | 181.6326694 | 0.556603358 | 0.1565583 | 3.5552457 | 0.000378 | 0.014142 |
| gsdmea | 9.173602215 | -0.172635799 | 0.6452529 | -0.267547 | 0.789048 | NA |
| mdc1 | 248.6369352 | -0.146423363 | 0.1358249 | -1.078031 | 0.28102 | 0.84357 |
| top1 | 21.58863797 | 0.057260795 | 0.4088881 | 0.1400402 | 0.888628 | 0.989291 |
| pdgfba | 76.36177963 | 0.238615152 | 0.2342844 | 1.018485 | 0.308448 | 0.861088 |
| mfsd10 | 125.7137544 | -0.226934311 | 0.1831678 | -1.238942 | 0.215367 | 0.782987 |
| bahd1 | 470.4178285 | 0.018576563 | 0.1106902 | 0.1678248 | 0.866721 | 0.986958 |
| gucy1b1 | 329.8033107 | 0.040698573 | 0.1208689 | 0.3367168 | 0.73633 | 0.972535 |
| itprid1 | 47.85962864 | 0.417180953 | 0.2779891 | 1.5007097 | 0.133431 | 0.667982 |
| ddhdla | 342.876144 | 0.153786236 | 0.120266 | 1.2787171 | 0.200997 | 0.766855 |
| MYADM | 436.1189494 | -0.055094169 | 0.1077198 | -0.511458 | 0.60903 | 0.956718 |
| scn11aa | 4.934895821 | -0.7959014 | 0.8661127 | -0.918935 | 0.35813 | NA |
| znf521 | 33.21138125 | 0.087247304 | 0.3378629 | 0.2582329 | 0.796227 | 0.978498 |
| sult6b1 | 764.4129292 | -0.13911481 | 0.1009902 | -1.377508 | 0.168355 | 0.725919 |
| zmp:0000001228 | 57.19903887 | -0.096568106 | 0.2637083 | -0.366193 | 0.714221 | 0.96909 |
| itga2.3 | 54.45767413 | -0.09830191 | 0.2981121 | -0.329748 | 0.74159 | 0.973154 |
| si:ch211-266k8.4 | 63.09293829 | -0.055675253 | 0.2440063 | -0.228171 | 0.819513 | 0.981594 |
| dap1b | 987.9101795 | -0.395319464 | 0.1121481 | -3.524975 | 0.000424 | 0.015595 |
| irgql | 17.71091877 | -0.027895298 | 0.4828439 | -0.057773 | 0.95393 | 0.994255 |
| atad3 | 219.9868285 | -0.192178773 | 0.1626798 | -1.181331 | 0.237471 | 0.806474 |
| si:dkey-187k19.2 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:dkey-264d12.5 | 59.60160619 | -0.072323523 | 0.2551302 | -0.283477 | 0.776811 | 0.975826 |
| dpyda.3 | 35.38787743 | -0.404771914 | 0.3355438 | -1.206316 | 0.227696 | 0.794934 |
| stk35 | 109.5239095 | 0.059641455 | 0.2031202 | 0.2936264 | 0.769043 | 0.975687 |
| qdprb2 | 0.989994219 | 0.997631756 | 1.9011773 | 0.5247442 | 0.599761 | NA |
| si:ch211-232i5.3 | 107.7636401 | -0.165310287 | 0.1928132 | -0.85736 | 0.391246 | 0.897688 |
| mhclzda | 245.8644377 | -0.047584948 | 0.1643397 | -0.289552 | 0.772159 | 0.975687 |
| lins1 | 35.2893399 | -0.304191299 | 0.3287149 | -0.925396 | 0.35476 | 0.882105 |

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| AL831726.1 | 5.346020839 | -0.739253794 | 0.8287147 | -0.892049 | 0.372367 | NA |
| ier2b | 266.1356521 | 0.261341897 | 0.1686406 | 1.549697 | 0.121214 | 0.647458 |
| RF00426 | 0 | NA | NA | NA | NA | NA |
| erfl1 | 199.1986835 | 0.154977937 | 0.1527962 | 1.0142786 | 0.31045 | 0.862681 |
| fubp3 | 939.3618494 | -0.042372655 | 0.0942469 | -0.449592 | 0.653005 | 0.960792 |
| si:dkey-7i4.1 | 7.859430206 | -0.410752579 | 0.7063001 | -0.581555 | 0.560866 | NA |
| gig2o | 10.37207632 | -0.21986347 | 0.624668 | -0.351969 | 0.724862 | NA |
| stambpb | 219.257318 | -0.196654096 | 0.1463555 | -1.343674 | 0.179054 | 0.739994 |
| si:dkey-100n23.5 | 147.4999158 | -0.303005032 | 0.176534 | -1.716412 | 0.086087 | 0.563109 |
| crygm2d2 | 20405.00213 | -0.016737986 | 0.2368398 | -0.070672 | 0.943659 | 0.993364 |
| CR381646.1 | 0 | NA | NA | NA | NA | NA |
| pik3c2b | 932.5283436 | -0.055117086 | 0.089575 | -0.615318 | 0.538345 | 0.943336 |
| CABZ01029822.1 | 10.5200516 | 0.605961514 | 0.6050876 | 1.0014442 | 0.316612 | NA |
| tnni3k | 15.03310169 | 0.060697495 | 0.4972969 | 0.1220549 | 0.902856 | 0.990121 |
| pimr14 | 0 | NA | NA | NA | NA | NA |
| TCF24 | 45.24868285 | -0.233127344 | 0.2926912 | -0.796496 | 0.425744 | 0.909437 |
| si:ch211-269k10.2 | 320.1858149 | -0.280426157 | 0.147396 | -1.902536 | 0.057101 | 0.468896 |
| si:dkey-24117.3 | 0 | NA | NA | NA | NA | NA |
| si:dkeyp-118a3.2 | 81.870063 | 0.163337488 | 0.217984 | 0.7493094 | 0.453671 | 0.920041 |
| BX649442.1 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| FP102309.1 | 12.26126941 | -0.161946994 | 0.547286 | -0.295909 | 0.767299 | 0.975687 |
| atxn11 | 6.406261953 | 0.21271619 | 0.7697099 | 0.2763589 | 0.782272 | NA |
| mbd6 | 81.96997443 | 0.093102227 | 0.2178009 | 0.4274648 | 0.669041 | 0.965031 |
| klc4 | 690.4967717 | -0.183325865 | 0.0987726 | -1.85604 | 0.063448 | 0.492164 |
| carmil3 | 432.0579377 | 0.128624531 | 0.1073726 | 1.197927 | 0.230945 | 0.799177 |
| si:ch73-234b20.5 | 193.2030119 | -0.105678102 | 0.1651574 | -0.639863 | 0.522262 | 0.939056 |
| zgc:64002 | 15.33902264 | -0.133470711 | 0.4991653 | -0.267388 | 0.789171 | 0.976965 |
| BX004816.2 | 0 | NA | NA | NA | NA | NA |
| cubn | 257.4042794 | -0.455549216 | 0.146829 | -3.102583 | 0.001918 | 0.051894 |
| RF00017 | 0 | NA | NA | NA | NA | NA |
| micall1b.2 | 34.15353618 | 0.074551157 | 0.3670745 | 0.2030954 | 0.83906 | 0.984979 |
| si:dkey-11k2.7 | 190.2802483 | -0.241922895 | 0.5067472 | -0.477404 | 0.633075 | 0.957356 |
| F0704748.1 | 6.099371524 | -0.097228816 | 0.7669566 | -0.126772 | 0.899121 | NA |
| si:ch73-334d15.2 | 11.94177277 | 0.827976844 | 0.5536757 | 1.4954183 | 0.134805 | 0.670689 |
| RF00281 | 0 | NA | NA | NA | NA | NA |
| rbbp81 | 82.20226768 | -0.29542362 | 0.2222126 | -1.329464 | 0.183695 | 0.747284 |
| rhd11 | 14.91308626 | -0.072794733 | 0.5095012 | -0.142875 | 0.886389 | 0.988936 |
| si:ch211-222k6.2 | 58.89606989 | -0.551741454 | 0.2598253 | -2.12351 | 0.033711 | 0.357045 |
| si:dkey-165n16.1 | 66.46140963 | -0.19559163 | 0.2435624 | -0.803045 | 0.421949 | 0.90651 |
| ggt112.2 | 0 | NA | NA | NA | NA | NA |
| ftr36 | 1.156651673 | 0.411122976 | 1.6895393 | 0.2433344 | 0.807746 | NA |
| selenoulb | 58.28675234 | -0.115538366 | 0.2695827 | -0.428582 | 0.668227 | 0.964736 |
| RF00017 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:ch211-71k14.1 | 2.59577202 | -0.727067354 | 1.3390184 | -0.542985 | 0.58714 | NA |
| znf977 | 1.160507527 | -1.286691038 | 1.8769381 | -0.685527 | 0.493012 | NA |
| chrna4a | 2.63078507 | -0.313649245 | 1.2539163 | -0.250136 | 0.802482 | NA |
| znf574 | 137.0473291 | -0.004971249 | 0.178803 | -0.027803 | 0.977819 | 0.996762 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| hcar1-4 | 24.30441328 | 0.023806818 | 0.3890129 | 0.061198 | 0.951202 | 0.99381 |
| col28a1b | 47.10697579 | -0.144888544 | 0.3044504 | -0.475902 | 0.634144 | 0.95776 |
| si:ch211-274p24.4 | 13.00785816 | 0.045970342 | 0.5255774 | 0.0874664 | 0.930301 | 0.992702 |
| si:ch211-157c3.4 | 329.9588043 | 0.087856546 | 0.1222569 | 0.7186225 | 0.472374 | 0.924838 |
| foxa | 44.20565022 | -0.196905004 | 0.31008 | -0.635014 | 0.52542 | 0.94013 |
| si:ch73-106k19.5 | 1.452168549 | 2.869798567 | 1.9414573 | 1.4781673 | 0.139363 | NA |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| ntng2b | 167.0254802 | 0.272411302 | 0.1762776 | 1.5453536 | 0.122261 | 0.649888 |
| si:ch1073-164k15.3 | 28.45255837 | 0.686663727 | 0.3864334 | 1.7769262 | 0.07558 | 0.535481 |
| si:ch73-222h13.1 | 15.90383068 | -0.108970155 | 0.4888917 | -0.222892 | 0.823619 | 0.982196 |
| akna | 146.0963162 | -0.214485521 | 0.1771617 | -1.210677 | 0.226019 | 0.793556 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| slc5a8 | 31.14300153 | 0.129651533 | 0.3420161 | 0.3790802 | 0.704628 | 0.968134 |
| ifnlr1 | 47.69538431 | -0.161954514 | 0.2861548 | -0.565968 | 0.571415 | 0.949418 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| serpina7 | 5.169526445 | 1.533261189 | 0.8673027 | 1.7678502 | 0.077086 | NA |
| fam183a | 6.955945973 | 1.159178602 | 0.7895726 | 1.468109 | 0.142075 | NA |
| si:ch1073-296d18.1 | 17.30727092 | 0.45369713 | 0.4573409 | 0.9920327 | 0.321182 | 0.868935 |
| CR788255.1 | 0 NA | NA | NA | NA | NA | NA |
| sowahd | 31.60002673 | -0.636711044 | 0.3627744 | -1.755116 | 0.07924 | 0.547489 |
| tmem102 | 198.5501834 | 0.179053858 | 0.1513699 | 1.1828891 | 0.236853 | 0.805854 |
| crygm2d4 | 16608.27778 | 0.033849215 | 0.0709261 | 0.4772462 | 0.633187 | 0.957382 |
| si:dkeyp-69c1.7 | 162.9091876 | 0.237377043 | 0.1935017 | 1.226744 | 0.219919 | 0.786668 |
| figla | 0.655861427 | 0.077956683 | 2.4372582 | 0.0319854 | 0.974484 | NA |
| si:ch211-162i8.4 | 5.515847522 | 0.836438464 | 0.828704 | 1.0093332 | 0.312815 | NA |
| rskra | 73.58000502 | -0.191552751 | 0.2402907 | -0.797171 | 0.425352 | 0.908894 |
| scpp9 | 85.76521317 | -1.361428098 | 0.2668952 | -5.100984 | 3.38E-07 | 3.93E-05 |
| ubxn2a | 101.331343 | -0.626533285 | 0.2007418 | -3.12109 | 0.001802 | 0.049493 |
| cbx7b | 9.758626298 | 0.676438773 | 0.6527119 | 1.0363512 | 0.300038 | NA |
| si:ch211-232b12.5 | 156.6681538 | -0.11775321 | 0.1663587 | -0.707827 | 0.479053 | 0.926978 |
| grip2a | 201.8171055 | 0.028997715 | 0.1533656 | 0.1890757 | 0.850033 | 0.985174 |
| nfil3-6 | 174.2805906 | 0.027775341 | 0.2006888 | 0.1384 | 0.889924 | 0.989291 |
| si:ch73-105b23.6 | 32.655183 | 0.2034583 | 0.4111321 | 0.4948733 | 0.62069 | 0.957354 |
| wdr93 | 28.44065782 | 0.048849817 | 0.3681361 | 0.132695 | 0.894435 | 0.989689 |
| prrg2 | 162.3760545 | -0.277270125 | 0.1798349 | -1.541804 | 0.123121 | 0.651012 |
| rorc | 9.215979461 | -0.782567654 | 0.6461646 | -1.211096 | 0.225858 | NA |
| fibinb | 311.7354528 | 0.53188407 | 0.1323328 | 4.0192928 | 5.84E-05 | 0.003162 |
| rosl | 53.16643949 | -0.936625101 | 0.2889721 | -3.24123 | 0.00119 | 0.035443 |
| cthrcla | 494.7598719 | 0.293131374 | 0.11096 | 2.641774 | 0.008247 | 0.147053 |
| stk39 | 20.67878632 | 0.16185645 | 0.4254221 | 0.3804609 | 0.703603 | 0.968134 |
| akt3b | 289.9156563 | 0.002914768 | 0.1368307 | 0.021302 | 0.983005 | 0.996944 |
| cct2 | 704.2628196 | -0.114442189 | 0.0951045 | -1.203331 | 0.228848 | 0.796558 |
| vwa3a | 10.61477404 | 0.090006542 | 0.6239829 | 0.1442452 | 0.885307 | NA |
| si:ch73-380n15.2 | 175.6769536 | 0.129889201 | 0.1649242 | 0.7875693 | 0.430949 | 0.91234 |
| si:ch73-361p23.3 | 1.782023436 | -2.171780397 | 1.673072 | -1.298079 | 0.19426 | NA |
| kbtbd2 | 472.3696007 | 0.069330695 | 0.1088291 | 0.6370601 | 0.524086 | 0.939336 |
| oit3 | 16.52809919 | 0.20752297 | 0.5091844 | 0.4075596 | 0.683597 | 0.96567 |
| exoc7 | 852.1883353 | -0.101930752 | 0.0900677 | -1.131713 | 0.257755 | 0.825314 |
| si:ch211-161h7.4 | 348.9722677 | -0.121903597 | 0.1179085 | -1.033883 | 0.301191 | 0.856944 |
| ucn3l | 21.34523001 | 0.110461401 | 0.421897 | 0.2618208 | 0.79346 | 0.977937 |
| zgc:100918 | 733.9487463 | 0.021654766 | 0.1098232 | 0.1971784 | 0.843688 | 0.985174 |
| CR847844.1 | 1.818127336 | 1.405806012 | 1.5330681 | 0.9169886 | 0.359149 | NA |
| kcnab2a | 21.5725603 | 0.688107137 | 0.4146107 | 1.6596462 | 0.096986 | 0.593561 |
| znf101l | 18.64680082 | -0.808176515 | 0.4472189 | -1.807116 | 0.070744 | 0.520229 |
| si:ch73-50f9.4 | 57.23230979 | 0.207944596 | 0.2654857 | 0.7832609 | 0.433474 | 0.913667 |
| si:dkeyp-3f10.17 | 6.740896112 | 1.259864322 | 0.8131148 | 1.5494298 | 0.121278 | NA |
| ypel2b | 5.247651235 | -0.575062482 | 0.8656907 | -0.664282 | 0.50651 | NA |
| mtssl1b | 16.00712055 | -0.072570075 | 0.4939936 | -0.146905 | 0.883207 | 0.988706 |
| zgc:63568 | 101.0453617 | -0.176543226 | 0.2171874 | -0.812861 | 0.416298 | 0.906237 |
| BX942819.2 | 0 NA | NA | NA | NA | NA | NA |
| selenoj | 720.1266005 | -0.064186595 | 0.0993714 | -0.645926 | 0.518327 | 0.938676 |

| | | | | | | |
|---------------------|--------------|---------------|------------|------------|-----------|-----------|
| tmem182b | 7. 290337721 | -0. 664438463 | 0. 6955182 | -0. 955314 | 0. 339419 | NA |
| zgc:66473 | 5. 752579326 | -0. 770613114 | 0. 7973876 | -0. 966422 | 0. 333833 | NA |
| si:ch211-202h22. 10 | 38. 9548051 | -0. 250838426 | 0. 3044533 | -0. 823898 | 0. 409998 | 0. 902615 |
| si:dkey-84h14. 1 | 2. 139814685 | 0. 681223001 | 1. 2737661 | 0. 5348101 | 0. 592781 | NA |
| si:dkey-152b24. 8 | 2. 652443197 | -0. 362034262 | 1. 2027068 | -0. 301016 | 0. 763402 | NA |
| armac9 | 230. 921235 | -0. 430539931 | 0. 1799852 | -2. 392085 | 0. 016753 | 0. 238497 |
| crygm2d14 | 9249. 411733 | 0. 03142978 | 0. 0664129 | 0. 4732481 | 0. 636036 | 0. 958465 |
| cebpd | 2311. 029503 | 0. 034571419 | 0. 1051101 | 0. 3289067 | 0. 742226 | 0. 973154 |
| CABZ01038521. 1 | 9. 459662701 | -0. 115823035 | 0. 6455241 | -0. 179425 | 0. 857604 | NA |
| lgals915 | 1. 253241566 | 1. 40838817 | 1. 9820666 | 0. 7105655 | 0. 477354 | NA |
| jac10 | 32. 52142401 | 0. 278038718 | 0. 3393476 | 0. 8193331 | 0. 412596 | 0. 904974 |
| tmem121b | 11. 33214461 | -0. 127066138 | 0. 5681421 | -0. 223652 | 0. 823028 | 0. 982189 |
| crygm2d1 | 14798. 58762 | 0. 144072628 | 0. 0706326 | 2. 0397463 | 0. 041376 | 0. 398326 |
| cbx8a | 187. 6403178 | 0. 11177371 | 0. 1556521 | 0. 7180994 | 0. 472696 | 0. 924838 |
| maza | 451. 3311903 | 0. 219887773 | 0. 1087292 | 2. 0223442 | 0. 043141 | 0. 407581 |
| si:dkey-77f5. 3 | 123. 8016254 | -0. 138002687 | 0. 1880945 | -0. 733688 | 0. 463139 | 0. 922698 |
| scoca | 433. 7330491 | -0. 03186008 | 0. 1082249 | -0. 294388 | 0. 768462 | 0. 975687 |
| unc5c | 157. 2966411 | 0. 02612581 | 0. 170065 | 0. 1536225 | 0. 877907 | 0. 987881 |
| raplab | 398. 9634523 | 0. 188387224 | 0. 1212987 | 1. 5530854 | 0. 120403 | 0. 645215 |
| reep6 | 101. 1233681 | 0. 228958855 | 0. 1991945 | 1. 1494239 | 0. 250381 | 0. 820164 |
| dnah2 | 108. 9308686 | 0. 060303815 | 0. 1973374 | 0. 3055874 | 0. 759919 | 0. 975374 |
| c3a. 2 | 221. 3329422 | 0. 573278714 | 0. 3262447 | 1. 7572047 | 0. 078883 | 0. 547489 |
| si:dkeyp-46h3. 6 | 0. 856702761 | 1. 928463937 | 2. 2075106 | 0. 8735921 | 0. 38234 | NA |
| cepl62 | 97. 23973546 | -0. 033227339 | 0. 2064851 | -0. 160919 | 0. 872157 | 0. 987846 |
| dnah5 | 76. 99153258 | 0. 160130927 | 0. 2376528 | 0. 6738019 | 0. 500437 | 0. 934237 |
| zgc:66473 | 11. 69269184 | -0. 043307099 | 0. 5664547 | -0. 076453 | 0. 939059 | 0. 992857 |
| tcf23 | 0. 847740827 | 0. 553245907 | 2. 099006 | 0. 2635752 | 0. 792107 | NA |
| si:dkey-29b11. 3 | 8. 826545824 | -0. 057083044 | 0. 6360851 | -0. 089741 | 0. 928493 | NA |
| hbbe1. 3 | 1787. 507679 | 0. 122158816 | 0. 1979561 | 0. 6171004 | 0. 537169 | 0. 943336 |
| si:ch73-160p18. 3 | 0. 332645115 | 0. 005883744 | 3. 2924249 | 0. 0017871 | 0. 998574 | NA |
| prr11 | 76. 97187904 | 0. 1179394 | 0. 2248966 | 0. 5244161 | 0. 599989 | 0. 956045 |
| tshz3a | 313. 3604435 | -0. 003042582 | 0. 123176 | -0. 024701 | 0. 980293 | 0. 996879 |
| slc25a34 | 76. 77274565 | -0. 194615702 | 0. 229228 | -0. 849005 | 0. 395879 | 0. 899472 |
| tpml | 3928. 512074 | 0. 00230294 | 0. 0786657 | 0. 029275 | 0. 976645 | 0. 996762 |
| si:ch211-214p13. 3 | 96. 1510072 | -0. 088861446 | 0. 1996792 | -0. 445021 | 0. 656305 | 0. 961833 |
| si:ch73-304f21. 1 | 8. 777672085 | 0. 305327524 | 0. 6825948 | 0. 4473042 | 0. 654655 | NA |
| bean1 | 293. 5467052 | 0. 020078688 | 0. 1313218 | 0. 1528969 | 0. 87848 | 0. 987881 |
| CR790388. 2 | 1. 87546505 | -0. 809447507 | 1. 4633859 | -0. 553133 | 0. 580172 | NA |
| zdhhc5b | 308. 6169862 | 0. 142203556 | 0. 1251271 | 1. 1364729 | 0. 255759 | 0. 824482 |
| taarl2g | 0 | NA | NA | NA | NA | NA |
| serbp1b | 2925. 731199 | -0. 018126716 | 0. 0705826 | -0. 256816 | 0. 797321 | 0. 978577 |
| si:dkey-187j14. 6 | 16. 86032501 | 0. 112918196 | 0. 4557112 | 0. 2477846 | 0. 804301 | 0. 979643 |
| si:ch211-151p13. 8 | 606. 1627725 | 0. 17745348 | 0. 1233776 | 1. 4382961 | 0. 15035 | 0. 698669 |
| RF00017 | 0 | NA | NA | NA | NA | NA |
| spi2 | 4. 308164765 | -2. 028612087 | 1. 0850909 | -1. 869532 | 0. 061549 | NA |
| ponzr4 | 440. 4826405 | 0. 105686116 | 0. 1382 | 0. 764733 | 0. 444431 | 0. 916726 |
| ptp4a2a | 1295. 876221 | 0. 182339075 | 0. 0838978 | 2. 173348 | 0. 029754 | 0. 334058 |
| BX664625. 2 | 0. 333314908 | -1. 858695402 | 3. 5126701 | -0. 52914 | 0. 596708 | NA |
| mmd2a | 8. 511855724 | 1. 028828327 | 0. 6762629 | 1. 5213438 | 0. 128174 | NA |
| pel13 | 433. 9088998 | -0. 184783055 | 0. 1090446 | -1. 694563 | 0. 090158 | 0. 574908 |
| si:ch73-57f22. 2 | 20. 4459659 | -0. 53899987 | 0. 4587831 | -1. 174847 | 0. 240056 | 0. 808111 |
| NDUFB1 | 548. 5915668 | 0. 032921785 | 0. 1142683 | 0. 2881095 | 0. 773263 | 0. 975687 |
| ecscr | 40. 21995559 | 0. 267016341 | 0. 3014936 | 0. 8856452 | 0. 375809 | 0. 894376 |
| si:dkey-21c1. 4 | 27. 7788815 | 0. 175451012 | 0. 369779 | 0. 4744753 | 0. 635161 | 0. 957927 |

| | | | | | | |
|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| RF00001 | | 0 NA | NA | NA | NA | NA |
| F2R (1 of many) | | 0 NA | NA | NA | NA | NA |
| dnajb12b | 382.5130021 | 0.036847302 | 0.1157103 | 0.3184445 | 0.750148 | 0.97419 |
| ccr6a | 12.87452626 | 0.353612587 | 0.544488 | 0.6494405 | 0.516054 | 0.937995 |
| cb1n20 | 87.20577479 | 0.112499272 | 0.2186999 | 0.5144003 | 0.606972 | 0.956718 |
| si:dkey-226110.6 | 206.8004473 | 0.089521476 | 0.1441149 | 0.6211811 | 0.53448 | 0.943336 |
| fam124b | 40.03792744 | 0.410781936 | 0.3044895 | 1.3490843 | 0.17731 | 0.738201 |
| F0704810.1 | 159.0932025 | -0.017643316 | 0.1646245 | -0.107173 | 0.914652 | 0.991119 |
| tradv30.0.6 | | 0 NA | NA | NA | NA | NA |
| si:ch73-322b17.4 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| CU693494.1 | 10.21842666 | -0.359643624 | 0.6999044 | -0.513847 | 0.607359 | NA |
| btbd3b | 207.5541325 | 0.068354822 | 0.188402 | 0.3628136 | 0.716744 | 0.96909 |
| si:dkey-261p22.1 | 5.8927864 | 0.446720255 | 0.7905603 | 0.5650679 | 0.572028 | NA |
| CU693446.1 | 0.831868617 | -0.546811265 | 2.1107396 | -0.259061 | 0.795588 | NA |
| CABZ01045212.1 | 10.84899724 | 0.355900917 | 0.6115016 | 0.5820114 | 0.560559 | NA |
| snip1 | 317.8890299 | 0.024715798 | 0.1298332 | 0.1903658 | 0.849023 | 0.985174 |
| zgc:85936 | 196.7357283 | -0.245566137 | 0.1626663 | -1.509631 | 0.131138 | 0.66388 |
| wu:fe05a04 | 212.9840116 | -0.185016831 | 0.157375 | -1.175643 | 0.239738 | 0.808111 |
| si:ch211-278p9.1 | 11.52525428 | -0.178986107 | 0.593095 | -0.301783 | 0.762817 | 0.975374 |
| znf407 | 152.3902519 | -0.143645324 | 0.1666746 | -0.861831 | 0.388781 | 0.896295 |
| kif3a | 1628.176953 | 0.090706369 | 0.0829844 | 1.0930534 | 0.27437 | 0.839136 |
| BX510934.1 | 16.89402748 | 0.224807782 | 0.4595495 | 0.4891917 | 0.624706 | 0.957354 |
| fbxo42 | 113.5388022 | -0.434584314 | 0.1941255 | -2.238677 | 0.025177 | 0.30686 |
| cdkl | 736.5138539 | 0.010344085 | 0.1012599 | 0.1021538 | 0.918635 | 0.991623 |
| si:ch73-308114.2 | 163.381858 | -0.083423076 | 0.172227 | -0.484379 | 0.628117 | 0.957354 |
| pacrg | 34.22309423 | 0.281280376 | 0.3400839 | 0.8270912 | 0.408185 | 0.90171 |
| si:ch73-105b23.1 | 2.133130573 | 0.201771914 | 1.3031327 | 0.154836 | 0.876951 | NA |
| nek11 | 4.249810494 | 0.450524148 | 1.0664116 | 0.4224674 | 0.672684 | NA |
| hdac11 | 15.67857716 | 0.331922659 | 0.5007924 | 0.6627949 | 0.507462 | 0.935734 |
| nox1 | 149.2083036 | -0.78573669 | 0.1759356 | -4.466048 | 7.97E-06 | 0.000592 |
| zmp:0000000912 | 0.317711143 | 1.810477155 | 3.2978238 | 0.5489915 | 0.583011 | NA |
| zgc:171717 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:dkeyp-98a7.9 | | 0 NA | NA | NA | NA | NA |
| si:ch211-242f23.8 | 27.56695913 | 0.23012938 | 0.3724192 | 0.617931 | 0.536621 | 0.943336 |
| BX469925.1 | 1.709357036 | -1.205057426 | 1.5258566 | -0.789758 | 0.429669 | NA |
| si:ch73-95115.5 | 493.3594883 | -0.231618941 | 0.1079122 | -2.146364 | 0.031844 | 0.34636 |
| si:dkey-51d8.3 | 3.62227701 | -0.532200361 | 0.9933508 | -0.535763 | 0.592123 | NA |
| TENM3 | 370.6835932 | 0.027264651 | 0.1156734 | 0.2357036 | 0.813663 | 0.981081 |
| gpr153 | 150.8999843 | 0.142053409 | 0.1845506 | 0.7697263 | 0.441462 | 0.916336 |
| FP085398.1 | 13.682995 | 0.161930735 | 0.5228372 | 0.3097154 | 0.756777 | 0.975374 |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| maptb | 1877.518662 | 0.010074824 | 0.0865126 | 0.116455 | 0.907292 | 0.990702 |
| BX649485.1 | 6.823171871 | 0.087990584 | 0.722317 | 0.1218171 | 0.903044 | NA |
| si:ch211-173a9.6 | 59.32253671 | -1.092939028 | 0.2559814 | -4.269604 | 1.96E-05 | 0.001237 |
| nitrlm | | 0 NA | NA | NA | NA | NA |
| si:dkey-11o18.5 | 22.30128912 | -0.728176378 | 0.4216398 | -1.727011 | 0.084166 | 0.55797 |
| or128-5 | 6.134276772 | -1.035823825 | 0.7957675 | -1.301666 | 0.19303 | NA |
| hmgn6 | 5429.82089 | -0.025752357 | 0.0790473 | -0.325784 | 0.744588 | 0.974094 |
| si:dkey-33o22.1 | | 0 NA | NA | NA | NA | NA |
| nsf11c | 1722.111664 | 0.079778582 | 0.0849379 | 0.9392576 | 0.347599 | 0.880195 |
| cdh26.2 | 210.7182864 | -0.25933714 | 0.149077 | -1.739619 | 0.081926 | 0.552725 |
| znf1064 | 18.79806935 | -0.045847948 | 0.4874704 | -0.094053 | 0.925067 | 0.992676 |
| runx1 | 24.82580406 | 0.114096777 | 0.3790424 | 0.3010133 | 0.763404 | 0.975374 |
| sept7a | 2382.418282 | -0.039989933 | 0.0749236 | -0.533743 | 0.593519 | 0.954434 |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| ctslb | | 0 NA | NA | NA | NA | NA |
| fasn | 1441.248678 | 0.173573931 | 0.0922252 | 1.8820666 | 0.059827 | 0.478654 |
| si:ch211-219a15.3 | 109.4545796 | 0.266914925 | 0.1881498 | 1.41863 | 0.156007 | 0.706028 |
| si:ch211-248117.3 | 96.76271292 | -0.175844861 | 0.2118338 | -0.830108 | 0.406478 | 0.901305 |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| fibpb | 20.21795946 | -0.23209183 | 0.4271711 | -0.543323 | 0.586908 | 0.953319 |
| si:ch1073-127d16.1 | 8.266698506 | -0.087842991 | 0.6852336 | -0.128194 | 0.897995 | NA |
| BX005012.1 | 9.408882924 | -0.078892919 | 0.6255362 | -0.12612 | 0.899637 | NA |
| si:dkey-1c11.1 | 177.624529 | 0.176224919 | 0.1558304 | 1.1308767 | 0.258107 | 0.825859 |
| klh129 | 270.889091 | -0.111563678 | 0.1303657 | -0.855775 | 0.392122 | 0.897688 |
| atox1 | 403.7352767 | 0.063835085 | 0.1249804 | 0.5107607 | 0.609519 | 0.956718 |
| lpl | 1132.803746 | 0.132066685 | 0.0881513 | 1.4981819 | 0.134086 | 0.669381 |
| si:dkey-256i11.3 | 0.349228403 | 0.005884014 | 3.2372587 | 0.0018176 | 0.99855 | NA |
| gfra3 | 150.5453582 | 0.060373213 | 0.1644665 | 0.3670852 | 0.713555 | 0.96909 |
| dicp3.3 | 3.337412422 | 0.27340267 | 1.0376681 | 0.263478 | 0.792182 | NA |
| FQ311930.1 | 40.43431157 | 0.222871623 | 0.3144428 | 0.7087826 | 0.478459 | 0.926978 |
| si:ch211-226o13.1 | 17.63213105 | 0.055573929 | 0.4596404 | 0.1209074 | 0.903764 | 0.990291 |
| tmprss5 | 65.88073343 | 0.120521874 | 0.2454455 | 0.4910332 | 0.623403 | 0.957354 |
| RF00017 | 372.4928545 | 0.521894221 | 0.4730903 | 1.1031598 | 0.269958 | 0.834705 |
| si:dkey-118k5.3 | 20.27786222 | -0.001429678 | 0.436092 | -0.003278 | 0.997384 | 0.999153 |
| BX664618.1 | 36.38222561 | 0.350120511 | 0.3245301 | 1.0788538 | 0.280653 | 0.84355 |
| asb14b | 64.0503404 | 0.272190548 | 0.2447736 | 1.1120094 | 0.266134 | 0.832153 |
| map4k3a | 323.8420623 | 0.066966915 | 0.1204621 | 0.5559168 | 0.578268 | 0.951052 |
| si:dkey-156k2.8 | 0.648507523 | -0.035374916 | 2.4454854 | -0.014465 | 0.988459 | NA |
| lrrc38b | 46.23758436 | 0.157953266 | 0.3114096 | 0.5072203 | 0.612 | 0.95688 |
| ccser2a | 574.0362397 | -0.018668805 | 0.1048089 | -0.178122 | 0.858627 | 0.985773 |
| CR382337.1 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| rfwd3 | 96.93849795 | -0.143782526 | 0.2045373 | -0.702965 | 0.482078 | 0.928561 |
| CR388166.1 | 4.421089209 | 0.038378663 | 0.9456459 | 0.0405846 | 0.967627 | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| si:ch211-173d10.4 | 1.22848649 | -0.350511206 | 1.8878393 | -0.185668 | 0.852705 | NA |
| pimr190 | 2.783339735 | 0.865732034 | 1.1942046 | 0.7249445 | 0.468486 | NA |
| cnih4 | 43.68803467 | -0.149407543 | 0.2878414 | -0.519062 | 0.603718 | 0.95618 |
| or122-1 | | 0 NA | NA | NA | NA | NA |
| rab27b | 16.57004402 | -0.488989794 | 0.5043293 | -0.969584 | 0.332254 | 0.874653 |
| ponzr10 | 3.940588922 | -1.288292691 | 1.0074578 | -1.278756 | 0.200983 | NA |
| crygm2d10 | 15049.59001 | -0.02846361 | 0.0713641 | -0.398851 | 0.690003 | 0.966857 |
| CABZ01074298.1 | 6.711070674 | -0.258991858 | 0.7819192 | -0.331226 | 0.740474 | NA |
| RF00017 | | 0 NA | NA | NA | NA | NA |
| pum3 | 571.2278186 | 0.008272111 | 0.1033019 | 0.080077 | 0.936176 | 0.992702 |
| tiam2a | 601.5098061 | -0.086686097 | 0.1024032 | -0.846518 | 0.397264 | 0.899672 |
| rnf152 | 83.61470226 | -0.126153805 | 0.2228802 | -0.566016 | 0.571383 | 0.949418 |
| si:dkeyp-110a12.4 | 244.5770407 | -0.079398864 | 0.1406703 | -0.564432 | 0.57246 | 0.949494 |
| si:ch211-22k7.9 | 13.4100806 | -0.74703608 | 0.5357715 | -1.394318 | 0.163221 | 0.718029 |
| si:dkey-54n8.2 | 308.3467512 | 0.085389256 | 0.1269164 | 0.6727995 | 0.501075 | 0.934477 |
| pdyn | 69.14122678 | -0.085024918 | 0.2393742 | -0.355197 | 0.722442 | 0.970375 |
| tnfrsf11a | 206.3054297 | -0.099706806 | 0.1481331 | -0.673089 | 0.50089 | 0.934309 |
| FP236735.1 | 14.87095897 | -0.978573797 | 0.5319915 | -1.839454 | 0.065848 | 0.501768 |
| mfrp | 12.2901277 | 0.248547484 | 0.5521687 | 0.4501297 | 0.652617 | 0.960708 |
| si:dkey-30g5.1 | | 0 NA | NA | NA | NA | NA |
| agap3 | 32.98574138 | 0.080545988 | 0.3626177 | 0.2221237 | 0.824218 | 0.982196 |
| si:dkey-211g8.9 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| bcl3 | 59.7367174 | -0.693166273 | 0.2669927 | -2.596199 | 0.009426 | 0.162646 |
| si:ch211-113p18.3 | 194.1484628 | 0.236698279 | 0.1555713 | 1.5214782 | 0.12814 | 0.658954 |

| | | | | | | |
|---------------------|-------------|--------------|-----------|-----------|----------|----------|
| si:dkey-33c14.6 | 32.92362255 | 0.231935805 | 0.3523903 | 0.6581787 | 0.510423 | 0.936253 |
| cntn1a | 759.0471969 | -0.129017373 | 0.0988181 | -1.305605 | 0.191687 | 0.755945 |
| plekhn1 | 153.0318917 | -0.034034311 | 0.1909282 | -0.178257 | 0.858521 | 0.985773 |
| si:ch211-180a12.2 | 410.434814 | 0.011804011 | 0.1205149 | 0.0979465 | 0.921975 | 0.992224 |
| cd44a | 51.29592072 | -0.205504394 | 0.2706261 | -0.759366 | 0.447633 | 0.917154 |
| SLC2A13 (1 of many) | 10.76916122 | -0.281723734 | 0.636112 | -0.442884 | 0.65785 | NA |
| si:ch211-11k18.4 | 637.4466493 | 0.163603615 | 0.1133245 | 1.4436737 | 0.148831 | 0.69636 |
| adgrf3a | 2.178953298 | -0.191895525 | 1.2772276 | -0.150244 | 0.880572 | NA |
| eevs | 665.8896705 | 0.763546197 | 0.1265511 | 6.0335006 | 1.60E-09 | 3.17E-07 |
| rnf216 | 342.1665194 | -0.160755851 | 0.1186449 | -1.354933 | 0.175439 | 0.736233 |
| h2afy2 | 5107.51857 | -0.020711829 | 0.0653286 | -0.317041 | 0.751213 | 0.97419 |
| CU896691.1 | 1.975273416 | 0.957536214 | 1.3943287 | 0.6867364 | 0.492249 | NA |
| ndufa412b | 5.250292201 | 0.143719652 | 0.8619905 | 0.16673 | 0.867583 | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| il4 | 3.364537935 | 0.032386783 | 1.257576 | 0.0257533 | 0.979454 | NA |
| dact3a | 133.6904461 | 0.056533437 | 0.1899179 | 0.2976731 | 0.765953 | 0.975374 |
| psme4a | 336.6842511 | 0.12518099 | 0.1215304 | 1.0300386 | 0.302992 | 0.85729 |
| tmem240a | 75.53685647 | 0.09851911 | 0.2640094 | 0.3731651 | 0.709026 | 0.968664 |
| nitr10a | | 0 NA | NA | NA | NA | NA |
| plcel | 293.8239964 | -0.025851699 | 0.1243853 | -0.207836 | 0.835357 | 0.984089 |
| nudt9 | 385.2515744 | -0.053316281 | 0.1159507 | -0.459818 | 0.645647 | 0.96029 |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| zgc:174972 | 46.56421336 | -0.362831248 | 0.2947023 | -1.231179 | 0.218256 | 0.785404 |
| cdk4 | 312.3506211 | -0.327941271 | 0.1274063 | -2.57398 | 0.010054 | 0.171232 |
| CR933559.1 | 23.92677322 | 0.000657247 | 0.4002977 | 0.0016419 | 0.99869 | 0.999398 |
| pde8a | 276.2452899 | 0.08857997 | 0.1285589 | 0.6890224 | 0.490809 | 0.931926 |
| RF00017 | | 0 NA | NA | NA | NA | NA |
| CABZ01044053.1 | 2023.866455 | -0.105403869 | 0.0762762 | -1.381871 | 0.167011 | 0.723594 |
| rac1b | 240.3935131 | 0.06219518 | 0.1503855 | 0.4135717 | 0.679188 | 0.965257 |
| she | 67.04419946 | -0.054686414 | 0.2415654 | -0.226383 | 0.820903 | 0.981628 |
| avd | 1.386302362 | -1.54102959 | 1.8481342 | -0.83383 | 0.404377 | NA |
| rpap3 | 333.9372563 | -0.09482772 | 0.1206498 | -0.785975 | 0.431882 | 0.912787 |
| or122-2 | | 0 NA | NA | NA | NA | NA |
| CU657980.2 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CT573433.1 | 172.7304087 | 0.152108872 | 0.1666644 | 0.9126657 | 0.361418 | 0.885719 |
| slc6a11b | 414.4943067 | 0.150058667 | 0.1343095 | 1.1172605 | 0.263883 | 0.830245 |
| igsf5a | 35.80556382 | -0.377082166 | 0.3267025 | -1.154206 | 0.248416 | 0.817939 |
| znf365 | 1.80091554 | 2.1734762 | 1.5664644 | 1.3875044 | 0.165288 | NA |
| bada | 239.6431377 | -0.211973456 | 0.1398942 | -1.515242 | 0.129711 | 0.662411 |
| si:ch211-114c17.1 | 39.73266339 | 0.030365261 | 0.3375026 | 0.0899705 | 0.928311 | 0.992702 |
| pabpn11 | 1.812633453 | 0.287259488 | 1.3842345 | 0.2075223 | 0.835602 | NA |
| BX664625.3 | 8.024057105 | 0.64559331 | 0.6934841 | 0.9309418 | 0.351884 | NA |
| znf1057 | 17.14565997 | -0.1027025 | 0.4615599 | -0.222512 | 0.823916 | 0.982196 |
| wu:fc23c09 | 2.975917756 | 1.763331744 | 1.309229 | 1.3468475 | 0.178029 | NA |
| CYP27A1 (1 of many) | 11.91416523 | -0.738651817 | 0.557687 | -1.324492 | 0.18534 | 0.74928 |
| si:ch211-114113.12 | 2.508059078 | -1.026597373 | 1.2227302 | -0.839594 | 0.401136 | NA |
| mhclzfa | 32.77901528 | 0.328154813 | 0.3730755 | 0.8795935 | 0.37908 | 0.895192 |
| si:dkey-26c10.5 | 96.03525939 | -0.119046125 | 0.2095327 | -0.568151 | 0.569933 | 0.948983 |
| si:ch73-125k17.2 | 1.148092083 | -0.385892966 | 1.819804 | -0.212052 | 0.832067 | NA |
| rp135a | 14335.13132 | -0.270196581 | 0.075386 | -3.584173 | 0.000338 | 0.013009 |
| si:dkey-106g10.7 | 189.5208551 | -0.021427166 | 0.1563747 | -0.137024 | 0.891011 | 0.989291 |
| CU929391.1 | 24.75459525 | 0.251861141 | 0.4081559 | 0.6170709 | 0.537188 | 0.943336 |
| si:dkeyp-27c8.2 | 112.7029556 | 0.11801254 | 0.194585 | 0.6064832 | 0.544194 | 0.945438 |
| si:ch73-139j3.4 | 16.30859929 | -0.52844234 | 0.4825349 | -1.095138 | 0.273456 | 0.838214 |

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|---------------------|--------------|---------------|------------|------------|-----------|-----------|
| fgf18a | 91. 97880793 | 0. 104948654 | 0. 2209417 | 0. 4750062 | 0. 634783 | 0. 9578 |
| AL935044. 1 | 0. 356300316 | 0. 005884122 | 3. 214964 | 0. 0018302 | 0. 99854 | NA |
| pimr70 | 3. 541940341 | 1. 056789025 | 1. 1276868 | 0. 9371299 | 0. 348692 | NA |
| pimr187 | 2. 018457259 | 0. 498928664 | 1. 4424654 | 0. 345886 | 0. 729428 | NA |
| CR759879. 1 | 62. 05043959 | -0. 088168576 | 0. 2624315 | -0. 335968 | 0. 736895 | 0. 972535 |
| usp43b | 52. 74397427 | -0. 066063372 | 0. 2747702 | -0. 240431 | 0. 809996 | 0. 980764 |
| fam110b | 691. 9362604 | 0. 041728494 | 0. 1026844 | 0. 4063761 | 0. 684466 | 0. 966043 |
| uspl8 | 5. 137081238 | -0. 045785776 | 0. 881357 | -0. 051949 | 0. 958569 | NA |
| tmed6 | 27. 06011307 | -0. 695389991 | 0. 3685649 | -1. 88675 | 0. 059194 | 0. 475427 |
| si:ch211-214c20. 1 | 3. 372114748 | -1. 563192064 | 1. 125122 | -1. 389353 | 0. 164725 | NA |
| sik3 | 971. 5927354 | -0. 029024048 | 0. 1082533 | -0. 268112 | 0. 788613 | 0. 976703 |
| si:dkey-66i24. 8 | 19. 60986891 | -0. 112008102 | 0. 4365017 | -0. 256604 | 0. 797484 | 0. 978577 |
| kdm6ba | 2840. 183601 | -0. 007113863 | 0. 0714031 | -0. 09963 | 0. 920638 | 0. 992118 |
| pfn1 | 6112. 713759 | 0. 109481567 | 0. 1872448 | 0. 5846975 | 0. 558751 | 0. 948478 |
| KCNIP4 | 24. 31385666 | -0. 382655868 | 0. 3957297 | -0. 966963 | 0. 333563 | 0. 874933 |
| gstm. 3 | 492. 3162878 | -0. 056163317 | 0. 1111754 | -0. 505178 | 0. 613434 | 0. 95688 |
| fut8b | 58. 85097309 | 0. 179855447 | 0. 2623807 | 0. 6854752 | 0. 493044 | 0. 931926 |
| pkd112b | | 0 NA | NA | NA | NA | NA |
| znf217 | 502. 4821982 | -0. 185370417 | 0. 1084154 | -1. 709816 | 0. 0873 | 0. 566175 |
| adrb2a | 71. 54771905 | -0. 064175706 | 0. 2335869 | -0. 27474 | 0. 783516 | 0. 97627 |
| si:dkey-30c15. 10 | 274. 013673 | -0. 034777961 | 0. 1348022 | -0. 257993 | 0. 796413 | 0. 978518 |
| pcdh2aa15 | 1. 143205378 | 2. 461556447 | 2. 0540176 | 1. 1984106 | 0. 230757 | NA |
| adgrg2a | 219. 2532913 | -0. 178504075 | 0. 1438515 | -1. 240892 | 0. 214646 | 0. 782493 |
| hsd17b7 | 213. 2602661 | 0. 07357461 | 0. 166111 | 0. 4429242 | 0. 657821 | 0. 962538 |
| sema4gb | 16. 38259583 | -0. 10877863 | 0. 4705736 | -0. 231162 | 0. 817189 | 0. 981594 |
| atg4db | 8. 686453556 | -0. 048120983 | 0. 6717779 | -0. 071632 | 0. 942895 | NA |
| smoc2 | 237. 8015801 | 0. 181763161 | 0. 1396554 | 1. 301512 | 0. 193083 | 0. 756795 |
| CABZ01056629. 1 | 10. 44188282 | -0. 622154788 | 0. 6257706 | -0. 994222 | 0. 320115 | NA |
| BX470188. 1 | 6. 784777867 | -0. 944449686 | 0. 7602699 | -1. 242256 | 0. 214142 | NA |
| si:ch211-112g6. 4 | 5. 310812772 | 0. 587587712 | 0. 9414443 | 0. 6241344 | 0. 532539 | NA |
| ablim3 | 647. 9477619 | 0. 096297594 | 0. 0966342 | 0. 996517 | 0. 318999 | 0. 867746 |
| ciartb | 288. 1368731 | 0. 168323807 | 0. 1424519 | 1. 1816185 | 0. 237357 | 0. 806412 |
| tp53inp2 | 481. 6864732 | 0. 129774933 | 0. 1053067 | 1. 2323516 | 0. 217818 | 0. 785256 |
| mpped1 | 416. 0864688 | -0. 192799872 | 0. 1207963 | -1. 596074 | 0. 110472 | 0. 62503 |
| CR381544. 1 | 80. 519926 | -0. 320747463 | 0. 2186903 | -1. 466675 | 0. 142465 | 0. 684592 |
| si:ch211-135n15. 3 | 1. 319972715 | -1. 5487922 | 1. 7260877 | -0. 897285 | 0. 369567 | NA |
| v2rh13 | 0. 182570949 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| si:ch211-168f7. 5 | 500. 8876727 | -0. 207987332 | 0. 1072137 | -1. 939932 | 0. 052388 | 0. 449228 |
| CABZ01077220. 1 | 0. 31598276 | 0. 005883445 | 3. 3523626 | 0. 001755 | 0. 9986 | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| sh3d19 | 330. 1080221 | -0. 021735188 | 0. 1336938 | -0. 162574 | 0. 870854 | 0. 987683 |
| shisa8b | 65. 70824551 | 0. 038419405 | 0. 2527097 | 0. 1520298 | 0. 879163 | 0. 987881 |
| rcelb | 8. 724683509 | 0. 700549036 | 0. 6480696 | 1. 0809781 | 0. 279707 | NA |
| si:dkey-23a23. 3 | 67. 42933008 | 0. 177393541 | 0. 2448538 | 0. 7244877 | 0. 468766 | 0. 924328 |
| zmp:0000000924 | 2. 87064792 | 0. 922616524 | 1. 1908526 | 0. 7747529 | 0. 438486 | NA |
| fam78ab | 8. 601731506 | 0. 681106018 | 0. 6694076 | 1. 0174758 | 0. 308927 | NA |
| F0082877. 1 | 321. 5490174 | 0. 015360652 | 0. 1236634 | 0. 1242134 | 0. 901146 | 0. 990121 |
| tmem163b | 89. 04464877 | 0. 025054237 | 0. 2165303 | 0. 1157078 | 0. 907884 | 0. 990702 |
| shisa2b | 39. 77079109 | 0. 255428692 | 0. 3072523 | 0. 831332 | 0. 405786 | 0. 901305 |
| si:ch211-217k17. 12 | 0. 643404698 | 1. 436206627 | 2. 5980397 | 0. 552804 | 0. 580398 | NA |
| kans11b | 1288. 127286 | -0. 128643553 | 0. 0850459 | -1. 512636 | 0. 130372 | 0. 662797 |
| si:dkey-16p6. 1 | 6. 588857487 | 0. 002581521 | 0. 7442359 | 0. 0034687 | 0. 997232 | NA |
| thoc1 | 973. 9314646 | -0. 04685456 | 0. 0881577 | -0. 531486 | 0. 595082 | 0. 954434 |
| si:ch1073-303k11. 2 | 402. 793228 | 0. 183701468 | 0. 1149198 | 1. 5985193 | 0. 109927 | 0. 624178 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| lgals17 | | 0 NA | NA | NA | NA | NA |
| si:dkey-83f18.7 | | 0 NA | NA | NA | NA | NA |
| RF00017 | | 0 NA | NA | NA | NA | NA |
| smoc1 | 7.915448443 | 0.117724636 | 0.6840552 | 0.1720982 | 0.86336 | NA |
| CABZ01038494.1 | 58.06083038 | 0.217237827 | 0.2597657 | 0.8362839 | 0.402995 | 0.90084 |
| gig2p | 6.78446789 | -0.835155927 | 0.7911111 | -1.055675 | 0.291117 | NA |
| zgc:174356 | 11.59103598 | -0.387136125 | 0.5743462 | -0.674047 | 0.500282 | 0.934224 |
| si:ch211-181d7.1 | 0.476747244 | 2.393381959 | 3.0525537 | 0.7840589 | 0.433006 | NA |
| si:ch211-190p8.2 | 0.838940531 | -0.561526863 | 2.0217856 | -0.277738 | 0.781213 | NA |
| susd5 | 24.49002404 | 0.190836622 | 0.3870781 | 0.4930183 | 0.622 | 0.957354 |
| si:ch73-248e21.5 | 12.92800852 | -0.052027582 | 0.5560998 | -0.093558 | 0.92546 | 0.992676 |
| dre-mir-194b | 0.340386822 | -1.882368278 | 3.2159502 | -0.585323 | 0.558331 | NA |
| foxj1b | 60.93802685 | 0.179265743 | 0.2486863 | 0.7208508 | 0.471001 | 0.924838 |
| doc2b | 349.351231 | 0.197253827 | 0.1341868 | 1.4699947 | 0.141563 | 0.68225 |
| si:ch211-235i11.4 | 193.6211492 | -0.158733351 | 0.156164 | -1.016453 | 0.309414 | 0.861497 |
| si:dkey-254e13.6 | 9.470419629 | 0.359544146 | 0.6337294 | 0.5673465 | 0.570479 | NA |
| mrtfba | 28.39445087 | 0.020896212 | 0.3867493 | 0.0540304 | 0.956911 | 0.994543 |
| notch1 | 89.87792377 | -0.234872567 | 0.2265193 | -1.036876 | 0.299793 | 0.855995 |
| si:ch211-103f14.3 | 173.9066131 | 0.136776864 | 0.156825 | 0.8721624 | 0.38312 | 0.895192 |
| si:ch73-302o18.2 | 5.50945219 | -0.597050631 | 0.8172775 | -0.730536 | 0.465063 | NA |
| ubap2a | 2998.346662 | -0.025063794 | 0.0980927 | -0.255511 | 0.798328 | 0.978884 |
| mir1-1 | 1.852202149 | 0.869537402 | 1.455503 | 0.5974137 | 0.550231 | NA |
| si:ch211-132e22.4 | | 0 NA | NA | NA | NA | NA |
| hbael.3 | 45.51589313 | 0.450693187 | 0.3155609 | 1.4282287 | 0.153226 | 0.702508 |
| znf1028 | 29.22421218 | 0.008466448 | 0.3630538 | 0.0233201 | 0.981395 | 0.996944 |
| alx4a | 294.4078855 | -0.260468049 | 0.1289996 | -2.019138 | 0.043473 | 0.409154 |
| tmem145 | 130.8525615 | -0.004561832 | 0.1840864 | -0.024781 | 0.98023 | 0.996879 |
| prrt4 | 36.0682306 | 0.227353948 | 0.3243583 | 0.7009346 | 0.483344 | 0.92946 |
| miip | 70.05514283 | -0.235699099 | 0.2491541 | -0.945997 | 0.34415 | 0.878434 |
| spl | 138.3719492 | -0.127838254 | 0.1816768 | -0.703657 | 0.481646 | 0.928386 |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| tmem117 | 32.77236077 | -0.065241492 | 0.3415288 | -0.191028 | 0.848504 | 0.985174 |
| acad1 | 967.1502844 | -0.085546321 | 0.0925556 | -0.92427 | 0.355346 | 0.882347 |
| CR925817.1 | 9.04655815 | 0.462401643 | 0.6348978 | 0.7283088 | 0.466425 | NA |
| zgc:77938 | 752.1752866 | -0.691079071 | 0.0913957 | -7.561392 | 3.99E-14 | 1.75E-11 |
| si:cabz01069013.3 | 12.6317581 | 0.150832601 | 0.5569612 | 0.2708135 | 0.786535 | 0.976575 |
| RF00001 | 0.948068633 | 0.012260313 | 2.0842059 | 0.0058825 | 0.995306 | NA |
| rp111b | 22.74167111 | 0.645727789 | 0.4140731 | 1.5594537 | 0.118889 | 0.642772 |
| znf1000 | 2.90133375 | 0.897359733 | 1.141004 | 0.786465 | 0.431595 | NA |
| cox5aa | 2758.048206 | -0.084925514 | 0.0835115 | -1.016932 | 0.309186 | 0.861381 |
| nme4 | 33.7123717 | -0.454949167 | 0.3331028 | -1.365792 | 0.172004 | 0.730972 |
| tmem1071 | 63.61567256 | -0.047911535 | 0.2495085 | -0.192024 | 0.847724 | 0.985174 |
| rubcn1 | 15.77149531 | 0.42698411 | 0.5027557 | 0.8492874 | 0.395721 | 0.899378 |
| si:ch211-171h4.7 | | 0 NA | NA | NA | NA | NA |
| notum2 | 141.4584381 | -0.267791424 | 0.179295 | -1.49358 | 0.135285 | 0.670689 |
| si:ch211-66k16.28 | 19.38065256 | 0.554573575 | 0.4538847 | 1.2218379 | 0.221769 | 0.78829 |
| si:ch211-189a15.5 | 41.9254904 | 0.048118481 | 0.303741 | 0.1584195 | 0.874126 | 0.987881 |
| gm2a | 248.3092577 | 0.061362829 | 0.1507848 | 0.4069563 | 0.68404 | 0.965679 |
| ssh2a | 564.2585178 | 0.204513041 | 0.120994 | 1.6902736 | 0.090976 | 0.578069 |
| si:dkey-190j3.3 | | 0 NA | NA | NA | NA | NA |
| selenol | 6.987361973 | -0.446046544 | 0.8493687 | -0.525151 | 0.599478 | NA |
| si:dkey-24i24.3 | 13.27145411 | 0.295168525 | 0.5514043 | 0.5353032 | 0.59244 | 0.954434 |
| or111-7 | 1.554290354 | 1.886980028 | 1.746668 | 1.0803312 | 0.279995 | NA |
| taar12j | 0.820749213 | -1.887809118 | 2.2327507 | -0.845508 | 0.397827 | NA |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| CLPB | 16.16167003 | 0.135429874 | 0.4944832 | 0.2738816 | 0.784176 | 0.97627 |
| tmx3b | 192.8224954 | 0.418180774 | 0.1526119 | 2.7401578 | 0.006141 | 0.118585 |
| pcdhlgb9 | 29.74770724 | 0.072102842 | 0.3666723 | 0.1966411 | 0.844108 | 0.985174 |
| kenjla.6 | 203.478317 | -0.123763814 | 0.1783825 | -0.693811 | 0.487801 | 0.931809 |
| CR385078.1 | 2.519419188 | -0.595573162 | 1.2058478 | -0.493904 | 0.621374 | NA |
| cntrl | 151.6370058 | -0.16012445 | 0.1756177 | -0.911779 | 0.361885 | 0.885944 |
| si:ch211-149k12.3 | 1.330260688 | -0.014903156 | 1.6527429 | -0.009017 | 0.992805 | NA |
| BX571757.1 | 16.16556577 | -0.011524947 | 0.4782868 | -0.024096 | 0.980776 | 0.996944 |
| pimr137 | 1.139799941 | -2.459945758 | 2.024345 | -1.215181 | 0.224297 | NA |
| fam217b | 19.80228731 | 0.175433404 | 0.4411786 | 0.3976472 | 0.69089 | 0.967157 |
| znf982 | 26.64305493 | -0.214457647 | 0.3775061 | -0.568091 | 0.569973 | 0.948983 |
| and1 | 1933.509061 | 0.677599747 | 0.0952072 | 7.117103 | 1.10E-12 | 3.82E-10 |
| st6gal2b | 54.56360143 | 0.232474466 | 0.2649144 | 0.8775455 | 0.38019 | 0.895192 |
| acot17 | 49.85022772 | 0.155011097 | 0.2991676 | 0.5181414 | 0.60436 | 0.95651 |
| ponzr2 | 37.98500978 | 0.164477448 | 0.3164624 | 0.5197378 | 0.603246 | 0.956045 |
| myct1b | 10.54609671 | -0.514816618 | 0.6288708 | -0.818637 | 0.412994 | NA |
| si:ch1073-390k14.1 | 223.3194891 | 0.256803051 | 0.1492053 | 1.7211388 | 0.085226 | 0.560519 |
| si:dkey-23f9.13 | | 0 NA | NA | NA | NA | NA |
| si:dkey-1c7.2 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| tmem104 | 213.8421793 | 0.226092951 | 0.1462396 | 1.5460442 | 0.122094 | 0.649408 |
| vps72b | 79.88555936 | -0.101077067 | 0.2286543 | -0.442052 | 0.658452 | 0.962545 |
| si:ch211-151o1.4 | 12.85977958 | 0.359036617 | 0.5322299 | 0.6745893 | 0.499937 | 0.934224 |
| f10 | 402.7238098 | 0.361314151 | 0.1242429 | 2.908127 | 0.003636 | 0.081517 |
| si:ch73-352p18.4 | 197.4588787 | 0.205419487 | 0.1528009 | 1.3443605 | 0.178832 | 0.739486 |
| ponzr3 | 485.3261479 | 0.110089787 | 0.1547609 | 0.7113538 | 0.476865 | 0.926826 |
| pxna | 788.3807524 | -0.040724712 | 0.0980148 | -0.415495 | 0.677779 | 0.965257 |
| CR759791.1 | 0.507044276 | -2.459587493 | 2.7586536 | -0.89159 | 0.372613 | NA |
| chst1 | 368.69559 | 0.169436825 | 0.1234228 | 1.3728168 | 0.169809 | 0.726965 |
| crispld2 | 63.79642415 | -0.122406651 | 0.2476563 | -0.49426 | 0.621122 | 0.957354 |
| si:dkey-175m17.6 | 16.21561411 | -0.328427704 | 0.4871587 | -0.67417 | 0.500203 | 0.934224 |
| si:ch211-153b23.7 | 15.4442536 | 0.013504366 | 0.5065302 | 0.0266605 | 0.97873 | 0.996762 |
| ltb4r2a | 33.42944478 | -0.120624195 | 0.3447596 | -0.349879 | 0.726429 | 0.970402 |
| si:ch211-152l15.2 | 6.880892859 | 0.372141992 | 0.745793 | 0.4989883 | 0.617788 | NA |
| rexo4 | 141.2754933 | 0.075698954 | 0.1937297 | 0.3907451 | 0.695986 | 0.96736 |
| si:ch211-142d6.2 | | 0 NA | NA | NA | NA | NA |
| arhgef101a | 263.364477 | 0.00143034 | 0.1379205 | 0.0103708 | 0.991725 | 0.997679 |
| BX000363.1 | 2.676434871 | 0.357483988 | 1.2400889 | 0.2882729 | 0.773138 | NA |
| adcy1b | 44.53658204 | -0.060126415 | 0.3102154 | -0.193822 | 0.846316 | 0.985174 |
| BX927260.1 | 56.79185199 | 0.055425704 | 0.277209 | 0.1999419 | 0.841526 | 0.985174 |
| cdca9 | 3.019501859 | 0.018473864 | 1.1013934 | 0.0167732 | 0.986618 | NA |
| znf1115 | 4.086007046 | 0.106172476 | 0.9419315 | 0.1127178 | 0.910254 | NA |
| grn2 | 0.654761552 | -2.837720206 | 2.3559398 | -1.204496 | 0.228398 | NA |
| CU855711.1 | | 0 NA | NA | NA | NA | NA |
| si:ch211-208k15.1 | 146.6255172 | 0.149165146 | 0.1681237 | 0.8872344 | 0.374953 | 0.894316 |
| si:ch211-212k18.6 | 9.672279932 | -0.049135852 | 0.628513 | -0.078178 | 0.937687 | NA |
| si:ch211-209f22.3 | | 0 NA | NA | NA | NA | NA |
| lman21b | 605.1100872 | 0.110439319 | 0.1161433 | 0.9508881 | 0.341661 | 0.878134 |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| zmp:0000000936 | 24.42219217 | 0.108856845 | 0.3812581 | 0.2855201 | 0.775246 | 0.975687 |
| hh1a2b.1 | 19.35084431 | 0.564567956 | 0.4446176 | 1.2697831 | 0.204162 | 0.771764 |
| si:dkey-192d15.3 | | 0 NA | NA | NA | NA | NA |
| hist1h2a11 | 5.271727317 | 1.309230631 | 0.8970595 | 1.4594691 | 0.144436 | NA |
| si:ch211-201o1.1 | 4.556620613 | 0.828187869 | 0.9074315 | 0.9126726 | 0.361415 | NA |
| ddias | 28.14020217 | -0.003921497 | 0.3614851 | -0.010848 | 0.991344 | 0.997679 |

| | | | | | | |
|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| dcst2 | 4.132458278 | -0.345974922 | 0.9248943 | -0.37407 | 0.708352 | NA |
| pdzd8 | 381.5463512 | 0.165764923 | 0.118399 | 1.4000538 | 0.161497 | 0.715364 |
| tlr20.2 | 0.31759079 | 1.807926197 | 3.579045 | 0.5051421 | 0.613459 | NA |
| ngfra | 613.8331918 | 0.085245848 | 0.0986277 | 0.8643197 | 0.387412 | 0.895778 |
| tnfaip813 | 203.4701354 | 0.0380002 | 0.1533321 | 0.2478293 | 0.804266 | 0.979643 |
| lgalsl11 | 699.6634884 | -0.029755675 | 0.2606806 | -0.114146 | 0.909122 | 0.990702 |
| si:ch211-226h8.14 | 0.491320158 | 0.8528132 | 2.8656354 | 0.2976 | 0.766008 | NA |
| ecrg4b | 168.201547 | 0.522039969 | 0.1907784 | 2.7363688 | 0.006212 | 0.119726 |
| zmp:0000000937 | 3.343546099 | -0.292492952 | 1.0269297 | -0.284823 | 0.77578 | NA |
| si:ch211-250n8.1 | 6.796843014 | 1.268606433 | 0.7648388 | 1.6586585 | 0.097185 | NA |
| CR382327.1 | 7.151665102 | -0.39154003 | 0.738056 | -0.530502 | 0.595764 | NA |
| hmgcl11 | 8.20791631 | 0.82767387 | 0.7136531 | 1.1597706 | 0.246142 | NA |
| BX322530.1 | 252.6383924 | 0.05107629 | 0.1670672 | 0.305723 | 0.759816 | 0.975374 |
| zgc:174193 | 0 | NA | NA | NA | NA | NA |
| MFAP4 (1 of many) | 48.86160784 | 0.670485044 | 0.2883064 | 2.3255993 | 0.02004 | 0.266383 |
| otogl | 116.1089347 | 0.187618188 | 0.1834772 | 1.0225694 | 0.306511 | 0.860027 |
| cfap299 | 12.83138865 | -0.682708382 | 0.5375964 | -1.269927 | 0.20411 | 0.771764 |
| si:ch211-224110.4 | 6.396002561 | 0.948442407 | 0.776038 | 1.2221598 | 0.221647 | NA |
| lyplal1 | 48.09636823 | 0.167215814 | 0.2780674 | 0.60135 | 0.547607 | 0.945581 |
| CABZ01059406.1 | 0.506374483 | -0.940103506 | 2.8355584 | -0.331541 | 0.740236 | NA |
| RF00017 | 0 | NA | NA | NA | NA | NA |
| mast1b | 589.5237415 | 0.038900293 | 0.1119301 | 0.3475408 | 0.728185 | 0.970402 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| si:ch73-180n10.1 | 2.796142981 | 0.137882125 | 1.1306565 | 0.1219487 | 0.90294 | NA |
| plcxd1 | 139.0163619 | 0.086004825 | 0.1740181 | 0.4942293 | 0.621144 | 0.957354 |
| xyx1l1 | 20.41441983 | -0.089654067 | 0.432002 | -0.207532 | 0.835595 | 0.984089 |
| fgd5a | 308.9290861 | -0.185857551 | 0.1238011 | -1.501259 | 0.133289 | 0.667628 |
| nes | 279.8557405 | -0.125731248 | 0.1293003 | -0.972397 | 0.330853 | 0.87417 |
| klh122 | 146.4347464 | -0.16381328 | 0.1783668 | -0.918407 | 0.358406 | 0.884398 |
| prox3 | 385.0067501 | 0.102819455 | 0.1156421 | 0.8891181 | 0.37394 | 0.893677 |
| ppplr3ab | 103.7373279 | 0.203428089 | 0.2099043 | 0.9691471 | 0.332472 | 0.874653 |
| trabd2b | 259.8978067 | 0.104749106 | 0.1411677 | 0.7420191 | 0.458076 | 0.921978 |
| wdr59 | 278.0126188 | -0.086095376 | 0.1345879 | -0.639696 | 0.52237 | 0.939056 |
| CR318646.1 | 0 | NA | NA | NA | NA | NA |
| zgc:174288 | 38.30648974 | -0.574178755 | 0.3193289 | -1.79808 | 0.072164 | 0.525397 |
| crygm2d3 | 14135.48586 | 0.087352963 | 0.0733771 | 1.1904662 | 0.233863 | 0.802571 |
| citb | 20.71113344 | 0.23303156 | 0.4487426 | 0.519299 | 0.603552 | 0.956045 |
| paqr8 | 18.39934308 | -0.203928802 | 0.4544736 | -0.448714 | 0.653638 | 0.961112 |
| si:dkey-81j8.6 | 2.263515702 | 0.416243913 | 1.2766289 | 0.3260493 | 0.744387 | NA |
| si:ch211-237i5.4 | 34.93221169 | 0.474379005 | 0.3335759 | 1.4221021 | 0.154997 | 0.704624 |
| efs | 611.6961666 | 0.082280846 | 0.1021631 | 0.8053872 | 0.420596 | 0.90651 |
| si:ch211-76m11.5 | 19.93551994 | -0.127886828 | 0.4318894 | -0.29611 | 0.767146 | 0.975687 |
| BX571952.1 | 94.67370008 | -0.042450512 | 0.2028224 | -0.209299 | 0.834215 | 0.983765 |
| dnal4b | 94.16545713 | 0.087188271 | 0.2191576 | 0.3978337 | 0.690753 | 0.967157 |
| KCNB2 | 3.019271197 | -1.008811366 | 1.1344165 | -0.889278 | 0.373854 | NA |
| deaf1 | 115.6697038 | 0.206652456 | 0.1895864 | 1.0900171 | 0.275706 | 0.839541 |
| or111-4 | 1.543840742 | 0.401158302 | 1.5787306 | 0.2541018 | 0.799417 | NA |
| znf1089 | 3.344215891 | -0.580218537 | 1.0458694 | -0.554772 | 0.579051 | NA |
| taar14f | 0.341486697 | 1.892317624 | 3.2124068 | 0.5890654 | 0.555817 | NA |
| znf1021 | 15.75870653 | 0.416948964 | 0.503386 | 0.8282887 | 0.407507 | 0.901305 |
| stxbp6 | 341.4998248 | -0.292789448 | 0.1550324 | -1.888569 | 0.05895 | 0.475038 |
| si:ch211-135n15.1 | 0 | NA | NA | NA | NA | NA |
| si:ch211-22k7.9 | 18.29198198 | 0.000402104 | 0.4458954 | 0.0009018 | 0.99928 | 0.999704 |
| si:busml-228j01.4 | 0 | NA | NA | NA | NA | NA |

| | | | | | | |
|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| smarcd2 | 205.7664248 | -0.276648467 | 0.1486778 | -1.860724 | 0.062783 | 0.489019 |
| clqtnfl | 70.94945039 | 0.829052847 | 0.2375372 | 3.4902027 | 0.000483 | 0.017416 |
| si:dkeyp-69b9.3 | 517.6727022 | 0.125059233 | 0.1358999 | 0.9202304 | 0.357452 | 0.883975 |
| si:ch211-149b19.2 | 98.0646644 | -0.178024635 | 0.2008869 | -0.886193 | 0.375513 | 0.894316 |
| si:ch1073-340i21.3 | 868.3772748 | 0.148534494 | 0.1180517 | 1.2582155 | 0.208314 | 0.775404 |
| slc23a3 | 42.55513808 | 0.335412513 | 0.3060964 | 1.095774 | 0.273178 | 0.838141 |
| si:dkey-238d18.3 | 0.865544342 | 3.23079022 | 2.2781012 | 1.4181944 | 0.156134 | NA |
| si:dkeyp-98a7.7 | 0 NA | NA | NA | NA | NA | NA |
| caln1 | 7.482420044 | -0.568454076 | 0.695949 | -0.816804 | 0.41404 | NA |
| ralgapb | 469.058032 | -0.031741639 | 0.1255082 | -0.252905 | 0.800342 | 0.979377 |
| si:dkey-21o19.2 | 65.7171063 | -0.210625582 | 0.2455854 | -0.857647 | 0.391087 | 0.897688 |
| CABZ01059403.1 | 13.49901253 | -0.561238742 | 0.5500456 | -1.020349 | 0.307563 | 0.861088 |
| CU570691.1 | 12.84917367 | 0.813211241 | 0.5505224 | 1.4771629 | 0.139632 | 0.678399 |
| cb1n17 | 9.211177492 | -0.013226484 | 0.6244472 | -0.021181 | 0.983101 | NA |
| si:ch211-241n15.3 | 9.178649562 | -0.916630184 | 0.6573507 | -1.394431 | 0.163187 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-12h2.8 | 0.792730004 | 1.851900952 | 2.2729754 | 0.8147475 | 0.415217 | NA |
| si:dkey-185e18.7 | 117.9456041 | -0.170960985 | 0.1831051 | -0.933677 | 0.350471 | 0.880195 |
| CR450793.1 | 3.784239396 | 0.890460279 | 1.1045641 | 0.8061644 | 0.420148 | NA |
| ypel5 | 522.9701646 | -0.324596957 | 0.1254457 | -2.58755 | 0.009666 | 0.166207 |
| golt1a | 48.1161418 | -0.00558162 | 0.2804958 | -0.019899 | 0.984124 | 0.996944 |
| si:dkey-259j3.5 | 46.56053135 | -0.299701853 | 0.286921 | -1.044545 | 0.296233 | 0.853273 |
| RF00001 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| sycp2 | 2.974872618 | 1.396688758 | 1.2888129 | 1.0837017 | 0.278497 | NA |
| pdxka | 347.810135 | 0.0476493 | 0.1281899 | 0.3717087 | 0.71011 | 0.968928 |
| si:dkey-16p19.5 | 2.806163753 | -0.105716368 | 1.2448892 | -0.08492 | 0.932325 | NA |
| wnk4b | 348.5567803 | 0.226869767 | 0.1224554 | 1.852672 | 0.063929 | 0.494191 |
| si:dkey-238d18.4 | 53.31069299 | -0.340721126 | 0.2651569 | -1.284979 | 0.198799 | 0.763906 |
| si:ch211-14k19.8 | 77.22112015 | -0.002743206 | 0.2327035 | -0.011788 | 0.990594 | 0.997679 |
| tmem220 | 21.45443492 | 0.128117874 | 0.4094318 | 0.3129163 | 0.754344 | 0.975114 |
| cep131 | 377.8108464 | -0.083855641 | 0.118043 | -0.710382 | 0.477467 | 0.926857 |
| si:ch1073-228j22.2 | 4.453908177 | 0.325742154 | 0.8904742 | 0.3658075 | 0.714509 | NA |
| si:dkey-24117.5 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| mett14 | 59.98805923 | 0.279630973 | 0.2628532 | 1.0638293 | 0.287406 | 0.845979 |
| taarl1b | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:ch211-207e14.4 | 28.27580694 | 0.358360858 | 0.369375 | 0.9701816 | 0.331956 | 0.874653 |
| AL772298.1 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| frmpd1b | 705.2867279 | -0.065737688 | 0.1058516 | -0.621036 | 0.534576 | 0.943336 |
| si:ch211-175m2.5 | 66.95946935 | 0.073673265 | 0.2496003 | 0.2951649 | 0.767868 | 0.975687 |
| si:dkey-7f16.3 | 1.163885225 | 0.470408 | 1.7459696 | 0.2694251 | 0.787603 | NA |
| si:dkey-183k8.2 | 4.888132446 | -1.130721286 | 0.9012969 | -1.254549 | 0.209642 | NA |
| si:ch211-154o6.2 | 326.7267675 | -0.002670033 | 0.1255637 | -0.021264 | 0.983035 | 0.996944 |
| rrnad1 | 48.91137047 | -0.174673138 | 0.2880545 | -0.606389 | 0.544256 | 0.945438 |
| zgc:173585 | 10.32374128 | -0.121097856 | 0.6360996 | -0.190376 | 0.849015 | NA |
| foxbla | 377.0456871 | -0.014046291 | 0.1260441 | -0.11144 | 0.911268 | 0.991066 |
| ptpn6 | 73.0938197 | -0.125086548 | 0.2367964 | -0.528245 | 0.597329 | 0.955244 |
| cuzd1.1 | 3.977449713 | -1.910382811 | 1.051626 | -1.816599 | 0.069279 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| ube2ka | 400.1403446 | 0.007409661 | 0.1186718 | 0.0624383 | 0.950214 | 0.99381 |
| kcnj1a.5 | 206.7337742 | -0.244252271 | 0.17168 | -1.422718 | 0.154818 | 0.704573 |
| lactb11a | 278.5176114 | 0.113143797 | 0.1451622 | 0.77943 | 0.435726 | 0.914408 |
| nhs12 | 663.3163864 | -0.024765182 | 0.1055082 | -0.234723 | 0.814424 | 0.981081 |
| si:dkey-83f18.5 | 0 NA | NA | NA | NA | NA | NA |
| ushbpl | 97.50665494 | -0.414095494 | 0.2014873 | -2.055194 | 0.03986 | 0.391511 |

| | | | | | | |
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| si:ch73-173p19. 1 | 430. 1315677 | 0. 09976813 | 0. 1126517 | 0. 8856334 | 0. 375815 | 0. 894376 |
| gphna | 1219. 20156 | 0. 099216934 | 0. 0848942 | 1. 1687123 | 0. 24252 | 0. 811298 |
| rgsl | 33. 14896245 | -0. 844460868 | 0. 3708304 | -2. 277216 | 0. 022773 | 0. 288667 |
| si:ch211-160j14. 3 | 103. 3467961 | 0. 008292296 | 0. 2015169 | 0. 0411494 | 0. 967177 | 0. 996315 |
| si:ch211-214b16. 3 | 4. 066517275 | 0. 268731488 | 0. 9656602 | 0. 2782878 | 0. 780791 | NA |
| mustnlb | 76. 90513149 | 0. 106771074 | 0. 2360368 | 0. 4523493 | 0. 651017 | 0. 960708 |
| hbba1 | 0 NA | NA | NA | NA | NA | NA |
| BX510940. 1 | 16. 29128395 | -0. 398714136 | 0. 4709785 | -0. 846565 | 0. 397237 | 0. 899672 |
| mmd2b | 1. 900261412 | 0. 337116562 | 1. 4509205 | 0. 2323467 | 0. 816269 | NA |
| si:cabz01054394. 5 | 20. 90415257 | -0. 013858113 | 0. 4259729 | -0. 032533 | 0. 974047 | 0. 99644 |
| si:dkey-160o24. 3 | 21. 81876781 | -0. 052013277 | 0. 412339 | -0. 126142 | 0. 899619 | 0. 990121 |
| plrdgb | 135. 5196661 | 0. 148018494 | 0. 1769589 | 0. 8364569 | 0. 402898 | 0. 90084 |
| mlxipl | 13. 44817442 | -0. 360062134 | 0. 5500532 | -0. 654595 | 0. 512728 | 0. 936253 |
| bc12b | 261. 961248 | 0. 238521835 | 0. 1443963 | 1. 651855 | 0. 098564 | 0. 59799 |
| si:ch211-198b3. 4 | 2. 287301299 | -0. 881736487 | 1. 3686099 | -0. 644257 | 0. 519409 | NA |
| zmp:0000000951 | 5. 622235483 | -0. 876953324 | 0. 8181059 | -1. 071931 | 0. 283751 | NA |
| BX663516. 1 | 1. 237328071 | 0. 498012251 | 1. 9151249 | 0. 2600417 | 0. 794832 | NA |
| negaly6 | 46. 02297943 | -0. 233344764 | 0. 2819026 | -0. 82775 | 0. 407812 | 0. 901418 |
| hbael. 3 | 189. 7507091 | -0. 082843838 | 0. 155877 | -0. 531469 | 0. 595094 | 0. 954434 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| baxa | 4. 160168753 | -0. 826239556 | 0. 9383418 | -0. 880532 | 0. 378571 | NA |
| il17rel | 13. 3527056 | 0. 156983086 | 0. 5251124 | 0. 2989514 | 0. 764977 | 0. 975374 |
| si:ch1073-440b2. 1 | 653. 4639561 | 0. 136222901 | 0. 1020321 | 1. 3350988 | 0. 181844 | 0. 743853 |
| im:7145024 | 52. 1756619 | 0. 361294433 | 0. 2841462 | 1. 271509 | 0. 203548 | 0. 770916 |
| zgc:113119 | 52. 63720292 | 0. 145927972 | 0. 2753306 | 0. 5300099 | 0. 596105 | 0. 954444 |
| gpx2 | 17. 52205067 | -0. 37427523 | 0. 4635623 | -0. 807389 | 0. 419442 | 0. 906454 |
| egr3 | 186. 8994016 | 0. 065087516 | 0. 1574211 | 0. 4134613 | 0. 679269 | 0. 965257 |
| si:dkeyp-104f11. 6 | 12. 20823083 | 0. 373336775 | 0. 5567201 | 0. 6706005 | 0. 502475 | 0. 935304 |
| acot14 | 138. 3709559 | -0. 160808863 | 0. 1778125 | -0. 904373 | 0. 365797 | 0. 887084 |
| afapl1a | 262. 1970027 | -0. 264309971 | 0. 1344158 | -1. 966361 | 0. 049257 | 0. 435457 |
| RF00325 | 0. 48448895 | 0. 85344211 | 2. 878836 | 0. 2964539 | 0. 766883 | NA |
| si:ch1073-391i24. 1 | 83. 67799375 | -0. 362363144 | 0. 222173 | -1. 630996 | 0. 102891 | 0. 609169 |
| cyp46a1. 3 | 122. 2418736 | -0. 397714847 | 0. 1980503 | -2. 00815 | 0. 044627 | 0. 41583 |
| si:dkey-16p6. 1 | 17. 4409339 | -0. 171554725 | 0. 4693013 | -0. 365553 | 0. 714698 | 0. 96909 |
| adad1 | 7. 919867036 | -0. 128396484 | 0. 6739455 | -0. 190515 | 0. 848906 | NA |
| ppplr32 | 1. 622828953 | -0. 034616346 | 1. 4878691 | -0. 023266 | 0. 981438 | NA |
| si:ch73-264i18. 2 | 0. 339758314 | 0. 005883863 | 3. 2682461 | 0. 0018003 | 0. 998564 | NA |
| wfdc2 | 102. 5787128 | -0. 051814953 | 0. 2051192 | -0. 252609 | 0. 80057 | 0. 979377 |
| tanc1b | 231. 8917518 | -0. 139277327 | 0. 1464563 | -0. 950982 | 0. 341613 | 0. 878134 |
| zmp:0000001267 | 11. 98837351 | 0. 594999225 | 0. 5524592 | 1. 0770012 | 0. 28148 | 0. 84357 |
| CR384099. 1 | 34. 28952074 | 0. 333732807 | 0. 3390373 | 0. 9843543 | 0. 324941 | 0. 87132 |
| dre-mir-92b | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-103g5. 4 | 31. 56525475 | -0. 039034969 | 0. 3583728 | -0. 108923 | 0. 913264 | 0. 991119 |
| RF00017 | 0. 824635066 | -0. 63939233 | 2. 222556 | -0. 287683 | 0. 773589 | NA |
| nkl. 3 | 0. 182570949 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| smim13 | 670. 4250439 | 0. 065786384 | 0. 1076639 | 0. 6110347 | 0. 541177 | 0. 944921 |
| si:dkey-73n8. 3 | 45. 88269301 | -0. 06890868 | 0. 2882693 | -0. 239043 | 0. 811072 | 0. 981081 |
| ankrd27 | 308. 4979162 | -0. 097322896 | 0. 1247921 | -0. 77988 | 0. 435461 | 0. 914408 |
| htr3a | 161. 7725301 | -0. 026313248 | 0. 1613109 | -0. 163121 | 0. 870423 | 0. 987421 |
| adam15 | 55. 647161 | -0. 133551587 | 0. 2645168 | -0. 504889 | 0. 613637 | 0. 95688 |
| zmp:0000001268 | 0. 63035749 | -1. 416391854 | 2. 614809 | -0. 541681 | 0. 588038 | NA |
| ubapl1a | 32. 70056266 | -0. 165121567 | 0. 3382309 | -0. 488192 | 0. 625414 | 0. 957354 |
| si:ch211-195o20. 7 | 129. 617216 | 0. 092587741 | 0. 1810787 | 0. 511312 | 0. 609133 | 0. 956718 |
| ngfrb | 74. 71132073 | 0. 159043967 | 0. 2327541 | 0. 6833133 | 0. 494409 | 0. 931926 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| ro60 | 217.0218155 | 0.040789606 | 0.1558011 | 0.2618057 | 0.793471 | 0.977937 |
| si:ch211-91p5.3 | 34.1004307 | 0.061201715 | 0.3281245 | 0.1865198 | 0.852037 | 0.985174 |
| si:ch211-253b8.2 | 223.8917163 | 0.023644978 | 0.1421002 | 0.1663965 | 0.867845 | 0.987245 |
| prrl4 | 610.4082704 | -0.04846077 | 0.1003925 | -0.482713 | 0.6293 | 0.957354 |
| csgalnact1b | 37.75340033 | -0.176540008 | 0.3201853 | -0.551368 | 0.581381 | 0.951731 |
| tspearb | 29.53159351 | 0.629755516 | 0.3698123 | 1.7029059 | 0.088586 | 0.569471 |
| mettl15 | 49.54642333 | -0.155141596 | 0.2807292 | -0.552638 | 0.580511 | 0.951621 |
| vsigl01 | 20.3882885 | 0.658969369 | 0.4318994 | 1.5257475 | 0.127073 | 0.656588 |
| r3hcc11 | 365.1004142 | -0.081537814 | 0.119418 | -0.682793 | 0.494737 | 0.931926 |
| dusp23b | 149.2094844 | 0.355426372 | 0.2025692 | 1.7545922 | 0.079329 | 0.547489 |
| FP885542.1 | 0.530029684 | -0.939524117 | 2.7937867 | -0.336291 | 0.736652 | NA |
| kcnj111 | 562.1582294 | -0.054432469 | 0.0999815 | -0.544425 | 0.586149 | 0.953245 |
| dus11 | 153.828995 | 0.159780373 | 0.172965 | 0.923773 | 0.355604 | 0.882511 |
| pbx3a | 28.8461992 | -0.543349538 | 0.3602057 | -1.508442 | 0.131441 | 0.664907 |
| nexmifa | 1409.393952 | -0.013271098 | 0.0800322 | -0.165822 | 0.868297 | 0.987245 |
| tmem235b | 7.627697859 | -0.62793242 | 0.6805816 | -0.922641 | 0.356194 | NA |
| cenpx | 62.2534092 | -0.213573469 | 0.2581932 | -0.827185 | 0.408132 | 0.90171 |
| adgr11a | 128.1206255 | -0.169299645 | 0.1945325 | -0.87029 | 0.384142 | 0.895192 |
| si:dkey-240n22.6 | 55.03963348 | -0.657762099 | 0.2796055 | -2.352465 | 0.018649 | 0.254502 |
| si:dkeyp-115d7.2 | 0.356300316 | 0.005884122 | 3.214964 | 0.0018302 | 0.99854 | NA |
| hnrnpa0a | 5522.464884 | 0.056029073 | 0.0745217 | 0.7518487 | 0.452142 | 0.918781 |
| BX572619.1 | 224.008693 | -0.153356756 | 0.1481653 | -1.035038 | 0.300651 | 0.856282 |
| si:dkeyp-4f2.1 | 20.38473978 | -0.778260646 | 0.4593522 | -1.694257 | 0.090216 | 0.575093 |
| pmaipl | 75.65697318 | 0.287590843 | 0.246506 | 1.1666686 | 0.243344 | 0.812133 |
| gc | 171.2688793 | 0.044416418 | 0.2157541 | 0.205866 | 0.836896 | 0.984636 |
| si:ch73-106115.4 | 5.782524048 | 0.79242063 | 0.8234282 | 0.9623433 | 0.335877 | NA |
| mapta | 1372.126833 | 0.199060626 | 0.0970004 | 2.0521631 | 0.040154 | 0.392132 |
| BX088538.1 | 31.29349574 | 0.299606968 | 0.348832 | 0.858886 | 0.390403 | 0.897304 |
| ccdc175 | 4.714365049 | -0.209821384 | 0.8986678 | -0.23348 | 0.815388 | NA |
| arhgap20 | 106.0156773 | 0.083653244 | 0.2038407 | 0.4103855 | 0.681523 | 0.965476 |
| BX120005.1 | 0.808333769 | -0.605422531 | 2.2351432 | -0.270865 | 0.786495 | NA |
| urahb | 8.422815995 | -0.041554932 | 0.648672 | -0.064062 | 0.948921 | NA |
| si:ch211-198c19.1 | 1.187499141 | 0.431586902 | 1.7362295 | 0.2485771 | 0.803688 | NA |
| ednrba | 22.19215383 | -0.29091956 | 0.4208411 | -0.691281 | 0.489389 | 0.931926 |
| si:ch211-110e21.3 | 212.3522702 | -0.125228605 | 0.1550343 | -0.807748 | 0.419236 | 0.906406 |
| rhobtb2b | 77.85740353 | 0.245370218 | 0.23523 | 1.0431079 | 0.296898 | 0.853798 |
| si:ch73-109d9.4 | 5.141993444 | -0.865679132 | 0.8710899 | -0.993788 | 0.320326 | NA |
| tspan4a | 301.8610999 | -0.09901631 | 0.1241401 | -0.797618 | 0.425092 | 0.908819 |
| si:dkeyp-121d4.3 | 411.3370455 | -0.033391487 | 0.1161212 | -0.287557 | 0.773686 | 0.975687 |
| miga2 | 38.18468617 | 0.105633834 | 0.3370063 | 0.3134477 | 0.753941 | 0.975056 |
| wu:fb59d01 | 620.2298995 | -0.887001462 | 0.1058693 | -8.378266 | 5.37E-17 | 3.22E-14 |
| grn1 | 22.43899049 | -0.923670151 | 0.4494857 | -2.054949 | 0.039884 | 0.391511 |
| hopx | 328.4090558 | -0.017953578 | 0.1227813 | -0.146224 | 0.883745 | 0.988706 |
| fdxr | 154.7723093 | -0.52024589 | 0.1755078 | -2.964233 | 0.003034 | 0.07278 |
| si:dkey-238d18.10 | | 0 NA | NA | NA | NA | NA |
| clk4a | 2970.950248 | -0.064287814 | 0.0808897 | -0.794759 | 0.426754 | 0.910217 |
| si:ch211-232p21.6 | 0.809941799 | 0.539629624 | 2.2311614 | 0.2418604 | 0.808888 | NA |
| zgc:158463 | 8249.989484 | 0.555356803 | 0.4644805 | 1.1956516 | 0.231833 | 0.800045 |
| illfma | 8.891916057 | 0.405172208 | 0.670659 | 0.6041405 | 0.54575 | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| ftr35 | 0.678375468 | -2.878459328 | 2.4926399 | -1.154783 | 0.248179 | NA |
| pnpla2 | 53.27349453 | -0.265426138 | 0.2747194 | -0.966172 | 0.333958 | 0.875256 |
| tmem1761.2 | 146.6922079 | -1.733316662 | 0.1923258 | -9.012397 | 2.02E-19 | 1.59E-16 |
| si:ch73-281i18.3 | 3.551422559 | 1.343649893 | 1.0931499 | 1.2291543 | 0.219014 | NA |

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| si:dkey-24p1.7 | 4.763366204 | 0.111453985 | 0.8712877 | 0.1279187 | 0.898213 | NA |
| mbpb | 1824.581196 | 0.028675426 | 0.078598 | 0.3648366 | 0.715233 | 0.96909 |
| si:dkey-164f24.2 | 1019.225838 | 0.389605341 | 0.0896373 | 4.3464664 | 1.38E-05 | 0.00094 |
| rab12 | 76.06245863 | 0.279362286 | 0.2350578 | 1.1884831 | 0.234643 | 0.803509 |
| si:dkey-205h13.2 | 1306.131503 | 0.048248664 | 0.0924862 | 0.5216849 | 0.60189 | 0.956045 |
| si:ch211-212k18.15 | 1.303389427 | -1.599233742 | 1.7364034 | -0.921004 | 0.357049 | NA |
| etv7 | 8.989397735 | -0.194061873 | 0.6395516 | -0.303434 | 0.761559 | NA |
| macf1b | 21.62106576 | -0.536389535 | 0.4116162 | -1.30313 | 0.19253 | 0.756795 |
| si:ch211-105c13.3 | 746.2350355 | 0.091860552 | 0.0934956 | 0.982512 | 0.325848 | 0.871896 |
| omgb | 60.09344097 | -0.086876817 | 0.2628754 | -0.330487 | 0.741032 | 0.973154 |
| men1 | 358.1066166 | -0.220534013 | 0.1173002 | -1.880082 | 0.060097 | 0.478687 |
| rp111a | 121.888036 | 0.053222428 | 0.1917989 | 0.2774908 | 0.781403 | 0.97627 |
| ciz1b | 53.84501653 | 0.030725033 | 0.2760878 | 0.1112872 | 0.911389 | 0.991066 |
| dhx58 | 13.0200462 | 0.037968414 | 0.5251302 | 0.0723029 | 0.942361 | 0.993276 |
| fam161b | 32.38509019 | 0.258373752 | 0.3473623 | 0.7438162 | 0.456988 | 0.921431 |
| CR936459.1 | 2.685370062 | 1.173916984 | 1.3156641 | 0.8922619 | 0.372253 | NA |
| hbae1.1 | 22.92221796 | 0.059522155 | 0.4616686 | 0.1289283 | 0.897414 | 0.990121 |
| si:ch211-132g1.3 | 118.9981329 | 0.029799871 | 0.186861 | 0.1594762 | 0.873294 | 0.987846 |
| si:dkey-24117.4 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-12j5.1 | 305.245073 | -0.119116263 | 0.1261262 | -0.944421 | 0.344954 | 0.878434 |
| tecr12a | 32.5280209 | 0.168330799 | 0.3400628 | 0.4949992 | 0.620601 | 0.957354 |
| cplx3b | 233.688001 | 0.116363221 | 0.1357699 | 0.8570619 | 0.391411 | 0.897688 |
| fam83e | 170.0208416 | 0.098025395 | 0.1583826 | 0.6189152 | 0.535972 | 0.943336 |
| kcnq4 | 2.472428806 | -2.673971963 | 1.4411044 | -1.855502 | 0.063525 | NA |
| pimr23 | 0 NA | NA | NA | NA | NA | NA |
| si:ch73-367f21.5 | 23.86669308 | -0.07616164 | 0.3922172 | -0.194182 | 0.846033 | 0.985174 |
| bod111 | 861.2465025 | -0.008607611 | 0.0933185 | -0.092239 | 0.926508 | 0.992702 |
| ugt1b5 | 173.9166522 | 0.293915655 | 0.1548847 | 1.897642 | 0.057743 | 0.471435 |
| si:ch73-78o10.1 | 57.29629106 | 0.352470162 | 0.2539325 | 1.3880465 | 0.165123 | 0.721223 |
| si:ch211-198e20.10 | 3.959907854 | 0.235082836 | 0.9284195 | 0.2532076 | 0.800108 | NA |
| si:dkeyp-46h3.5 | 0 NA | NA | NA | NA | NA | NA |
| zgc:92594 | 263.493311 | 0.072710988 | 0.1441806 | 0.5043049 | 0.614047 | 0.95688 |
| fb1n7 | 66.24885121 | -0.059545581 | 0.2584274 | -0.230415 | 0.817769 | 0.981594 |
| si:dkeyp-98a7.4 | 0 NA | NA | NA | NA | NA | NA |
| desilb | 129.2907139 | 0.299684064 | 0.1972276 | 1.5194834 | 0.128641 | 0.659646 |
| erbb4b | 16.24418363 | 0.592817338 | 0.4711406 | 1.2582598 | 0.208298 | 0.775404 |
| rnf166 | 7.589112188 | -0.467657244 | 0.7459051 | -0.626966 | 0.530681 | NA |
| BX571825.5 | 0 NA | NA | NA | NA | NA | NA |
| baalcb | 150.8650467 | 0.004403636 | 0.1628724 | 0.0270373 | 0.97843 | 0.996762 |
| si:ch211-93n23.7 | 9.722078864 | -0.328588805 | 0.6196579 | -0.530275 | 0.595922 | NA |
| si:dkey-22114.11 | 7.972369242 | 0.874448729 | 0.7553576 | 1.1576619 | 0.247002 | NA |
| si:dkey-63j12.4 | 11.71454712 | -0.323807199 | 0.6094871 | -0.531278 | 0.595226 | 0.954434 |
| BX957322.1 | 18.85116078 | 0.89642354 | 0.4647861 | 1.9286796 | 0.053771 | 0.454191 |
| sfrp21 | 6.663599877 | -0.24733034 | 0.7600054 | -0.325432 | 0.744854 | NA |
| MDFI | 289.3008641 | 0.091101801 | 0.1274637 | 0.7147275 | 0.474777 | 0.925399 |
| pat12 | 4.124764645 | -2.002483718 | 1.0250323 | -1.953581 | 0.050751 | NA |
| pstpip2 | 11.05674785 | 0.122595239 | 0.5711108 | 0.214661 | 0.830032 | NA |
| ccdc169 | 4.508447633 | -0.554944054 | 0.9120944 | -0.608428 | 0.542903 | NA |
| tfpt | 252.4712189 | -0.107764202 | 0.1332386 | -0.808806 | 0.418627 | 0.906406 |
| xrral | 9.055560374 | 0.157837632 | 0.6476874 | 0.2436941 | 0.807468 | NA |
| nhlrc2 | 339.1024126 | 0.020455851 | 0.124081 | 0.1648588 | 0.869055 | 0.987245 |
| si:dkey-265e15.2 | 36.91870503 | 0.149795458 | 0.3371449 | 0.4443058 | 0.656821 | 0.96205 |
| ncam3 | 50.92025167 | -0.885610385 | 0.2812284 | -3.149078 | 0.001638 | 0.046135 |
| pcdh2ab11 | 0 NA | NA | NA | NA | NA | NA |

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| si: cabz01054396.2 | 96.22351758 | 0.061138315 | 0.2084025 | 0.2933665 | 0.769242 | 0.975687 |
| si: dkey-217f16.1 | 1.152686753 | -0.310571849 | 1.95009 | -0.15926 | 0.873464 | NA |
| CU929037.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| coro7 | 102.1172779 | -0.044322645 | 0.1981228 | -0.223713 | 0.822981 | 0.982189 |
| RF00009 | 18.23659998 | 0.216787849 | 0.534688 | 0.4054474 | 0.685149 | 0.966146 |
| fgd5b | 8.396280807 | 0.342389437 | 0.6918674 | 0.4948772 | 0.620687 | NA |
| ptges3b | 1312.418019 | -0.237406191 | 0.0836879 | -2.836804 | 0.004557 | 0.096369 |
| si: ch211-160d20.5 | 0.325573202 | 0.005883621 | 3.3172783 | 0.0017736 | 0.998585 | NA |
| dre-mir-2188 | 0.340386822 | -1.882368278 | 3.2159502 | -0.585323 | 0.558331 | NA |
| BX322587.1 | 0.967129164 | -0.023635743 | 1.9568585 | -0.012078 | 0.990363 | NA |
| rnaseh2c | 325.5971272 | -0.036708314 | 0.1270658 | -0.288892 | 0.772664 | 0.975687 |
| si: dkey-117n7.5 | 43.09661266 | 0.162287719 | 0.3000992 | 0.5407802 | 0.588659 | 0.953319 |
| ppml1b | 49.4815807 | -0.060368252 | 0.2802593 | -0.215401 | 0.829454 | 0.982805 |
| mcama | 1070.244725 | -0.034848936 | 0.0856468 | -0.406891 | 0.684088 | 0.965679 |
| si: ch1073-406110.2 | 116.6610491 | 0.373889326 | 0.1962494 | 1.9051748 | 0.056757 | 0.467438 |
| ctdsp13 | 528.4059239 | 0.080980403 | 0.1065203 | 0.7602346 | 0.447114 | 0.917154 |
| BX927136.1 | | 0 NA | NA | NA | NA | NA |
| F0704622.1 | 4.947286782 | -0.782317766 | 0.8661206 | -0.903243 | 0.366397 | NA |
| lsm3 | 400.5895949 | -0.110076822 | 0.1373477 | -0.801447 | 0.422873 | 0.90714 |
| MFAP4 (1 of many) | 11.61678579 | 0.40972465 | 0.5522977 | 0.7418547 | 0.458175 | 0.921978 |
| btf314 | 591.8152126 | -0.008521147 | 0.1000759 | -0.085147 | 0.932145 | 0.992702 |
| tex26 | 5.432302424 | 0.944881106 | 0.8597096 | 1.0990701 | 0.271738 | NA |
| ism2a | 12.45951439 | -0.019054766 | 0.5374127 | -0.035456 | 0.971716 | 0.996315 |
| nfe2l2b | 253.4978353 | -0.350786611 | 0.141274 | -2.483022 | 0.013027 | 0.20396 |
| atf7ip2 | 171.3143612 | 0.106969022 | 0.1754789 | 0.6095834 | 0.542138 | 0.944974 |
| trabd2a | 128.8493079 | 0.143334857 | 0.1883942 | 0.7608242 | 0.446762 | 0.917154 |
| abcf3 | 278.207005 | -0.099244544 | 0.1379183 | -0.719589 | 0.471778 | 0.924838 |
| si: ch211-276a23.5 | 45.14623263 | 0.327581928 | 0.296819 | 1.1036419 | 0.269748 | 0.834705 |
| gfral | 30.73966393 | 0.228808413 | 0.3537169 | 0.6468687 | 0.517717 | 0.938592 |
| BX004785.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si: cabz01054394.7 | 23.14297739 | 0.038602161 | 0.3988961 | 0.0967725 | 0.922907 | 0.992466 |
| qpct | 211.4706107 | 0.344009274 | 0.1433165 | 2.4003472 | 0.01638 | 0.236243 |
| CABZ01077218.1 | 68.66787379 | -0.152871537 | 0.2410407 | -0.634214 | 0.525941 | 0.940236 |
| cyldb | 87.48282077 | 0.170257567 | 0.2117266 | 0.8041387 | 0.421317 | 0.90651 |
| fam161a | 153.2866582 | 0.120266013 | 0.162271 | 0.741143 | 0.458607 | 0.921978 |
| si: zfos-754c12.2 | 0.491560863 | 0.853615855 | 2.865157 | 0.2979299 | 0.765757 | NA |
| aqp8b | 77.69215992 | -0.803243315 | 0.262564 | -3.059229 | 0.002219 | 0.05751 |
| si: dkey-26g8.5 | 0.50625413 | -0.940106488 | 2.8357787 | -0.331516 | 0.740255 | NA |
| si: dkey-11o15.7 | | 0 NA | NA | NA | NA | NA |
| si: ch211-286b5.4 | | 0 NA | NA | NA | NA | NA |
| nrg3b | 466.5095692 | 0.090276836 | 0.1097592 | 0.8224988 | 0.410793 | 0.90316 |
| rnfl30 | 784.1900175 | 0.037320617 | 0.0885436 | 0.4214945 | 0.673394 | 0.965257 |
| hapln1a | 4023.626808 | 0.319644638 | 0.0688352 | 4.6436251 | 3.42E-06 | 0.000293 |
| si: dkey-288a3.2 | 7.733560586 | 0.043659719 | 0.6955814 | 0.0627672 | 0.949952 | NA |
| cizla | 58.9034089 | -0.04687231 | 0.2616564 | -0.179137 | 0.85783 | 0.985703 |
| crebzf | 763.182833 | -0.016116417 | 0.09953 | -0.161925 | 0.871365 | 0.987754 |
| efna5a | 585.3543512 | 0.025725472 | 0.0970271 | 0.2651369 | 0.790904 | 0.977402 |
| slc25a32a | 667.838492 | -0.134637537 | 0.0951405 | -1.415144 | 0.157026 | 0.707677 |
| si: dkeyp-101e12.1 | | 0 NA | NA | NA | NA | NA |
| sertad4 | 299.6448613 | 0.000289103 | 0.1331945 | 0.0021705 | 0.998268 | 0.999329 |
| si: ch73-41e3.7 | 2.296987508 | -0.063120416 | 1.4247498 | -0.044303 | 0.964663 | NA |
| prr7 | 25.70921465 | 1.009105708 | 0.4050336 | 2.4914126 | 0.012724 | 0.200229 |
| akapla | 10.29694556 | 0.738494086 | 0.658565 | 1.1213686 | 0.262131 | NA |
| pcdh18a | 949.1802561 | 0.021321021 | 0.0994328 | 0.2144264 | 0.830215 | 0.982916 |

| | | | | | | |
|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| si:dkey-239j18.3 | 14.33879302 | -0.52829318 | 0.5044754 | -1.047213 | 0.295001 | 0.851519 |
| znf1042 | 19.77111158 | -0.799746246 | 0.4681517 | -1.708306 | 0.08758 | 0.566637 |
| si:dkey-9k7.3 | 39.42236384 | -0.12746977 | 0.3109599 | -0.409924 | 0.681862 | 0.965476 |
| lpar4 | 12.54547387 | 0.681598538 | 0.5449772 | 1.2506918 | 0.211047 | 0.77859 |
| si:rp71-19m20.1 | 314.4962997 | 0.101671729 | 0.1319538 | 0.7705103 | 0.440997 | 0.916336 |
| si:ch211-189a21.1 | 11.71446781 | -0.010394284 | 0.5794827 | -0.017937 | 0.985689 | 0.996944 |
| si:dkey-207m2.4 | 6.166843574 | 0.269501592 | 0.7717837 | 0.3491932 | 0.726944 | NA |
| asb13b | 113.9535165 | 0.430065198 | 0.1905032 | 2.2575219 | 0.023975 | 0.299022 |
| MRPS12 | 499.3244988 | -0.074962703 | 0.1119185 | -0.669797 | 0.502987 | 0.935304 |
| slc35d2 | 32.0615949 | -0.193610573 | 0.3604506 | -0.537135 | 0.591174 | 0.954193 |
| si:dkey-262k9.4 | 104.6694533 | 0.215165193 | 0.1993166 | 1.0795148 | 0.280358 | 0.843423 |
| BX296541.1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| scarb2c | 242.0025792 | 0.068272907 | 0.15703 | 0.4347762 | 0.663725 | 0.964736 |
| RF00017 | | 0 NA | NA | NA | NA | NA |
| RF00017 | | 0 NA | NA | NA | NA | NA |
| si:dkey-51d8.1 | 3.766249585 | 1.810788472 | 1.0815698 | 1.6742224 | 0.094087 | NA |
| si:dkey-22n8.3 | 21.8925439 | -0.187910382 | 0.4544338 | -0.413504 | 0.679237 | 0.965257 |
| cita | 467.9679847 | -0.048643233 | 0.1046972 | -0.464609 | 0.642212 | 0.959994 |
| cobl11a | 133.6285029 | -0.036072477 | 0.1964601 | -0.183612 | 0.854318 | 0.985174 |
| atxn711 | 9.749008242 | -1.183389181 | 0.6235102 | -1.897947 | 0.057703 | NA |
| usp44 | 517.3280233 | -0.140514417 | 0.1035493 | -1.35698 | 0.174787 | 0.735372 |
| si:dkey-16j16.4 | 21.14101635 | -0.203166512 | 0.4126779 | -0.492313 | 0.622498 | 0.957354 |
| si:ch211-112c15.8 | 0.964610636 | -0.018889399 | 1.958304 | -0.009646 | 0.992304 | NA |
| zgc:172218 | 0.317831496 | 1.808837541 | 3.5779923 | 0.5055454 | 0.613176 | NA |
| jcada | 373.5216372 | -0.108201723 | 0.1142732 | -0.946869 | 0.343706 | 0.878434 |
| socs1b | 1.32527496 | -2.703143513 | 1.9371225 | -1.395443 | 0.162882 | NA |
| pcdh2ab8 | 2.757753476 | -0.863420747 | 1.1839024 | -0.729301 | 0.465818 | NA |
| zgc:173705 | 1.596696509 | -0.007252485 | 1.5931558 | -0.004552 | 0.996368 | NA |
| si:dkeyp-75h12.5 | 1302.071578 | 0.008305368 | 0.094277 | 0.0880954 | 0.929801 | 0.992702 |
| nedd9 | 613.9930218 | -0.047091341 | 0.0984833 | -0.478166 | 0.632532 | 0.957356 |
| soul51 | 6.769351299 | -0.502222987 | 0.7962082 | -0.630768 | 0.528192 | NA |
| si:dkey-210j14.3 | 50.71615526 | 0.117278457 | 0.2735149 | 0.4287828 | 0.668081 | 0.964736 |
| slc16a12b | 531.0964759 | 0.070586196 | 0.1175814 | 0.6003177 | 0.548295 | 0.945871 |
| si:dkey-19e4.5 | 1195.609949 | 0.070941836 | 0.0830489 | 0.8542174 | 0.392985 | 0.897848 |
| mmp20a | 7.146764698 | 0.33333732 | 0.7143281 | 0.4666445 | 0.640754 | NA |
| dag1b | 340.8067114 | -0.000300461 | 0.1234527 | -0.002434 | 0.998058 | 0.999271 |
| rpz6 | 42.15225513 | 0.147770683 | 0.3073595 | 0.4807747 | 0.630677 | 0.957354 |
| RF00001 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| cd44b | 15.2094171 | -0.284149392 | 0.5259922 | -0.540216 | 0.589048 | 0.953345 |
| tasora | 490.3210553 | -0.152155388 | 0.1104408 | -1.37771 | 0.168293 | 0.725919 |
| zmp:0000001289 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:ch211-261n11.8 | | 0 NA | NA | NA | NA | NA |
| CABZ01039863.1 | 34.8573673 | 0.026857854 | 0.3229284 | 0.0831697 | 0.933717 | 0.992702 |
| adgre5b.3 | 73.80721971 | -0.372440119 | 0.2260679 | -1.64747 | 0.099461 | 0.599802 |
| si:ch211-265o23.1 | 101.759643 | -0.066197885 | 0.198808 | -0.332974 | 0.739154 | 0.972722 |
| cacnalg | 381.7021298 | 0.117602752 | 0.1285535 | 0.9148157 | 0.360288 | 0.885686 |
| clint1b | 405.6722925 | 0.194131726 | 0.1136149 | 1.7086827 | 0.08751 | 0.566637 |
| sh3tc2 | 432.8707911 | 0.035595759 | 0.1151308 | 0.3091766 | 0.757187 | 0.975374 |
| si:ch211-161h7.8 | 149.8732817 | -0.591460822 | 0.1809807 | -3.268088 | 0.001083 | 0.032921 |
| mlip | 219.6957026 | 0.044256286 | 0.1537293 | 0.2878845 | 0.773435 | 0.975687 |
| smim4 | 197.2590403 | 0.120425242 | 0.1573494 | 0.7653364 | 0.444071 | 0.916699 |
| dsn1 | 188.3819768 | -0.157261283 | 0.1537919 | -1.022559 | 0.306517 | 0.860027 |
| aldh2.1 | 467.9241873 | -0.10459267 | 0.1044407 | -1.001455 | 0.316607 | 0.867129 |
| iqce | 154.0022677 | 0.024480274 | 0.1707084 | 0.1434041 | 0.885971 | 0.988936 |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| rasal3 | 25.47690476 | -0.045920452 | 0.3800081 | -0.120841 | 0.903817 | 0.990291 |
| si:ch211-64i20.3 | 8.714296688 | -0.614654789 | 0.689318 | -0.891685 | 0.372562 | NA |
| selenow2b | 551.8271102 | 0.166726651 | 0.1052994 | 1.5833587 | 0.11334 | 0.631061 |
| znf1008 | 93.86563545 | 0.036632184 | 0.2147432 | 0.170586 | 0.864549 | 0.98601 |
| npy2r1 | 8.203772057 | -0.00356251 | 0.6668252 | -0.005342 | 0.995737 | NA |
| BX005085.1 | 82.84162298 | -0.152095991 | 0.2202485 | -0.690566 | 0.489839 | 0.931926 |
| si:dkey-210j14.5 | 35.72805722 | -0.361018453 | 0.3320063 | -1.087385 | 0.276867 | 0.840075 |
| si:ch211-147k9.8 | 5.335592178 | 0.728977828 | 0.8261993 | 0.8823268 | 0.3776 | NA |
| si:ch73-367f21.6 | 26.29137344 | -0.124194548 | 0.3897729 | -0.318633 | 0.750005 | 0.97419 |
| si:ch211-189e2.3 | 1.676273031 | -1.177417679 | 1.5072204 | -0.781185 | 0.434694 | NA |
| si:dkey-88n24.10 | | 0 NA | NA | NA | NA | NA |
| CR388164.1 | 1.118581941 | -2.434763583 | 2.0644676 | -1.179366 | 0.238252 | NA |
| si:cabz01007807.1 | 26.00775375 | -0.009196079 | 0.3970664 | -0.02316 | 0.981523 | 0.996944 |
| si:zfos-1505d6.3 | 0.339758314 | 0.005883863 | 3.2682461 | 0.0018003 | 0.998564 | NA |
| si:ch211-59o9.10 | 202.4405573 | 0.01305891 | 0.1454963 | 0.0897542 | 0.928483 | 0.992702 |
| SLC15A5 | 4.340815154 | 0.031549274 | 0.9116765 | 0.0346058 | 0.972394 | NA |
| spsc3 | 865.0835612 | -0.104236235 | 0.0994355 | -1.04828 | 0.29451 | 0.850662 |
| rnf146 | 730.8358881 | -0.127996492 | 0.1047308 | -1.222148 | 0.221652 | 0.78829 |
| si:ch73-109i22.2 | 9.497193284 | -0.407737101 | 0.623872 | -0.653559 | 0.513396 | NA |
| or116-2 | 5.301419585 | -0.152288413 | 0.82111 | -0.185467 | 0.852863 | NA |
| BX511080.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| cln6b | 2.833045057 | -0.493546763 | 1.1007781 | -0.448362 | 0.653892 | NA |
| ccdc9b | 12.22470164 | -0.185396498 | 0.559212 | -0.331532 | 0.740243 | 0.973048 |
| CR388047.1 | 0.524057646 | 2.503896172 | 2.7289583 | 0.9175282 | 0.358866 | NA |
| BX682550.1 | 20.36837435 | 0.209924588 | 0.4265467 | 0.4921492 | 0.622614 | 0.957354 |
| si:dkey-16p6.1 | 7.689671405 | 0.843762925 | 0.7602213 | 1.1098912 | 0.267046 | NA |
| rtn4r | 380.2824891 | 0.087582237 | 0.1132571 | 0.7733044 | 0.439342 | 0.916082 |
| si:dkey-6b12.5 | 180.5419718 | 0.065089697 | 0.1499999 | 0.4339316 | 0.664338 | 0.964736 |
| BX248410.1 | 1.314749537 | -0.712951519 | 1.7335279 | -0.411272 | 0.680873 | NA |
| reck | 732.1709292 | 0.138287795 | 0.1351351 | 1.0233302 | 0.306152 | 0.860027 |
| F2R (1 of many) | 3.002888572 | -0.969017615 | 1.1816225 | -0.820074 | 0.412174 | NA |
| si:dkey-165a24.9 | 23.40300309 | -0.185793316 | 0.3943382 | -0.471152 | 0.637532 | 0.958872 |
| znf318 | 1110.293804 | -0.057984661 | 0.0846576 | -0.684931 | 0.493387 | 0.931926 |
| CR394546.2 | 4.190940409 | 0.141720625 | 0.9486018 | 0.1493995 | 0.881238 | NA |
| rac3a | 736.7839963 | 0.005636408 | 0.1006879 | 0.055979 | 0.955359 | 0.994543 |
| fa2h | 877.4175884 | -0.670527715 | 0.0897249 | -7.473153 | 7.83E-14 | 3.29E-11 |
| CABZ01084273.1 | 101.4162679 | 0.140796892 | 0.2062372 | 0.682694 | 0.4948 | 0.931926 |
| rxfp1 | 123.6025155 | -0.054444671 | 0.217466 | -0.250359 | 0.802309 | 0.979492 |
| CU462878.1 | 207.913713 | -0.405498553 | 0.152162 | -2.664913 | 0.007701 | 0.140088 |
| si:dkey-1m11.5 | 3.764371025 | -0.399910944 | 1.0174454 | -0.393054 | 0.69428 | NA |
| rab11bb | 434.1396347 | -0.095862147 | 0.1126054 | -0.851311 | 0.394597 | 0.898861 |
| CR626886.1 | 14.83579228 | -0.744096557 | 0.5108607 | -1.456555 | 0.145239 | 0.690044 |
| dre-mir-30a | | 0 NA | NA | NA | NA | NA |
| si:dkeyp-67a8.4 | 11.21411005 | 0.237658341 | 0.5821781 | 0.4082227 | 0.68311 | 0.965476 |
| slc17a7b | 146.4969546 | 0.274453318 | 0.1849639 | 1.4838211 | 0.137856 | 0.675313 |
| zmp:0000000984 | 5.79603713 | 0.243035194 | 0.8088975 | 0.3004524 | 0.763832 | NA |
| si:ch1073-174d20.1 | 128.9117994 | 0.225033461 | 0.1810914 | 1.2426511 | 0.213996 | 0.782319 |
| znf1136 | 61.6516816 | 0.0755591 | 0.2523114 | 0.2994677 | 0.764583 | 0.975374 |
| qdprb2 | 0.847782112 | 0.655103352 | 2.1028616 | 0.3115295 | 0.755398 | NA |
| si:dkey-248g21.1 | 35.62886452 | 0.024939625 | 0.3651899 | 0.0682922 | 0.945553 | 0.993589 |
| si:ch211-105f12.2 | 18.8330198 | 0.467132137 | 0.4818024 | 0.9695514 | 0.33227 | 0.874653 |
| tmem196b | 22.83722919 | 0.081980558 | 0.4013394 | 0.2042674 | 0.838145 | 0.984797 |
| si:dkey-94l16.4 | 62.0852937 | -0.30023612 | 0.2459973 | -1.220485 | 0.222281 | 0.788551 |
| tmem240b | 137.0078187 | 0.117504809 | 0.1792009 | 0.6557154 | 0.512007 | 0.936253 |

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| anapc10 | 137.8931787 | 0.145496807 | 0.2029108 | 0.7170482 | 0.473344 | 0.924993 |
| cyld1 | 21.96219239 | -0.304779256 | 0.4185188 | -0.728233 | 0.466471 | 0.924063 |
| pttglipa | 282.3196991 | 0.270229914 | 0.1379565 | 1.9588046 | 0.050136 | 0.438277 |
| BX005105.1 | 37.73996665 | 0.284523845 | 0.3349575 | 0.8494326 | 0.395641 | 0.899378 |
| zgc:173709 | 53.62888586 | 0.381696446 | 0.2628301 | 1.4522554 | 0.146431 | 0.692708 |
| si:ch73-362m14.2 | 18.75703515 | -0.267865277 | 0.4628669 | -0.578709 | 0.562786 | 0.948728 |
| F0904898.1 | 0 NA | NA | NA | NA | NA | NA |
| rab11fip4a | 292.9931377 | 0.112925915 | 0.1353155 | 0.834538 | 0.403978 | 0.901101 |
| BX323556.1 | 8.190583146 | -1.051780064 | 0.7097076 | -1.481991 | 0.138343 | NA |
| BX548044.3 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-117c9.1 | 8.379248971 | -1.157131915 | 0.7563983 | -1.529792 | 0.126068 | NA |
| BX072576.2 | 29.18505514 | 0.554370773 | 0.3646956 | 1.5200916 | 0.128488 | 0.659414 |
| gapvd1 | 581.8244145 | 0.098721588 | 0.1079276 | 0.9147021 | 0.360348 | 0.885686 |
| si:dkeyp-73b11.8 | 564.509002 | -0.998937652 | 0.1095879 | -9.115405 | 7.84E-20 | 6.74E-17 |
| bcam | 296.1604632 | 0.054551564 | 0.1309449 | 0.4165993 | 0.676972 | 0.965257 |
| si:dkey-16p6.1 | 4.141698948 | -1.04756836 | 1.0037955 | -1.043607 | 0.296667 | NA |
| si:ch73-286h23.4 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| lamtor5 | 264.6789188 | -0.027807227 | 0.1385366 | -0.200721 | 0.840917 | 0.985146 |
| mtx3 | 149.0379293 | -0.054095282 | 0.1815785 | -0.297917 | 0.765767 | 0.975374 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| rbm11 | 1.493073575 | -0.932799967 | 1.6069462 | -0.58048 | 0.561591 | NA |
| rheb | 494.0251095 | 0.150205245 | 0.1040887 | 1.4430505 | 0.149006 | 0.696454 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| wdr45 | 488.9045494 | 0.053050003 | 0.1095982 | 0.4840406 | 0.628357 | 0.957354 |
| msl1b | 580.325358 | 0.0749387 | 0.0992594 | 0.7549781 | 0.450262 | 0.918761 |
| gsta.1 | 3425.54299 | -0.923723574 | 0.0974445 | -9.479481 | 2.56E-21 | 2.66E-18 |
| tmem108 | 259.8284697 | 0.079638527 | 0.1474493 | 0.5401078 | 0.589123 | 0.953345 |
| clpb | 202.2946934 | -0.165612281 | 0.1521874 | -1.088213 | 0.276501 | 0.839541 |
| zp2.3 | 0 NA | NA | NA | NA | NA | NA |
| zgc:113223 | 56.73902822 | 0.267803461 | 0.260163 | 1.0293679 | 0.303307 | 0.85729 |
| phlpp2 | 15.48959576 | 0.18608643 | 0.5294202 | 0.351491 | 0.72522 | 0.970402 |
| CU062628.1 | 2.897729046 | -0.633951666 | 1.2323868 | -0.51441 | 0.606966 | NA |
| krttlc19e | 23151.50264 | 0.294713079 | 0.1926098 | 1.5301045 | 0.125991 | 0.654803 |
| BX248410.2 | 0.959146752 | 0.977549673 | 2.0106641 | 0.4861825 | 0.626838 | NA |
| serpinal | 3802.183211 | 0.388860737 | 0.0991498 | 3.9219534 | 8.78E-05 | 0.004386 |
| ralyl | 70.81287135 | 0.219024759 | 0.2354007 | 0.9304337 | 0.352147 | 0.880879 |
| ldlrad2 | 80.51964538 | 0.245793898 | 0.2294124 | 1.0714064 | 0.283987 | 0.844697 |
| usp48 | 499.9135768 | -0.039749928 | 0.1120632 | -0.35471 | 0.722807 | 0.970375 |
| CU929391.2 | 37.84422512 | 0.01684868 | 0.319848 | 0.0526771 | 0.957989 | 0.99467 |
| ubxn1 | 577.5751723 | -0.114643877 | 0.0992552 | -1.155042 | 0.248073 | 0.817415 |
| CABZ01065328.1 | 0 NA | NA | NA | NA | NA | NA |
| rnf212 | 6.230536631 | -1.651919814 | 0.8523702 | -1.938031 | 0.052619 | NA |
| MAPK8IP1 (1 of many | 172.5514226 | -0.274936272 | 0.1666963 | -1.649325 | 0.099081 | 0.598421 |
| pprc1 | 342.4918533 | 0.203198469 | 0.1451602 | 1.3998221 | 0.161567 | 0.715364 |
| fam20cb | 134.2249311 | 0.18708727 | 0.1769354 | 1.0573762 | 0.29034 | 0.846262 |
| si:dkey-27o4.1 | 19.9118804 | -0.633762906 | 0.4334372 | -1.462179 | 0.143692 | 0.686818 |
| il191 | 0.839019598 | -0.671793185 | 2.356059 | -0.285134 | 0.775541 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| zmp:0000000991 | 48.98739761 | -0.192987105 | 0.2896294 | -0.666324 | 0.505204 | 0.935724 |
| dre-mir-222a | 0 NA | NA | NA | NA | NA | NA |
| pcdh2ab5 | 0.680145136 | -1.475466752 | 2.2805885 | -0.646968 | 0.517653 | NA |
| CR855311.1 | 841.6851127 | -0.775651369 | 0.3278081 | -2.366175 | 0.017973 | 0.248356 |
| pimr168 | 0 NA | NA | NA | NA | NA | NA |
| znf1065 | 36.03462776 | -0.531131644 | 0.3434086 | -1.546646 | 0.121949 | 0.649101 |

| | | | | | | |
|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| RF00001 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| dre-mir-132-2 | 1.537947772 | 1.852333309 | 1.7347791 | 1.0677632 | 0.285627 | NA |
| zgc:86896 | 1935.566117 | 0.241885333 | 0.0852596 | 2.8370456 | 0.004553 | 0.096369 |
| si:dkey-46i9.6 | 72.11241622 | -0.125012373 | 0.2445194 | -0.511258 | 0.609171 | 0.956718 |
| taarl4e | 0.332645115 | 0.005883744 | 3.2924249 | 0.0017871 | 0.998574 | NA |
| gzma | 2.010526176 | -0.478445426 | 1.3048707 | -0.366661 | 0.713872 | NA |
| CABZ01072157.1 | 4.925628655 | -0.75789046 | 0.8840231 | -0.85732 | 0.391268 | NA |
| cd3eap | 133.0071939 | 0.159857707 | 0.1748811 | 0.9140937 | 0.360668 | 0.885686 |
| onecut2 | 4.356057861 | -0.40541178 | 0.9989783 | -0.405826 | 0.68487 | NA |
| ndufv3 | 892.7465571 | 0.023259499 | 0.1051125 | 0.2212819 | 0.824873 | 0.982196 |
| si:dkey-7114.2 | 8.961215892 | -0.312923658 | 0.6262437 | -0.499684 | 0.617298 | NA |
| si:cabz01074946.1 | 8.14677219 | -0.715202479 | 0.6966889 | -1.026574 | 0.304621 | NA |
| CABZ01067973.1 | 3.216216635 | 0.169789409 | 1.0681629 | 0.1589546 | 0.873705 | NA |
| CABZ01020840.1 | 67.87114906 | -0.342551544 | 0.2797812 | -1.224355 | 0.220818 | 0.787641 |
| ERBB4 (1 of many) | 13.49436272 | 0.79830962 | 0.5696321 | 1.4014477 | 0.16108 | 0.714331 |
| scppl | 29.63304898 | 0.258384462 | 0.3565971 | 0.7245838 | 0.468707 | 0.924328 |
| wdsubl | 241.0115975 | -0.095005182 | 0.1471918 | -0.645452 | 0.518635 | 0.938803 |
| SH2B2 | 58.88212688 | 0.159568248 | 0.2533185 | 0.6299116 | 0.528752 | 0.942109 |
| si:dkey-246i14.3 | 29.73793621 | -0.235684615 | 0.3629866 | -0.649293 | 0.516149 | 0.937997 |
| ctrbl | 1260.796959 | -0.59130615 | 0.2721802 | -2.17248 | 0.029819 | 0.334457 |
| si:dkeyp-7a3.1 | 7.347576033 | 0.134256773 | 0.7015318 | 0.1913766 | 0.848231 | NA |
| ponzrl | 187.7443843 | -0.474105391 | 0.1566182 | -3.02714 | 0.002469 | 0.062293 |
| mtbp | 90.34790959 | -0.061135899 | 0.2114063 | -0.289187 | 0.772438 | 0.975687 |
| sp100.3 | 1.164634085 | -0.410115428 | 1.7445115 | -0.235089 | 0.81414 | NA |
| gnbla | 4613.219485 | 0.003244803 | 0.0908356 | 0.0357217 | 0.971504 | 0.996315 |
| RF00001 | 8.120845422 | 0.288087608 | 0.6726453 | 0.4282905 | 0.66844 | NA |
| si:ch211-197f20.1 | 3.366813498 | 0.027877911 | 1.0853313 | 0.0256861 | 0.979508 | NA |
| mrpl20 | 374.4954771 | -0.07965391 | 0.140755 | -0.565905 | 0.571459 | 0.949418 |
| taarl4h | 2.510577606 | -1.028637339 | 1.2403737 | -0.829296 | 0.406937 | NA |
| ppplr3aa | 63.67363801 | -0.068442907 | 0.270891 | -0.252658 | 0.800532 | 0.979377 |
| sycn.1 | 0.656369582 | -1.475482481 | 2.3019817 | -0.640962 | 0.521547 | NA |
| BX530037.2 | | 0 NA | NA | NA | NA | NA |
| ttl110 | 35.96262196 | -0.302348364 | 0.3397286 | -0.88997 | 0.373482 | 0.893663 |
| si:ch211-269k10.5 | 14.54806016 | 0.609200917 | 0.516635 | 1.1791709 | 0.23833 | 0.807449 |
| ccdc17 | 2.776388175 | 0.871243325 | 1.3254226 | 0.6573325 | 0.510967 | NA |
| trargla | 544.9797629 | 0.136359032 | 0.113048 | 1.2062048 | 0.227739 | 0.794934 |
| lipcb | 50.50485246 | 0.244337327 | 0.2797585 | 0.8733867 | 0.382452 | 0.895192 |
| ANKRD66 | 0.330916733 | -1.849579229 | 3.2489867 | -0.569279 | 0.569167 | NA |
| thsd7ab | 11.82200025 | -0.284094025 | 0.6183869 | -0.459411 | 0.645939 | 0.96029 |
| tmem121ab | 36.91167288 | 0.052338957 | 0.3479951 | 0.1504014 | 0.880448 | 0.987881 |
| zmp:0000000997 | | 0 NA | NA | NA | NA | NA |
| omal | 51.85287987 | 0.354621209 | 0.2735282 | 1.2964705 | 0.194813 | 0.758937 |
| trim8a | 426.2825825 | -0.00150921 | 0.1108927 | -0.01361 | 0.989141 | 0.997589 |
| f2rl2 | 57.75052144 | -0.182269793 | 0.2531355 | -0.720048 | 0.471495 | 0.924838 |
| zgc:158404 | 58.26531435 | -0.816471097 | 0.2668202 | -3.060005 | 0.002213 | 0.05751 |
| ifit11 | 15.6361547 | 0.163872206 | 0.4973024 | 0.3295223 | 0.741761 | 0.973154 |
| tmem138 | 105.3057208 | 0.192704571 | 0.2052348 | 0.9389468 | 0.347758 | 0.880195 |
| CABZ01085658.1 | 137.7445348 | 0.043511589 | 0.1813453 | 0.2399377 | 0.810379 | 0.980867 |
| RF00001 | 0.317711143 | 1.810477155 | 3.2978238 | 0.5489915 | 0.583011 | NA |
| CR753886.1 | 256.9784142 | 0.20935437 | 0.1332489 | 1.5711526 | 0.116147 | 0.63841 |
| FP102786.1 | 0.515095711 | 0.926015374 | 2.6527421 | 0.3490785 | 0.72703 | NA |
| si:dkey-7j14.6 | 740.3621602 | -0.096396548 | 0.1154842 | -0.834716 | 0.403878 | 0.900979 |
| si:ch1073-110a20.7 | 40.81441247 | -1.238629466 | 0.3250596 | -3.810469 | 0.000139 | 0.006408 |
| mfap5 | 18.75741189 | -0.148775869 | 0.4657449 | -0.319436 | 0.749396 | 0.97419 |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| PDZD4 | 373.0975303 | -0.056895021 | 0.1182844 | -0.481002 | 0.630515 | 0.957354 |
| mrpl52 | 128.93532 | 0.099819226 | 0.1978581 | 0.5044989 | 0.613911 | 0.95688 |
| naa40 | 6.576068528 | 0.56051929 | 0.7622228 | 0.7353746 | 0.462111 | NA |
| si:dkey-63j12.4 | 2.211219419 | -1.128190456 | 1.3859967 | -0.813992 | 0.415649 | NA |
| rassf11 | 0.698456806 | 0.09172817 | 2.5265115 | 0.0363063 | 0.971038 | NA |
| wdr4 | 145.0280393 | 0.142406518 | 0.1684938 | 0.8451734 | 0.398014 | 0.899672 |
| gpc1b | 236.0740303 | 0.107862696 | 0.1388029 | 0.7770925 | 0.437104 | 0.914408 |
| taar10b | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| pkpla | 7.790651207 | 0.007668296 | 0.7451974 | 0.0102903 | 0.99179 | NA |
| si:ch211-213a13.1 | 195.2852812 | -0.138779279 | 0.1483255 | -0.93564 | 0.349458 | 0.880195 |
| F0904898.2 | 0.497574187 | -2.437446738 | 2.6012773 | -0.937019 | 0.348749 | NA |
| pimr105 | 0 NA | NA | NA | NA | NA | NA |
| si:dkeyp-117b11.1 | 10.44149288 | 0.557473338 | 0.6516386 | 0.8554947 | 0.392277 | NA |
| F0904898.3 | 0.325452849 | 0.005883619 | 3.3177086 | 0.0017734 | 0.998585 | NA |
| cd59 | 334.8123996 | 0.258911841 | 0.1350449 | 1.9172272 | 0.055209 | 0.460643 |
| ctif | 27.53052092 | -0.015084608 | 0.3800133 | -0.039695 | 0.968336 | 0.996315 |
| malrd1 | 27.86099908 | -0.59901209 | 0.3671472 | -1.631531 | 0.102778 | 0.609031 |
| si:dkeyp-106c3.1 | 593.4234214 | 0.175553954 | 0.1068453 | 1.6430673 | 0.100369 | 0.602451 |
| ADGRL3 | 697.6138866 | -0.007267651 | 0.09399 | -0.077324 | 0.938366 | 0.99279 |
| si:ch73-248e21.1 | 47.12034225 | -0.04405956 | 0.279644 | -0.157556 | 0.874807 | 0.987881 |
| si:dkey-197j19.6 | 1.474483169 | 0.984722888 | 1.5416227 | 0.6387574 | 0.522981 | NA |
| tmtops3b | 8.425677384 | -0.246728479 | 0.7366892 | -0.334915 | 0.737689 | NA |
| si:dkey-32n7.8 | 0 NA | NA | NA | NA | NA | NA |
| BX601644.1 | 0.789152885 | -0.566731584 | 2.4003003 | -0.236109 | 0.813348 | NA |
| smim29 | 245.7471433 | -0.278570988 | 0.141992 | -1.961879 | 0.049777 | 0.437386 |
| kcnj1a.4 | 145.6258174 | -0.038667093 | 0.1905234 | -0.202952 | 0.839173 | 0.984979 |
| myh6 | 43.0260921 | 0.082207734 | 0.3074472 | 0.2673881 | 0.78917 | 0.976965 |
| gp9 | 7.878839491 | -0.033185718 | 0.6855203 | -0.04841 | 0.96139 | NA |
| si:dkey-54n8.4 | 41.3976388 | 0.108506755 | 0.3164574 | 0.3428795 | 0.731689 | 0.971557 |
| tnk2a | 86.61379162 | 0.23207548 | 0.2190073 | 1.0596702 | 0.289295 | 0.845979 |
| ly86 | 1.785871259 | 0.751392726 | 1.5456876 | 0.486122 | 0.626881 | NA |
| gak | 1741.865261 | -0.021847149 | 0.084378 | -0.25892 | 0.795697 | 0.978498 |
| tomm20a | 51.79636604 | -0.313538403 | 0.2760939 | -1.135622 | 0.256115 | 0.824633 |
| moto | 2.547233184 | 3.736360685 | 1.5705053 | 2.3790819 | 0.017356 | NA |
| si:dkey-201i6.8 | 0.672283077 | 0.02892376 | 2.3005571 | 0.0125725 | 0.989969 | NA |
| si:ch1073-104i17.1 | 43.08457655 | -0.377130019 | 0.2986648 | -1.26272 | 0.20669 | 0.774273 |
| si:ch73-40i7.5 | 152.8335219 | 0.005316798 | 0.1737816 | 0.0305947 | 0.975593 | 0.996762 |
| si:ch211-166i24.1 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-79k12.2 | 277.8417293 | -0.197480698 | 0.1284464 | -1.537456 | 0.124182 | 0.652729 |
| tmem241 | 61.92384888 | 0.114469792 | 0.2606761 | 0.4391265 | 0.66057 | 0.963881 |
| slc35f21 | 6.975726536 | 0.55042783 | 0.7460026 | 0.7378363 | 0.460614 | NA |
| rcbtb2 | 120.8099127 | 0.026861934 | 0.1847578 | 0.14539 | 0.884403 | 0.98879 |
| nell2a | 1240.470393 | -0.032382724 | 0.0961745 | -0.336708 | 0.736337 | 0.972535 |
| BX005329.1 | 0.491560863 | 0.853615855 | 2.865157 | 0.2979299 | 0.765757 | NA |
| si:dkey-15b23.3 | 13.044478 | 0.177519162 | 0.5215544 | 0.3403656 | 0.733581 | 0.971993 |
| eif3ea | 5683.693905 | -0.213949242 | 0.0776287 | -2.756059 | 0.00585 | 0.115107 |
| si:dkey-52j6.3 | 4.09163341 | 0.780225179 | 1.011024 | 0.7717177 | 0.440282 | NA |
| nlr5 | 8.295796261 | 0.49292929 | 0.702132 | 0.7020464 | 0.48265 | NA |
| si:dkey-28g23.6 | 85.89825076 | -0.228940059 | 0.2153934 | -1.062893 | 0.287831 | 0.845979 |
| gaa | 22.49985585 | 0.005754388 | 0.3973991 | 0.0144801 | 0.988447 | 0.997476 |
| cltcb | 6079.825653 | 0.080343177 | 0.0774003 | 1.0380222 | 0.29926 | 0.855386 |
| gremla | 0 NA | NA | NA | NA | NA | NA |
| prdm2a | 267.9389552 | -0.155740498 | 0.132322 | -1.176981 | 0.239203 | 0.807768 |
| leg1.1 | 668.7898595 | 0.012979794 | 0.1278739 | 0.1015046 | 0.91915 | 0.991623 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| scn12aa | 80.36226554 | 0.396838142 | 0.2186783 | 1.8147122 | 0.069568 | 0.514708 |
| celf5b | 7.046670346 | -1.383826878 | 0.7699456 | -1.797305 | 0.072287 | NA |
| tnfrsf9b | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| cfbl | 33.8313909 | 0.258428621 | 0.3689722 | 0.7004013 | 0.483677 | 0.929461 |
| si:dkey-16p6.1 | 2.960133816 | -1.007892427 | 1.1053167 | -0.911858 | 0.361843 | NA |
| zmp:0000001003 | 23.55952187 | 0.308526574 | 0.4066021 | 0.7587923 | 0.447977 | 0.917292 |
| tor112 | 6.813223626 | 0.661512266 | 0.7229447 | 0.9150247 | 0.360179 | NA |
| si:ch73-269m14.2 | 373.9454993 | 0.013415773 | 0.1342641 | 0.0999208 | 0.920407 | 0.992049 |
| zc3h3 | 132.8890651 | -0.019347438 | 0.1810711 | -0.10685 | 0.914908 | 0.991119 |
| plk2a | 372.8579361 | 0.00389439 | 0.1225817 | 0.0317698 | 0.974656 | 0.996579 |
| si:dkey-13p1.3 | 4.956630725 | 1.481784928 | 0.9412856 | 1.5742139 | 0.115438 | NA |
| bcas3 | 372.6237815 | 0.047055087 | 0.1162157 | 0.4048943 | 0.685555 | 0.966307 |
| si:ch211-136m16.8 | 39.29232355 | -0.34699594 | 0.3095952 | -1.120805 | 0.262371 | 0.830166 |
| zgc:173556 | 3.286363264 | -0.343212532 | 1.103742 | -0.310954 | 0.755836 | NA |
| si:dkey-51d8.6 | 6.677891642 | 0.125512964 | 0.8084761 | 0.1552464 | 0.876627 | NA |
| F0834800.1 | 203.5919514 | 0.109326354 | 0.1525253 | 0.7167752 | 0.473513 | 0.924993 |
| tt111 | 253.3222936 | -0.179930857 | 0.1354265 | -1.328624 | 0.183972 | 0.747376 |
| mfap4 | 39.29845197 | 0.359931161 | 0.3154045 | 1.1411731 | 0.253798 | 0.823394 |
| diaph3 | 120.7588635 | 0.131490434 | 0.1977055 | 0.6650822 | 0.505998 | 0.935724 |
| klhdc8b | 4.393120486 | -0.773178429 | 0.9498508 | -0.814 | 0.415645 | NA |
| cstf2 | 1094.02021 | -0.065582096 | 0.0840664 | -0.780123 | 0.435319 | 0.914408 |
| RF00001 | 0.646899493 | -1.455098895 | 2.4290529 | -0.59904 | 0.549146 | NA |
| si:ch211-207j7.2 | 194.998447 | 0.166957954 | 0.1629938 | 1.0243209 | 0.305684 | 0.860027 |
| fam222a | 265.5254285 | -0.037732645 | 0.132444 | -0.284895 | 0.775724 | 0.975826 |
| gpr155a | 343.1336805 | 0.111684916 | 0.1173064 | 0.9520787 | 0.341057 | 0.878134 |
| taar14g | 0.341366344 | 1.891903201 | 3.2128156 | 0.5888614 | 0.555954 | NA |
| si:dkey-18a10.3 | 131.4674421 | 0.320112504 | 0.1795424 | 1.7829354 | 0.074597 | 0.532003 |
| kcnj10a | 9.078433213 | -0.060642019 | 0.6380292 | -0.095046 | 0.924278 | NA |
| si:dkey-85k15.11 | | 0 NA | NA | NA | NA | NA |
| CACFD1 | 30.77770931 | -0.124817313 | 0.3445661 | -0.362245 | 0.717169 | 0.96909 |
| slc2a10 | 113.8591279 | 0.150182259 | 0.199669 | 0.7521563 | 0.451957 | 0.918761 |
| zgc:171517 | | 0 NA | NA | NA | NA | NA |
| si:dkey-51d8.3 | 0.672283077 | 0.02892376 | 2.3005571 | 0.0125725 | 0.989969 | NA |
| tmem132e | 1413.162658 | 0.034960867 | 0.0856671 | 0.4081013 | 0.683199 | 0.965476 |
| igfbp6b | 108.5263179 | 0.264385188 | 0.1965918 | 1.3448436 | 0.178676 | 0.739486 |
| epor | 8.430516416 | -0.163559966 | 0.6424007 | -0.254607 | 0.799026 | NA |
| si:ch211-191d2.2 | 157.4914991 | -0.169136318 | 0.1638871 | -1.032029 | 0.302058 | 0.856944 |
| zmp:0000001006 | 3.050682799 | -0.786358835 | 1.2760481 | -0.616245 | 0.537733 | NA |
| CABZ01054965.1 | 18.80952872 | -0.911656334 | 0.4506779 | -2.022856 | 0.043088 | 0.4075 |
| si:ch211-209l18.4 | 341.3976298 | 0.171001335 | 0.1217384 | 1.4046626 | 0.160122 | 0.712495 |
| serpina11 | 3920.578871 | 0.125124424 | 0.0967708 | 1.2929979 | 0.196012 | 0.761182 |
| ciita | 9.820371566 | -0.00776873 | 0.627467 | -0.012381 | 0.990122 | NA |
| lsm11 | 37.38126339 | -0.020885448 | 0.3214446 | -0.064974 | 0.948195 | 0.99381 |
| CABZ01087514.1 | 37.58424285 | 0.285876589 | 0.3490583 | 0.8189937 | 0.41279 | 0.904974 |
| CR847545.1 | 1.637134418 | 0.001080649 | 1.5015749 | 0.0007197 | 0.999426 | NA |
| kcnjla.2 | 151.4392789 | 0.076016209 | 0.1647987 | 0.461267 | 0.644607 | 0.96029 |
| F0904898.4 | | 0 NA | NA | NA | NA | NA |
| si:ch1073-263o8.2 | 0.678375468 | -2.878459328 | 2.4926399 | -1.154783 | 0.248179 | NA |
| si:dkey-210j14.4 | 210.0814901 | 0.078979391 | 0.1510909 | 0.5227277 | 0.601164 | 0.956045 |
| si:dkey-276j7.1 | 4033.6366 | -0.007247973 | 0.0670852 | -0.108041 | 0.913963 | 0.991119 |
| ccl34a.4 | 44.21606954 | -0.664096486 | 0.3111104 | -2.134601 | 0.032794 | 0.352808 |
| si:dkey-217f16.5 | 17.62374772 | 0.073234143 | 0.5363335 | 0.1365459 | 0.89139 | 0.989291 |
| si:rp71-36a1.5 | 4.971251712 | -0.175069817 | 0.839516 | -0.208537 | 0.83481 | NA |
| gabrac3 | 7.506839387 | 0.04025133 | 0.7834947 | 0.0513741 | 0.959027 | NA |

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| zmp:0000001301 | 26.12765148 | -0.055945942 | 0.3914369 | -0.142925 | 0.88635 | 0.988936 |
| si:ch211-132p1.3 | 50.7231885 | -1.182282072 | 0.3259084 | -3.627651 | 0.000286 | 0.011419 |
| cmklr1 | 24.01438766 | 0.758477792 | 0.4012848 | 1.8901236 | 0.058741 | 0.474103 |
| or117-1 | 1.834906788 | -0.823777427 | 1.4572737 | -0.565287 | 0.571879 | NA |
| kanslla | 1276.019876 | 0.024859813 | 0.0897415 | 0.2770157 | 0.781768 | 0.97627 |
| syncn.3 | 6.542991311 | -0.4838659 | 0.7629407 | -0.634212 | 0.525943 | NA |
| apnl | 0.530029684 | -0.939524117 | 2.7937867 | -0.336291 | 0.736652 | NA |
| si:ch211-256e16.11 | 11.42831205 | -0.581298497 | 0.6535605 | -0.889433 | 0.37377 | 0.893677 |
| creb3l3b | 40.13627899 | -0.494112999 | 0.3236902 | -1.5265 | 0.126885 | 0.656588 |
| RNF219 | 27.8403191 | 0.002647967 | 0.3750656 | 0.00706 | 0.994367 | 0.998694 |
| si:ch211-152f22.4 | 0.953494487 | 3.392387971 | 2.405043 | 1.4105311 | 0.158383 | NA |
| npc2 | 1081.616915 | -0.099070657 | 0.1066785 | -0.928684 | 0.353053 | 0.881552 |
| si:ch211-117k10.3 | 417.0976982 | -0.013257682 | 0.1129887 | -0.117336 | 0.906593 | 0.990702 |
| CR559930.1 | | 0 NA | NA | NA | NA | NA |
| si:dkeyp-98a7.3 | | 0 NA | NA | NA | NA | NA |
| si:ch211-120g10.1 | 66.91275313 | -0.121386594 | 0.2898692 | -0.418763 | 0.675389 | 0.965257 |
| or128-4 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| uspl6 | 36.55908253 | -0.375663868 | 0.3225263 | -1.164754 | 0.244119 | 0.813482 |
| CABZ01054394.1 | 85.51725549 | -0.136070596 | 0.21966 | -0.61946 | 0.535613 | 0.943336 |
| CABZ01033205.1 | 68.07210723 | 0.23255467 | 0.2596759 | 0.8955573 | 0.370489 | 0.890489 |
| si:ch211-170d8.8 | 2.81830725 | -1.704798534 | 1.2904729 | -1.321065 | 0.18648 | NA |
| si:zfos-364h11.2 | 10.54629435 | 0.903013542 | 0.6248863 | 1.4450845 | 0.148434 | NA |
| si:dkey-29j8.1 | 2.446447709 | 0.598496899 | 1.2224782 | 0.4895767 | 0.624433 | NA |
| si:ch73-29c22.1 | 9.204184893 | -0.408718686 | 0.6551707 | -0.623835 | 0.532736 | NA |
| dlg5b.1 | 210.419987 | 0.028646728 | 0.1458351 | 0.1964323 | 0.844272 | 0.985174 |
| igsf5b | 28.04763183 | 0.061707623 | 0.3681754 | 0.1676039 | 0.866895 | 0.986978 |
| CU469420.2 | 15.08204287 | -0.484065889 | 0.4876823 | -0.992584 | 0.320913 | 0.868715 |
| atp6ap11b | 520.2230312 | 0.218784608 | 0.1058948 | 2.0660568 | 0.038823 | 0.386536 |
| ripk3 | 10.78831886 | -0.16489061 | 0.6018961 | -0.273952 | 0.784122 | NA |
| cb1n18 | 45.99469886 | 0.177065164 | 0.3018235 | 0.5866513 | 0.557438 | 0.948478 |
| cc2d2a | 282.6519061 | -0.234147093 | 0.1400086 | -1.672376 | 0.09445 | 0.584556 |
| si:dkey-264d12.1 | 38.0986542 | -0.0210815 | 0.3378852 | -0.062392 | 0.95025 | 0.99381 |
| si:dkey-62k3.5 | 157.0345245 | 0.100706991 | 0.1927092 | 0.5225854 | 0.601263 | 0.956045 |
| NABP2 | 135.674221 | -0.087539382 | 0.186511 | -0.469352 | 0.638818 | 0.959658 |
| ifit12 | 3.304115451 | 1.201411346 | 1.1260349 | 1.0669397 | 0.285999 | NA |
| apof | 612.6043659 | -0.017137293 | 0.1088357 | -0.15746 | 0.874882 | 0.987881 |
| si:ch211-191o15.6 | 4.945319953 | -0.988005682 | 1.0108875 | -0.977365 | 0.328389 | NA |
| slc44a1b | 651.564394 | 0.01369413 | 0.0940938 | 0.1455369 | 0.884287 | 0.98879 |
| si:dkeyp-115e12.6 | 464.8985576 | -0.143160738 | 0.1199368 | -1.193635 | 0.232621 | 0.80121 |
| larsa | 202.4160589 | 0.046230798 | 0.1447902 | 0.3192952 | 0.749503 | 0.97419 |
| rnf4 | 251.4033781 | 0.076437733 | 0.1374492 | 0.5561163 | 0.578131 | 0.951024 |
| vegfa | 102.1992837 | -0.035565054 | 0.1954822 | -0.181935 | 0.855634 | 0.985174 |
| si:cabz01071911.3 | 180.0012592 | 0.125447606 | 0.1506863 | 0.8325082 | 0.405122 | 0.901305 |
| mycbp | 179.9728813 | -0.196100291 | 0.1590177 | -1.233198 | 0.217502 | 0.784786 |
| il34 | 86.60916685 | -0.397702984 | 0.2523623 | -1.575921 | 0.115044 | 0.635519 |
| cobl | 581.4216456 | 0.213506521 | 0.1007223 | 2.1197533 | 0.034027 | 0.359235 |
| si:ch211-28p3.4 | 52.36253566 | -0.081738461 | 0.2719459 | -0.300569 | 0.763743 | 0.975374 |
| si:dkey-84h14.2 | 6.132109012 | 0.07280439 | 0.7658792 | 0.0950599 | 0.924267 | NA |
| CR381544.2 | 3.071969823 | 0.147948543 | 1.0953713 | 0.135067 | 0.892559 | NA |
| znf1124 | 2.946777874 | -1.372920967 | 1.2058418 | -1.138558 | 0.254887 | NA |
| si:ch211-218h8.1 | 10.27642651 | 0.569244877 | 0.5838662 | 0.9749578 | 0.329581 | NA |
| aqpla.2 | | 0 NA | NA | NA | NA | NA |
| phox2bb | 470.3820018 | -0.029031272 | 0.1071598 | -0.270916 | 0.786456 | 0.976539 |
| sacs | 224.0139545 | 0.174284076 | 0.14863 | 1.1726033 | 0.240955 | 0.809487 |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| pcdh2ab6 | 2.196553891 | 0.666011611 | 1.3082987 | 0.5090669 | 0.610705 | NA |
| tmem173 | 17.28812791 | 0.219658549 | 0.4845757 | 0.4533008 | 0.650332 | 0.960708 |
| onecut3b | 1.341930527 | 3.871810095 | 1.8532521 | 2.0891978 | 0.03669 | NA |
| slc38a3b | 413.0985572 | 0.238531589 | 0.1224262 | 1.9483708 | 0.051371 | 0.444245 |
| si:dkey-199k11.6 | 2.044002481 | 1.058544983 | 1.4171311 | 0.7469633 | 0.455086 | NA |
| cib3 | 9.24173618 | 0.727270435 | 0.6329353 | 1.149044 | 0.250538 | NA |
| alkal2a | 7.851595886 | 0.070240496 | 0.6740544 | 0.104206 | 0.917006 | NA |
| si:zfos-1192g2.3 | 548.3427126 | -0.101266157 | 0.1008921 | -1.003708 | 0.31552 | 0.866773 |
| si:ch211-195j11.27 | 0.323844819 | -1.825095364 | 3.274639 | -0.557342 | 0.577293 | NA |
| lepa | 12.33431566 | 0.186855408 | 0.5554521 | 0.3364024 | 0.736567 | 0.972535 |
| xirp2b | 71.86460769 | 0.296412729 | 0.2332627 | 1.270725 | 0.203826 | 0.771579 |
| zcchc10 | 193.4160183 | 0.007156851 | 0.1483469 | 0.048244 | 0.961522 | 0.995845 |
| si:dkey-88n24.8 | | 0 NA | NA | NA | NA | NA |
| fabp10b | 40.24259956 | -0.323895152 | 0.3032166 | -1.068197 | 0.285431 | 0.845164 |
| si:ch211-15b10.6 | 716.3585162 | -0.33062451 | 0.1329958 | -2.485977 | 0.01292 | 0.202578 |
| pkhd111 | 535.0808011 | -0.211607455 | 0.1093328 | -1.935443 | 0.052936 | 0.451772 |
| fbxo40.2 | 117.2261844 | 0.407126949 | 0.1924605 | 2.1153791 | 0.034398 | 0.360397 |
| rps19bp1 | 350.7375031 | 0.011598086 | 0.1309117 | 0.0885947 | 0.929404 | 0.992702 |
| rnf207a | 2.668975156 | 0.759922281 | 1.1584689 | 0.6559712 | 0.511843 | NA |
| klf15 | 181.8437785 | 0.332132187 | 0.1525825 | 2.1767386 | 0.0295 | 0.332709 |
| lrrc75bb | 29.8923134 | -0.675470994 | 0.3740763 | -1.805704 | 0.070965 | 0.521075 |
| kcnq2b | 21.65515436 | 1.079402318 | 0.4289942 | 2.5161235 | 0.011865 | 0.191219 |
| cry3b | 595.1704959 | 0.257505219 | 0.1032702 | 2.4935089 | 0.012649 | 0.199773 |
| si:ch211-253p18.5 | 24.24918683 | 0.313138684 | 0.3887987 | 0.8054006 | 0.420589 | 0.90651 |
| zgc:174259 | 11.86962931 | 0.650803385 | 0.5748994 | 1.13203 | 0.257622 | 0.825314 |
| actr3 | 1643.651446 | -0.079194017 | 0.1029919 | -0.768935 | 0.441932 | 0.916336 |
| pik3r6b | 0.878629579 | 0.686795053 | 2.2010162 | 0.3120354 | 0.755014 | NA |
| or106-10 | 2.760392357 | -0.864660802 | 1.1663532 | -0.741337 | 0.458489 | NA |
| CR749162.1 | | 0 NA | NA | NA | NA | NA |
| crygm2d20 | 16229.59572 | 0.070551411 | 0.0818994 | 0.8614402 | 0.388996 | 0.896295 |
| mki67 | 2041.127152 | -0.07674644 | 0.080095 | -0.958193 | 0.337966 | 0.876609 |
| rpz | 325.7628732 | -0.004459623 | 0.1233536 | -0.036153 | 0.97116 | 0.996315 |
| tor4ab | 3.37293713 | 0.356789418 | 1.0856906 | 0.328629 | 0.742436 | NA |
| or110-2 | 2.157964717 | 1.142490925 | 1.3332228 | 0.8569392 | 0.391478 | NA |
| si:dkey-30k22.5 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| FP017295.1 | 22.84558536 | -0.22988161 | 0.4061272 | -0.566033 | 0.571371 | 0.949418 |
| BX649250.1 | 349.0552725 | -0.002169367 | 0.1194022 | -0.018169 | 0.985504 | 0.996944 |
| urml | 240.0522982 | -0.199135755 | 0.1387839 | -1.434862 | 0.151327 | 0.69947 |
| or110-1 | | 0 NA | NA | NA | NA | NA |
| BX511123.1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| mlnr | 3.003399983 | 0.000619935 | 1.1508981 | 0.0005387 | 0.99957 | NA |
| ucp3 | 578.8973748 | 0.153590379 | 0.1363543 | 1.1264062 | 0.259994 | 0.828288 |
| adh8a | 7.415057132 | -0.486723496 | 0.7386283 | -0.658956 | 0.509924 | NA |
| si:dkey-192p21.6 | 6.038035482 | -0.777280783 | 0.8106011 | -0.958894 | 0.337612 | NA |
| rpz2 | 316.5472861 | -0.126229947 | 0.1267602 | -0.995817 | 0.319339 | 0.867749 |
| or111-10 | 0.333314908 | -1.858695402 | 3.5126701 | -0.52914 | 0.596708 | NA |
| ttc34 | 7.855412714 | -0.180149069 | 0.7096631 | -0.253852 | 0.79961 | NA |
| si:dkey-19018.2 | 37.32255475 | 0.07243478 | 0.3185148 | 0.2274142 | 0.820102 | 0.981594 |
| CR450686.1 | 13.34145593 | -0.581925111 | 0.5578297 | -1.043195 | 0.296858 | 0.853798 |
| kcnjla.1 | 69.92960539 | 0.653153136 | 0.234104 | 2.7900126 | 0.005271 | 0.107431 |
| FP236356.1 | 0.31598276 | 0.005883445 | 3.3523626 | 0.001755 | 0.9986 | NA |
| si:ch73-335121.4 | 742.4037616 | 0.086097185 | 0.2850876 | 0.3020025 | 0.76265 | 0.975374 |
| CABZ01015525.1 | 0.824205979 | 0.498048327 | 2.3641483 | 0.2106671 | 0.833147 | NA |
| glt1dl | 17.46293737 | -0.247104476 | 0.4527907 | -0.545737 | 0.585247 | 0.952562 |

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| znf975 | 5.47254007 | 0.275323192 | 0.8319435 | 0.3309398 | 0.74069 | NA |
| fars2 | 93.17290839 | -0.079527349 | 0.2020839 | -0.393536 | 0.693923 | 0.96736 |
| CR381686.1 | 4.464166152 | 0.112051415 | 0.9004303 | 0.1244421 | 0.900965 | NA |
| slc22a7b.2 | 22.55208557 | 1.268038892 | 0.4168016 | 3.0423083 | 0.002348 | 0.060184 |
| smyd1b | 446.4037589 | 0.358189449 | 0.1265659 | 2.8300638 | 0.004654 | 0.098004 |
| si:ch73-59p9.2 | 0 | NA | NA | NA | NA | NA |
| mylk4a | 183.8591138 | 0.51828007 | 0.1527034 | 3.3940314 | 0.000689 | 0.02285 |
| si:ch211-71m22.5 | 5.611028805 | 0.847378674 | 0.8416145 | 1.006849 | 0.314007 | NA |
| si:ch211-225g23.1 | 182.4556652 | -0.137683604 | 0.1585485 | -0.868401 | 0.385175 | 0.89551 |
| dre-mir-221 | 0 | NA | NA | NA | NA | NA |
| adra2da | 70.62504234 | -0.134466709 | 0.2388502 | -0.562975 | 0.573452 | 0.949869 |
| si:ch211-66k16.27 | 15.59911458 | -0.091235136 | 0.4863613 | -0.187587 | 0.8512 | 0.985174 |
| ebf3b | 9.410493366 | 0.055351331 | 0.6155677 | 0.0899192 | 0.928351 | NA |
| dmx12 | 2257.17233 | 0.043215764 | 0.0986892 | 0.4378975 | 0.661461 | 0.964234 |
| pmela | 3019.0402 | -0.130213575 | 0.0850298 | -1.531387 | 0.125674 | 0.654803 |
| card19 | 227.3556299 | 0.149424483 | 0.1396873 | 1.0697073 | 0.284751 | 0.844955 |
| kcnn1a | 907.8086821 | 0.030393046 | 0.0950666 | 0.3197027 | 0.749194 | 0.97419 |
| hunk | 1078.089981 | -0.23422909 | 0.086248 | -2.715764 | 0.006612 | 0.124967 |
| RF00001 | 0.983163012 | 1.013789546 | 1.9987523 | 0.5072112 | 0.612007 | NA |
| nlr6 | 61.30534844 | -0.084568234 | 0.2464793 | -0.343105 | 0.73152 | 0.971557 |
| CABZ01088229.1 | 10.14821255 | 0.28165004 | 0.6150482 | 0.4579316 | 0.647002 | NA |
| cep120 | 305.5176193 | -0.190761878 | 0.1414006 | -1.349088 | 0.177309 | 0.738201 |
| si:ch73-134f24.1 | 0 | NA | NA | NA | NA | NA |
| RF00017 | 0 | NA | NA | NA | NA | NA |
| adcy5 | 93.37514755 | -0.140647241 | 0.2183607 | -0.644105 | 0.519507 | 0.938945 |
| rtn3 | 4298.486285 | 0.119930146 | 0.0785906 | 1.5260122 | 0.127007 | 0.656588 |
| plekhd1 | 103.7445353 | 0.240942906 | 0.210313 | 1.1456394 | 0.251944 | 0.821478 |
| CAMSAP3 | 711.4394472 | 0.060602129 | 0.1305871 | 0.4640743 | 0.642595 | 0.959994 |
| si:dkey-84k17.2 | 32.93924635 | 0.451049172 | 0.3440575 | 1.3109703 | 0.189868 | 0.754269 |
| prpf6 | 1646.132718 | -0.072213307 | 0.0837576 | -0.86217 | 0.388594 | 0.896271 |
| AL954327.1 | 6.632868264 | -0.892798355 | 0.7371236 | -1.211192 | 0.225822 | NA |
| galn | 110.9422319 | 0.372533692 | 0.2015826 | 1.848045 | 0.064596 | 0.497355 |
| si:ch211-214c20.1 | 1.197130868 | 0.490080416 | 1.8201022 | 0.2692598 | 0.78773 | NA |
| zgc:165409 | 194.2828713 | -0.06536954 | 0.1541463 | -0.424075 | 0.671511 | 0.965257 |
| si:ch73-38013.5 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| si:ch211-161m3.6 | 70.57404887 | -0.206577691 | 0.2653418 | -0.778534 | 0.436254 | 0.914408 |
| eif2b1 | 414.0152268 | -0.025135622 | 0.1128355 | -0.222763 | 0.82372 | 0.982196 |
| mtcl1 | 12.76132193 | -0.282941254 | 0.570758 | -0.495729 | 0.620086 | 0.957354 |
| zp2.6 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:ch211-214p13.9 | 13.09106112 | -0.447356809 | 0.5487053 | -0.815295 | 0.414903 | 0.906237 |
| TIMM22 | 148.0706512 | -0.07747515 | 0.1681512 | -0.460747 | 0.64498 | 0.96029 |
| RF00001 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| snx17 | 443.5757401 | 0.000330491 | 0.1128949 | 0.0029274 | 0.997664 | 0.999174 |
| nrarpa | 1421.730716 | 0.074386409 | 0.0863718 | 0.8612345 | 0.389109 | 0.896347 |
| BX511100.2 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:ch211-176g13.8 | 68.06326624 | -0.177916044 | 0.2406919 | -0.739186 | 0.459794 | 0.921978 |
| abhd17aa | 158.0359421 | -0.435842235 | 0.1656706 | -2.630775 | 0.008519 | 0.151081 |
| pimr27 | 0 | NA | NA | NA | NA | NA |
| gabra2a | 48.90472488 | 0.423782488 | 0.2746611 | 1.5429289 | 0.122848 | 0.650905 |
| si:dkey-66a8.7 | 93.70889763 | 0.276029134 | 0.2274354 | 1.2136597 | 0.224878 | 0.792185 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| ccdc28a | 15.90428426 | -0.23233742 | 0.4707799 | -0.493516 | 0.621648 | 0.957354 |
| znf1066 | 7.215462522 | -0.06506326 | 0.7056017 | -0.09221 | 0.926531 | NA |

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| foxcla | 491.5540383 | -0.258016883 | 0.1128697 | -2.285971 | 0.022256 | 0.283929 |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| cnbd1 | 4.537800788 | 0.837033831 | 0.93892 | 0.8914858 | 0.372669 | NA |
| si:dkey-83f18.11 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| zmp:0000001020 | 16.86095469 | 0.052759534 | 0.5191343 | 0.1016298 | 0.91905 | 0.991623 |
| CABZ01073954.1 | 283.0405704 | 0.128185205 | 0.1335133 | 0.9600932 | 0.337008 | 0.876088 |
| atp6ap1la | 57.9447587 | 0.077181107 | 0.2555649 | 0.302002 | 0.762651 | 0.975374 |
| gpx7 | 200.1337986 | 0.122419194 | 0.1571595 | 0.7789489 | 0.43601 | 0.914408 |
| nfrkb | 424.1928568 | -0.214528428 | 0.1373809 | -1.561559 | 0.118392 | 0.641743 |
| si:dkey-22o12.2 | 443.6164843 | 0.050207714 | 0.1107715 | 0.4532548 | 0.650365 | 0.960708 |
| CT737190.1 | 49.17970431 | 0.199914173 | 0.2987133 | 0.669251 | 0.503335 | 0.935304 |
| BX511084.1 | 5.401907787 | -0.26144541 | 0.8425321 | -0.310309 | 0.756326 | NA |
| MAP3K11 | 36.42778354 | 0.239937025 | 0.3471625 | 0.6911375 | 0.489479 | 0.931926 |
| carml1 | 31.20900338 | 0.341770616 | 0.3394226 | 1.0069176 | 0.313974 | 0.865176 |
| ccser2b | 11.55262815 | 0.510375313 | 0.5663103 | 0.9012291 | 0.367467 | 0.887458 |
| zranb3 | 89.55219628 | -0.133447124 | 0.2070515 | -0.644512 | 0.519244 | 0.938945 |
| ptrjrb.1 | 14.29186037 | -0.394570223 | 0.5183282 | -0.761236 | 0.446516 | 0.917154 |
| stard9 | 221.8088612 | 0.122294098 | 0.1381912 | 0.8849629 | 0.376177 | 0.894698 |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| ostf1 | 464.9831986 | -0.163747334 | 0.1053715 | -1.554 | 0.120184 | 0.645215 |
| tnfsf13 | 0 NA | NA | NA | NA | NA | NA |
| mmp19 | 0.853874503 | -1.902668424 | 2.1134959 | -0.900247 | 0.367989 | NA |
| si:ch211-251f6.7 | 13.82665638 | -1.162710119 | 0.5455684 | -2.13119 | 0.033073 | 0.354192 |
| slc6a19a.2 | 257.4020115 | -1.16332813 | 0.1388497 | -8.378328 | 5.37E-17 | 3.22E-14 |
| si:dkey-156k2.4 | 12.25127787 | -0.146862111 | 0.5407146 | -0.271607 | 0.785924 | 0.97627 |
| snwl | 1503.461845 | -0.126939589 | 0.0848354 | -1.496305 | 0.134574 | 0.670689 |
| si:ch1073-90m23.1 | 17.48981834 | -0.749506744 | 0.4989712 | -1.502104 | 0.13307 | 0.667628 |
| suox | 342.2601194 | 0.149562697 | 0.1198561 | 1.2478518 | 0.212085 | 0.77986 |
| TMEM216 | 38.13051125 | -0.178447464 | 0.3395284 | -0.525574 | 0.599184 | 0.955891 |
| si:ch211-66e2.5 | 382.3358842 | 0.115723655 | 0.1177999 | 0.982375 | 0.325915 | 0.871896 |
| si:ch73-217n20.1 | 111.4538896 | -0.111836093 | 0.1943256 | -0.575509 | 0.564947 | 0.948739 |
| kif28 | 10.484989 | -0.63163167 | 0.6096557 | -1.036047 | 0.30018 | NA |
| si:ch211-170p16.1 | 0 NA | NA | NA | NA | NA | NA |
| pelila | 26.15784812 | 0.054901491 | 0.3785993 | 0.1450121 | 0.884701 | 0.988838 |
| L0018154.1 | 118.8918097 | 0.160374572 | 0.1852799 | 0.8655798 | 0.386721 | 0.89551 |
| si:ch73-91k6.2 | 33.31472924 | -0.094567304 | 0.3388401 | -0.279091 | 0.780175 | 0.976218 |
| si:dkey-163f14.6 | 101.5615192 | -0.049557774 | 0.2033643 | -0.24369 | 0.807471 | 0.980642 |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| arhgef28b | 20.19423821 | 0.039710664 | 0.4372024 | 0.090829 | 0.927628 | 0.992702 |
| spink4 | 47.31103089 | -0.352825774 | 0.3047882 | -1.15761 | 0.247023 | 0.816669 |
| si:dkey-62k3.6 | 9.080924003 | -0.370035234 | 0.6235433 | -0.593439 | 0.552887 | NA |
| prok2 | 2.387458266 | 1.912712991 | 1.3551631 | 1.4114264 | 0.158119 | NA |
| cltcl1 | 136.4722667 | 0.018849395 | 0.1751592 | 0.1076129 | 0.914303 | 0.991119 |
| mvl2ba | 61.04994946 | -0.318250215 | 0.259131 | -1.228144 | 0.219393 | 0.78594 |
| ugt2a7 | 27.89517669 | -0.578135176 | 0.394595 | -1.465136 | 0.142884 | 0.685108 |
| si:dkeyp-67f1.2 | 37.30192508 | -0.067301825 | 0.3245851 | -0.207347 | 0.835739 | 0.984089 |
| si:dkey-271j15.3 | 93.44750959 | -0.044290822 | 0.2308127 | -0.191891 | 0.847828 | 0.985174 |
| cspp1b | 230.2301116 | -0.09846277 | 0.1427793 | -0.689615 | 0.490436 | 0.931926 |
| si:ch211-197h24.6 | 708.4808219 | 0.036316065 | 0.0952543 | 0.3812537 | 0.703015 | 0.968134 |
| si:dkey-177p2.18 | 84.90379172 | -0.018655656 | 0.2111652 | -0.088346 | 0.929601 | 0.992702 |
| pip4k2cb | 24.34281965 | -0.726250399 | 0.4347397 | -1.670541 | 0.094812 | 0.585466 |
| CABZ01072989.1 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:ch73-352p4.5 | 52.94826208 | -0.164290424 | 0.2630356 | -0.624594 | 0.532238 | 0.942546 |
| igflr1 | 43.8593267 | 0.449421338 | 0.3176942 | 1.4146351 | 0.157176 | 0.707876 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| xrn1 | 994.6338237 | 0.029727287 | 0.0927514 | 0.3205049 | 0.748586 | 0.97419 |
| gcsa | 385.4624558 | -0.124689729 | 0.1125565 | -1.107797 | 0.267949 | 0.833349 |
| lsm8 | 296.2840505 | -0.127203367 | 0.1275046 | -0.997638 | 0.318455 | 0.867746 |
| CT573256.1 | 17.17318044 | 0.726886643 | 0.4659043 | 1.5601629 | 0.118721 | 0.642473 |
| sptssb | 241.7572461 | -0.003588387 | 0.1416796 | -0.025327 | 0.979794 | 0.996879 |
| fgfbplb | 131.9652498 | 0.120465344 | 0.1843266 | 0.653543 | 0.513406 | 0.93654 |
| si:dkey-234i14.3 | 19.75299339 | -0.319316026 | 0.459742 | -0.694555 | 0.487334 | 0.931584 |
| bicd12l | 211.5228868 | 0.299241146 | 0.1594266 | 1.8769838 | 0.06052 | 0.480421 |
| ints12 | 259.6652087 | -0.109184406 | 0.1451546 | -0.752194 | 0.451935 | 0.918761 |
| F0704858.1 | 0.31598276 | 0.005883445 | 3.3523626 | 0.001755 | 0.9986 | NA |
| cnripla | 1122.414265 | 0.02636238 | 0.0936781 | 0.2814144 | 0.778393 | 0.975942 |
| havcr2 | 17.81551989 | 0.188631735 | 0.4633199 | 0.4071307 | 0.683912 | 0.965679 |
| RF00017 | 0 NA | NA | NA | NA | NA | NA |
| capn2a | 1342.409903 | 0.239866822 | 0.0865852 | 2.7702981 | 0.005601 | 0.111976 |
| csnk2a4 | 27.46530981 | 0.21651954 | 0.4060131 | 0.5332821 | 0.593838 | 0.954434 |
| taar14d | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-238d18.5 | 1.356245041 | -2.710785197 | 1.9732092 | -1.373795 | 0.169505 | NA |
| BX649490.1 | 2.09163507 | 1.173698227 | 1.3801324 | 0.8504244 | 0.395089 | NA |
| si:ch211-202f3.4 | 28.67101336 | 0.177490009 | 0.4016541 | 0.4418976 | 0.658563 | 0.962545 |
| aebpl | 587.3284342 | 0.089988336 | 0.1015813 | 0.8858749 | 0.375685 | 0.894316 |
| CABZ01061592.1 | 54.04877965 | 0.068927279 | 0.2837179 | 0.242943 | 0.80805 | 0.980642 |
| zgc:l14046 | 122.5277154 | 0.006633463 | 0.2042736 | 0.0324734 | 0.974095 | 0.99644 |
| gig2l | 0 NA | NA | NA | NA | NA | NA |
| taar14b | 0 NA | NA | NA | NA | NA | NA |
| traf3ip2l | 168.3024493 | -0.003463922 | 0.1704334 | -0.020324 | 0.983785 | 0.996944 |
| si:dkey-16p6.1 | 4.973646385 | -0.229014269 | 0.9155524 | -0.250138 | 0.802481 | NA |
| tbx22 | 19.50226386 | -0.115616933 | 0.4287249 | -0.269676 | 0.787409 | 0.976596 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| CT573476.1 | 67.31075947 | 0.017721782 | 0.2876062 | 0.0616182 | 0.950867 | 0.99381 |
| insmla | 947.2635062 | 0.048017388 | 0.0909812 | 0.5277724 | 0.597657 | 0.95534 |
| adgrf6 | 313.5065564 | -0.202575899 | 0.1337963 | -1.514062 | 0.13001 | 0.662595 |
| cwf1912 | 338.434507 | -0.140146867 | 0.1215498 | -1.152999 | 0.248911 | 0.818009 |
| zbtb40 | 183.0639726 | -0.116717759 | 0.1594397 | -0.73205 | 0.464138 | 0.923204 |
| dclrela | 172.4438886 | 0.069647438 | 0.1653448 | 0.4212254 | 0.67359 | 0.965257 |
| lysmd2 | 541.0603821 | 0.149337456 | 0.1025167 | 1.4567136 | 0.145195 | 0.690034 |
| CR524827.1 | 0 NA | NA | NA | NA | NA | NA |
| mapkap1 | 108.3719762 | -0.08040514 | 0.2058634 | -0.390575 | 0.696111 | 0.96736 |
| BX890608.2 | 0 NA | NA | NA | NA | NA | NA |
| si:dkeyp-71f10.5 | 8.116196517 | -0.379778582 | 0.7236806 | -0.524788 | 0.599731 | NA |
| si:ch211-203b20.4 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| or111-5 | 1.683107494 | 1.239144993 | 1.5746599 | 0.7869287 | 0.431324 | NA |
| akap12a | 184.5028437 | -0.315941844 | 0.1536636 | -2.056062 | 0.039777 | 0.391511 |
| taar18c | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-266k22.6 | 112.6166141 | -0.03747618 | 0.1861335 | -0.20134 | 0.840432 | 0.985042 |
| zgc:l74260 | 6.703079214 | 0.929083211 | 0.7568748 | 1.2275256 | 0.219625 | NA |
| serpinb14 | 393.1670808 | -0.093936351 | 0.1339598 | -0.701228 | 0.483161 | 0.92946 |
| si:dkey-21a6.5 | 204.9993492 | -0.244108881 | 0.1566809 | -1.558 | 0.119233 | 0.643307 |
| CR391998.1 | 30.56110883 | 0.153607242 | 0.3605798 | 0.4260006 | 0.670107 | 0.965223 |
| smc6 | 39.84010735 | -0.145903124 | 0.3064659 | -0.476083 | 0.634015 | 0.95776 |
| ddx27 | 582.1231822 | -0.188949358 | 0.0998404 | -1.892513 | 0.058423 | 0.473924 |
| MDFIC2 | 5.32122798 | -1.122310059 | 0.8621679 | -1.30173 | 0.193009 | NA |
| sv2 | 117.9438403 | -0.099609867 | 0.2048079 | -0.486358 | 0.626714 | 0.957354 |
| si:ch211-198m17.1 | 271.4220885 | -0.292823616 | 0.1473166 | -1.987716 | 0.046843 | 0.425112 |
| si:ch73-264p11.1 | 31.17440098 | -0.363593837 | 0.3440116 | -1.056923 | 0.290547 | 0.846262 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| casp7 | 801.345305 | 0.162984196 | 0.0898131 | 1.8147048 | 0.069569 | 0.514708 |
| si:cabz01071909.2 | 21.47071112 | -0.727142815 | 0.4322562 | -1.682203 | 0.092529 | 0.579378 |
| pimr21 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-181d7.1 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| tsen2 | 55.59764775 | -0.268287125 | 0.2612815 | -1.026812 | 0.304509 | 0.858905 |
| si:ch73-233m11.2 | 5.365164936 | 0.019996082 | 0.9144928 | 0.0218658 | 0.982555 | NA |
| zgc:194007 | 21.65149672 | -0.089324875 | 0.4256832 | -0.209839 | 0.833793 | 0.983583 |
| BX942825.1 | 0 NA | NA | NA | NA | NA | NA |
| zgc:158701 | 5.793260201 | -0.767486554 | 0.8345837 | -0.919604 | 0.35778 | NA |
| BX950194.1 | 0 NA | NA | NA | NA | NA | NA |
| CR936300.1 | 8.304189222 | -0.869478396 | 0.714792 | -1.216408 | 0.22383 | NA |
| zgc:162958 | 69.10153249 | -0.265794933 | 0.2480063 | -1.071726 | 0.283843 | 0.844676 |
| CU469539.1 | 0.674011459 | 1.487968231 | 2.2861421 | 0.6508643 | 0.515134 | NA |
| si:ch211-102c2.7 | 123.3041528 | 0.070235198 | 0.1797889 | 0.3906536 | 0.696053 | 0.96736 |
| CR354402.1 | 0.349228403 | 0.005884014 | 3.2372587 | 0.0018176 | 0.99855 | NA |
| or137-7 | 0.635542639 | 2.809903053 | 2.5424041 | 1.1052149 | 0.269066 | NA |
| si:dkey-29d8.3 | 66.63593968 | -0.142931502 | 0.2367378 | -0.603754 | 0.546007 | 0.945526 |
| grnas | 2.144848486 | -1.167991318 | 1.3031737 | -0.896267 | 0.37011 | NA |
| BX005355.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:dkeyp-69c1.9 | 13.11116008 | 0.132876565 | 0.5418946 | 0.2452074 | 0.806296 | 0.980105 |
| CR812481.1 | 7.437292437 | -0.246509813 | 0.7167491 | -0.343928 | 0.730901 | NA |
| si:dkeyp-67e1.3 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| AL953893.1 | 0 NA | NA | NA | NA | NA | NA |
| znf1172 | 19.57081009 | -0.420505877 | 0.4481262 | -0.938365 | 0.348057 | 0.880195 |
| BX323884.1 | 110.4683465 | 0.06238025 | 0.1908747 | 0.3268126 | 0.74381 | 0.974094 |
| si:ch73-54n14.2 | 0 NA | NA | NA | NA | NA | NA |
| CR388209.1 | 1.480214502 | -0.378082517 | 1.6730776 | -0.22598 | 0.821217 | NA |
| b3gnt2b | 554.5051844 | 0.269332062 | 0.1061642 | 2.5369386 | 0.011183 | 0.183548 |
| si:dkeyp-51f12.3 | 3.345223152 | 0.88043495 | 1.0554391 | 0.8341883 | 0.404175 | NA |
| si:dkey-108k21.21 | 31.09614939 | 0.434741963 | 0.3758094 | 1.1568151 | 0.247348 | 0.81686 |
| rbp7a | 0.316103113 | 0.005883447 | 3.3519121 | 0.0017553 | 0.9986 | NA |
| si:ch73-59c19.1 | 2.803454605 | -1.301381158 | 1.2031374 | -1.081656 | 0.279405 | NA |
| CR974461.1 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-15j1.5 | 10.16097876 | 0.849142569 | 0.6187223 | 1.372413 | 0.169935 | NA |
| BX530075.1 | 0 NA | NA | NA | NA | NA | NA |
| ugt5b4 | 223.8938441 | -0.431998696 | 0.1443175 | -2.993392 | 0.002759 | 0.067771 |
| CU571079.1 | 24.84901322 | 0.095949101 | 0.3872376 | 0.2477784 | 0.804306 | 0.979643 |
| BX548073.1 | 11.99570064 | -0.588886482 | 0.593287 | -0.992583 | 0.320913 | 0.868715 |
| BX284679.1 | 0.323844819 | -1.825095364 | 3.274639 | -0.557342 | 0.577293 | NA |
| si:dkey-103e21.5 | 20.6064471 | -1.062390881 | 0.4267615 | -2.489425 | 0.012795 | 0.2008 |
| or126-1 | 0.666939546 | 1.487980453 | 2.2924711 | 0.6490727 | 0.516291 | NA |
| si:ch211-12e13.1 | 6.85570318 | -0.343639781 | 0.8394049 | -0.409385 | 0.682257 | NA |
| gpatch4 | 183.6324213 | 0.107764161 | 0.1857092 | 0.5802845 | 0.561723 | 0.948728 |
| si:ch73-25f10.6 | 469.6033658 | 0.151971796 | 0.1045131 | 1.4540935 | 0.14592 | 0.691682 |
| BX649388.1 | 6.07543883 | 0.553803991 | 0.7666723 | 0.7223477 | 0.470081 | NA |
| BX005429.1 | 0 NA | NA | NA | NA | NA | NA |
| CU633804.1 | 1.165331617 | 1.275668599 | 1.8732058 | 0.6810083 | 0.495866 | NA |
| GBGT1 (1 of many) | 4.765213944 | -0.495763531 | 0.8853109 | -0.559988 | 0.575488 | NA |
| BX927308.1 | 205.0513546 | -0.259070457 | 0.1542051 | -1.680038 | 0.09295 | 0.580357 |
| BX890576.1 | 5.82537333 | 1.11732866 | 0.8259984 | 1.3527008 | 0.176151 | NA |
| CR847971.1 | 2.497214877 | 1.479473532 | 1.2462217 | 1.1871672 | 0.235162 | NA |
| BX005313.1 | 1.123285678 | 0.391074727 | 1.9652571 | 0.1989942 | 0.842267 | NA |
| GBGT1 (1 of many) | 0.641555962 | -0.014184532 | 2.3335058 | -0.006079 | 0.99515 | NA |
| CR391940.1 | 31.20147959 | -0.17014306 | 0.3439062 | -0.494737 | 0.620786 | 0.957354 |

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| znf106b | 48.85445061 | 0.026669879 | 0.2777781 | 0.0960114 | 0.923511 | 0.992588 |
| CU694486.1 | 0 NA | NA | NA | NA | NA | NA |
| si:dkeyp-4c7.3 | 1.021349841 | -0.039072774 | 2.0390376 | -0.019162 | 0.984712 | NA |
| nuggc.2 | 11.30349802 | -0.771774397 | 0.576399 | -1.338959 | 0.180584 | 0.741768 |
| si:dkeyp-122a9.1 | 0.792730004 | 1.851900952 | 2.2729754 | 0.8147475 | 0.415217 | NA |
| tmem184bb | 54.14176638 | 0.025840967 | 0.2771725 | 0.0932306 | 0.92572 | 0.992689 |
| si:dkey-172o10.8 | 0 NA | NA | NA | NA | NA | NA |
| BX677668.1 | 2.54255619 | 1.062823932 | 1.3018698 | 0.8163826 | 0.414281 | NA |
| pth1b | 0.988894344 | -1.041944082 | 1.9792901 | -0.526423 | 0.598594 | NA |
| RUNDC1 | 123.2919476 | 0.233728773 | 0.1907156 | 1.2255355 | 0.220374 | 0.787278 |
| CR925863.1 | 0.365141898 | 1.973577737 | 3.3927314 | 0.5817076 | 0.560764 | NA |
| ttf1 | 57.42751233 | -0.292178545 | 0.2657529 | -1.099437 | 0.271577 | 0.83659 |
| gbgt113 | 1.767669898 | 2.174064496 | 1.6432594 | 1.3230197 | 0.185829 | NA |
| ms4a17a.3 | 4.248778647 | -0.225709705 | 0.916524 | -0.246267 | 0.805475 | NA |
| si:dkey-58f10.7 | 12.78700535 | 0.279495156 | 0.5331052 | 0.5242776 | 0.600085 | 0.956045 |
| CR356233.1 | 18.81128672 | 0.129158412 | 0.4719163 | 0.2736892 | 0.784323 | 0.97627 |
| AL929229.1 | 1.465400882 | 0.273436181 | 1.5956724 | 0.1713611 | 0.86394 | NA |
| CR848717.1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX470189.2 | 9.781421581 | -0.275183938 | 0.6657049 | -0.413372 | 0.679334 | NA |
| CR450716.1 | 0 NA | NA | NA | NA | NA | NA |
| BX085193.1 | 0 NA | NA | NA | NA | NA | NA |
| BX005012.2 | 0.31598276 | 0.005883445 | 3.3523626 | 0.001755 | 0.9986 | NA |
| BX469885.1 | 0 NA | NA | NA | NA | NA | NA |
| BX511112.1 | 0 NA | NA | NA | NA | NA | NA |
| v2ra16 | 1.664634186 | 0.538718286 | 1.5014365 | 0.3588019 | 0.719743 | NA |
| mrp | 0 NA | NA | NA | NA | NA | NA |
| dicp1.1 | 2.25349602 | 0.732514473 | 1.3950446 | 0.5250832 | 0.599525 | NA |
| znf1048 | 17.02762352 | -0.360698387 | 0.4749376 | -0.759465 | 0.447575 | 0.917154 |
| tcnbb | 4157.680964 | 0.244145079 | 0.0818155 | 2.9840923 | 0.002844 | 0.069229 |
| si:ch211-284e13.11 | 0 NA | NA | NA | NA | NA | NA |
| znf1020 | 3.961563957 | -1.295144316 | 0.9810087 | -1.320217 | 0.186763 | NA |
| CR735121.1 | 0 NA | NA | NA | NA | NA | NA |
| ccs | 72.87260073 | -0.296696006 | 0.2649872 | -1.119662 | 0.262858 | 0.830166 |
| CR396590.1 | 0 NA | NA | NA | NA | NA | NA |
| CT027611.1 | 0 NA | NA | NA | NA | NA | NA |
| CR381686.2 | 1.777700466 | 2.052228824 | 3.8880257 | 0.5278331 | 0.597615 | NA |
| BX530407.1 | 0 NA | NA | NA | NA | NA | NA |
| BX294129.1 | 0.499972362 | -2.44370697 | 3.0013188 | -0.814211 | 0.415524 | NA |
| si:ch211-139a5.1 | 49.77547965 | 0.044630744 | 0.269379 | 0.1656801 | 0.868409 | 0.987245 |
| CR855277.1 | 1.96965918 | -0.012388435 | 1.3732927 | -0.009021 | 0.992802 | NA |
| CR513782.1 | 0.681245011 | 1.537021632 | 2.3941387 | 0.6419936 | 0.520877 | NA |
| si:dkey-256e7.8 | 5.778543344 | 0.397395482 | 0.7966557 | 0.4988297 | 0.617899 | NA |
| ftr10 | 0 NA | NA | NA | NA | NA | NA |
| n1rc8 | 0.69766666 | 1.536459923 | 2.3782158 | 0.6460557 | 0.518243 | NA |
| zgc:173545 | 0.476747244 | 2.393381959 | 3.0525537 | 0.7840589 | 0.433006 | NA |
| si:dkey-20i20.9 | 4.470260803 | -0.327876238 | 0.91496 | -0.35835 | 0.720081 | NA |
| si:dkey-4c23.3 | 0.999584661 | 0.976925822 | 1.8949579 | 0.5155396 | 0.606176 | NA |
| si:dkey-239h2.3 | 95.26572665 | -0.612119721 | 0.2615291 | -2.340542 | 0.019256 | 0.25973 |
| BX649633.1 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-156j16.1 | 1643.180354 | 0.184838209 | 0.0860347 | 2.1484144 | 0.031681 | 0.345305 |
| CR925731.1 | 7.235732395 | 0.127283879 | 0.7312516 | 0.174063 | 0.861816 | NA |
| si:dkey-70p6.1 | 331.7664527 | 0.250840323 | 0.1266108 | 1.9811928 | 0.04757 | 0.42893 |
| CR391910.1 | 0.855644171 | -0.484665734 | 2.1924736 | -0.221059 | 0.825047 | NA |
| AL935153.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| si:dkey-22f5.9 | 36.07436657 | 1.825071922 | 0.3463647 | 5.2692196 | 1.37E-07 | 1.82E-05 |
| si:dkey-225k4.1 | 18.16733597 | -0.301619289 | 0.4697662 | -0.642063 | 0.520833 | 0.939056 |
| gstk4 | 2.790212228 | 0.891576422 | 1.1702567 | 0.7618639 | 0.446141 | NA |
| BX649502.1 | 0 NA | NA | NA | NA | NA | NA |
| BX927365.1 | 1.571742854 | 1.077963887 | 1.7704183 | 0.6088752 | 0.542607 | NA |
| si:dkey-90123.1 | 2.342741209 | -1.88024215 | 1.3614357 | -1.381073 | 0.167256 | NA |
| tbx5b | 8.666242664 | 0.470974361 | 0.6762531 | 0.6964469 | 0.486149 | NA |
| si:dkey-112g5.13 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX511123.2 | 3.580501776 | -0.017168637 | 1.0101965 | -0.016995 | 0.98644 | NA |
| si:dkey-117n7.4 | 52.27518759 | -0.075541994 | 0.2731183 | -0.276591 | 0.782094 | 0.97627 |
| BX005174.1 | 3.14648155 | -1.43718534 | 1.1345648 | -1.266728 | 0.205252 | NA |
| CT583708.1 | 6.864456668 | 0.213288383 | 0.7878801 | 0.2707117 | 0.786613 | NA |
| atn1 | 1137.384638 | 0.017983471 | 0.1009706 | 0.1781059 | 0.85864 | 0.985773 |
| si:ch211-15j1.3 | 1.988211556 | 0.486847799 | 1.3953852 | 0.3488985 | 0.727166 | NA |
| si:ch211-117n7.6 | 63.56328936 | -0.209337132 | 0.2446577 | -0.855633 | 0.392201 | 0.897688 |
| CT997819.1 | 0.325573202 | 0.005883621 | 3.3172783 | 0.0017736 | 0.998585 | NA |
| znf1165 | 32.36270272 | -0.445381255 | 0.3363747 | -1.324063 | 0.185482 | 0.74928 |
| hcest | 5.781983657 | -0.235397148 | 0.8039727 | -0.292792 | 0.769681 | NA |
| pimr49 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-147f3.4 | 130.1629217 | -0.105690032 | 0.1771448 | -0.596631 | 0.550754 | 0.946549 |
| AL954134.1 | 2.918879017 | -0.321560732 | 1.216958 | -0.264233 | 0.7916 | NA |
| znf1044 | 6.284230339 | -0.492937018 | 0.8285748 | -0.594922 | 0.551896 | NA |
| BX649639.1 | 54.16362482 | 0.233465789 | 0.2727536 | 0.8559587 | 0.392021 | 0.897688 |
| BX899181.1 | 1.804179674 | -0.844890155 | 1.4389594 | -0.587154 | 0.557101 | NA |
| CR392002.1 | 4.201706538 | -0.331340786 | 1.009439 | -0.328243 | 0.742728 | NA |
| BX294006.1 | 0.325573202 | 0.005883621 | 3.3172783 | 0.0017736 | 0.998585 | NA |
| CR318650.1 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-4c15.8 | 19.56189861 | -0.238243711 | 0.4321697 | -0.551274 | 0.581446 | 0.951731 |
| BX927234.1 | 0.507044276 | -2.459587493 | 2.7586536 | -0.89159 | 0.372613 | NA |
| si:ch211-125e6.12 | 0 NA | NA | NA | NA | NA | NA |
| cyp2x12 | 43.54254915 | -0.982473852 | 0.3825139 | -2.568466 | 0.010215 | 0.17288 |
| si:dkey-112g5.11 | 1.694663769 | -0.575875761 | 1.4805886 | -0.388951 | 0.697313 | NA |
| CR788254.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX294661.1 | 0.471562095 | -2.373056629 | 3.0645586 | -0.774355 | 0.438721 | NA |
| CR749763.1 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-133n4.6 | 672.7842518 | 0.356501107 | 0.098308 | 3.6263681 | 0.000287 | 0.011436 |
| BX571955.1 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-214p13.8 | 0.839689391 | -1.918726865 | 2.219847 | -0.864351 | 0.387395 | NA |
| CU633823.1 | 0 NA | NA | NA | NA | NA | NA |
| BX511093.1 | 0 NA | NA | NA | NA | NA | NA |
| CU639436.1 | 0 NA | NA | NA | NA | NA | NA |
| tomm40 | 1271.083694 | 0.137559958 | 0.0824397 | 1.6686134 | 0.095194 | 0.58671 |
| eif4ala | 10230.71991 | 0.025420616 | 0.0729285 | 0.3485691 | 0.727413 | 0.970402 |
| BX571701.1 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-235f12.2 | 0 NA | NA | NA | NA | NA | NA |
| BX470185.1 | 10.66727092 | 0.393374527 | 0.5917331 | 0.6647837 | 0.506189 | NA |
| si:ch211-229n2.6 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:dkey-20d21.12 | 59.23616068 | 0.044319049 | 0.2571275 | 0.1723621 | 0.863153 | 0.985841 |
| cox14 | 218.6824293 | -0.336835617 | 0.1565399 | -2.151755 | 0.031417 | 0.343463 |
| CU468041.1 | 0 NA | NA | NA | NA | NA | NA |
| vtg5 | 0.802200093 | 1.852032281 | 2.2653592 | 0.8175446 | 0.413617 | NA |
| CR925709.1 | 11.7906021 | -0.232284804 | 0.5695527 | -0.407837 | 0.683393 | 0.965476 |
| AL954694.1 | 0.473170125 | -0.833888596 | 2.9014002 | -0.287409 | 0.773799 | NA |
| si:dkey-84o3.7 | 0.50625413 | -0.940106488 | 2.8357787 | -0.331516 | 0.740255 | NA |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| rad54b | 65.72560458 | -0.001083209 | 0.2507815 | -0.004319 | 0.996554 | 0.998936 |
| BX649502.2 | 0 NA | | NA | NA | NA | NA |
| cenpw | 29.74307001 | -0.454288042 | 0.3645648 | -1.246111 | 0.212724 | 0.780843 |
| si:dkey-4i23.5 | 2.713144068 | -1.62154707 | 1.284059 | -1.262829 | 0.206651 | NA |
| si:dkey-247i3.6 | 6.050454181 | -0.280957676 | 0.8051431 | -0.348954 | 0.727124 | NA |
| si:ch211-231i17.3 | 0 NA | | NA | NA | NA | NA |
| si:dkeyp-100a1.6 | 23.12813507 | -0.689346292 | 0.4000139 | -1.723306 | 0.084833 | 0.560519 |
| BX663503.1 | 286.8472498 | 0.149768176 | 0.1266569 | 1.1824716 | 0.237019 | 0.805854 |
| ank1a | 465.4816537 | 0.231125694 | 0.1234137 | 1.8727725 | 0.0611 | 0.482482 |
| CR847899.1 | 0 NA | | NA | NA | NA | NA |
| FP085398.2 | 14.30878702 | -0.81318332 | 0.5116254 | -1.589412 | 0.111968 | 0.627242 |
| BX649522.1 | 11.26716633 | 0.168735413 | 0.564539 | 0.2988906 | 0.765024 | 0.975374 |
| si:dkey-4c15.9 | 11.17137093 | 0.325021576 | 0.5762652 | 0.5640139 | 0.572745 | 0.949717 |
| tex264a | 459.9073647 | -0.017282837 | 0.1145573 | -0.150866 | 0.880081 | 0.987881 |
| apoc2 | 4565.399535 | 0.140740111 | 0.0899833 | 1.564069 | 0.117801 | 0.641446 |
| cbx3b | 719.1698848 | 0.145725454 | 0.0960066 | 1.5178692 | 0.129047 | 0.66057 |
| CR788249.1 | 0 NA | | NA | NA | NA | NA |
| ferd3l | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:dkey-261e22.4 | 20.2335922 | -0.17466507 | 0.4221853 | -0.413717 | 0.679082 | 0.965257 |
| mhclzaa | 0.878629579 | 0.686795053 | 2.2010162 | 0.3120354 | 0.755014 | NA |
| si:dkey-147f3.8 | 113.2274364 | -0.077021628 | 0.1996926 | -0.385701 | 0.699718 | 0.967998 |
| si:ch211-272h9.5 | 5.49312606 | 0.407673175 | 0.8593108 | 0.4744188 | 0.635201 | NA |
| si:dkey-250k15.4 | 6.340908172 | 0.441277195 | 0.7831007 | 0.5634999 | 0.573095 | NA |
| apoc1 | 3986.78026 | 0.147669074 | 0.1867478 | 0.7907407 | 0.429095 | 0.911406 |
| si:dkey-96n2.1 | 0 NA | | NA | NA | NA | NA |
| si:ch211-59d15.4 | 18.09966686 | 0.423255202 | 0.4559182 | 0.9283577 | 0.353222 | 0.881562 |
| BX321875.1 | 1.964074944 | 0.468159373 | 1.3311091 | 0.3517062 | 0.725059 | NA |
| BX908388.1 | 0 NA | | NA | NA | NA | NA |
| BX511187.1 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:dkey-40m6.11 | 0 NA | | NA | NA | NA | NA |
| im:7140055 | 294.1831482 | -0.091445726 | 0.1364344 | -0.670254 | 0.502696 | 0.935304 |
| BX957292.1 | 0.347458735 | -1.908042286 | 3.4571486 | -0.551912 | 0.581009 | NA |
| CR318588.1 | 5.076764667 | 0.289286122 | 0.8536015 | 0.3389007 | 0.734685 | NA |
| L0018289.1 | 1.212762372 | 1.332730815 | 1.9345871 | 0.6888968 | 0.490888 | NA |
| si:ch211-250c4.4 | 189.942699 | -0.39606725 | 0.1525261 | -2.596717 | 0.009412 | 0.162543 |
| CHST12 (1 of many) | 2.0351609 | 0.524903868 | 1.3769596 | 0.381205 | 0.703051 | NA |
| si:dkey-112g5.16 | 3.083504768 | 1.084665128 | 1.1574183 | 0.9371419 | 0.348686 | NA |
| ms4a17a.5 | 43.32374042 | -0.006255542 | 0.3236236 | -0.01933 | 0.984578 | 0.996944 |
| BX511089.1 | 0 NA | | NA | NA | NA | NA |
| CR932978.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| AL929092.1 | 3.119658826 | 2.387586659 | 2.5487976 | 0.9367502 | 0.348887 | NA |
| or103-3 | 0 NA | | NA | NA | NA | NA |
| si:ch211-271e10.3 | 0 NA | | NA | NA | NA | NA |
| si:dkeyp-13a3.10 | 135.4282379 | 0.122753253 | 0.1798375 | 0.6825786 | 0.494873 | 0.931926 |
| CT573163.1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:dkey-27p18.3 | 13.7525254 | 0.193262128 | 0.54184 | 0.3566775 | 0.721333 | 0.969666 |
| F0904898.5 | 0.679983498 | -1.527277543 | 2.5551009 | -0.597737 | 0.550016 | NA |
| BX571825.6 | 0 NA | | NA | NA | NA | NA |
| vtg1 | 10.35863756 | 0.017505541 | 0.6197088 | 0.028248 | 0.977464 | NA |
| or111-9 | 0 NA | | NA | NA | NA | NA |
| si:ch211-243a20.3 | 137.8340102 | -0.938753678 | 0.1774626 | -5.289869 | 1.22E-07 | 1.67E-05 |
| znf1009 | 28.93260706 | -0.213425345 | 0.3576614 | -0.596724 | 0.550691 | 0.946549 |
| si:dkey-26i13.7 | 0 NA | | NA | NA | NA | NA |
| BX005065.1 | 30.21079974 | 0.272183991 | 0.3470703 | 0.7842329 | 0.432903 | 0.913384 |

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| BX000447.1 | 90.0716294 | 0.131902914 | 0.2141289 | 0.6159977 | 0.537896 | 0.943336 |
| si:dkey-20i20.3 | 15.97839814 | -0.271255186 | 0.5026748 | -0.539624 | 0.589457 | 0.953498 |
| BX548061.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| irgf2 | 0.500282092 | 2.45023829 | 2.5970012 | 0.9434876 | 0.345432 | NA |
| si:dkey-103k4.1 | 2.50397706 | 0.203701306 | 1.1829685 | 0.172195 | 0.863284 | NA |
| CR769769.1 | 13.50496098 | -0.280904245 | 0.5127258 | -0.547864 | 0.583785 | 0.952214 |
| si:dkey-102f14.7 | 2.437017663 | 0.5294138 | 1.3960977 | 0.3792097 | 0.704532 | NA |
| BX510992.1 | 5.760823394 | 0.754771507 | 0.7842935 | 0.9623585 | 0.33587 | NA |
| si:dkey-211g8.5 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:ch73-290k24.6 | 64.98190299 | 0.089874823 | 0.243919 | 0.3684617 | 0.712529 | 0.969087 |
| si:ch211-220m6.4 | 1.310464596 | 1.562423165 | 1.9190939 | 0.8141463 | 0.415561 | NA |
| CR382296.1 | 1.808588223 | -0.269473476 | 1.4809264 | -0.181963 | 0.855612 | NA |
| si:ch73-27e22.2 | 0 NA | NA | NA | NA | NA | NA |
| CR788230.1 | 0 NA | NA | NA | NA | NA | NA |
| si:dkeyp-41f9.4 | 174.4337531 | 0.104777749 | 0.1695826 | 0.6178567 | 0.53667 | 0.943336 |
| BX511161.1 | 35.0609368 | 0.331014674 | 0.3479555 | 0.9513131 | 0.341445 | 0.878134 |
| si:dkey-3k20.1 | 9.444560426 | -0.893119823 | 0.6438483 | -1.387159 | 0.165393 | NA |
| si:dkey-234d14.2 | 0.490502273 | -2.421143305 | 2.7891168 | -0.868068 | 0.385357 | NA |
| BX663611.1 | 1.498766878 | 0.289100544 | 1.5459299 | 0.1870075 | 0.851655 | NA |
| BX548015.1 | 0 NA | NA | NA | NA | NA | NA |
| AL929266.1 | 4.304820321 | -0.672832946 | 0.8984053 | -0.748919 | 0.453906 | NA |
| flnb | 204.4285173 | 0.038574264 | 0.1531107 | 0.251937 | 0.80109 | 0.979377 |
| BX000991.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| cx134b.11 | 119.2512982 | 0.136939874 | 0.2286376 | 0.5989386 | 0.549214 | 0.946312 |
| cenpv | 37.73778432 | 0.137838576 | 0.3281622 | 0.4200318 | 0.674462 | 0.965257 |
| CU861651.1 | 0.667059899 | 1.488443644 | 2.4079024 | 0.6181495 | 0.536477 | NA |
| CR392026.1 | 0.632206226 | 0.012903346 | 2.6133421 | 0.0049375 | 0.99606 | NA |
| AL954142.1 | 1.627904039 | -3.043274384 | 1.7521162 | -1.736914 | 0.082402 | NA |
| si:dkeyp-26a9.2 | 210.8960458 | -0.100897589 | 0.148119 | -0.681193 | 0.49575 | 0.932377 |
| si:dkey-222h21.6 | 0.339758314 | 0.005883863 | 3.2682461 | 0.0018003 | 0.998564 | NA |
| BX537166.1 | 15.49273567 | 0.068004485 | 0.4882329 | 0.139287 | 0.889223 | 0.989291 |
| CT027772.1 | 2.01834695 | -1.026639109 | 1.3661031 | -0.751509 | 0.452346 | NA |
| CT574549.1 | 0.508144151 | 0.926490632 | 2.6634746 | 0.3478504 | 0.727953 | NA |
| si:dkey-11o15.8 | 0.635662991 | 2.808056561 | 2.7492814 | 1.0213784 | 0.307075 | NA |
| si:dkey-59l11.7 | 0 NA | NA | NA | NA | NA | NA |
| poldip2 | 1021.037329 | 0.082950043 | 0.0847015 | 0.9793219 | 0.327421 | 0.872701 |
| CR456642.1 | 9.457176256 | 0.582467001 | 0.6185867 | 0.9416094 | 0.346393 | NA |
| si:dkey-65l23.2 | 0 NA | NA | NA | NA | NA | NA |
| BX927288.1 | 6.21184633 | -0.783068134 | 0.774099 | -1.011586 | 0.311736 | NA |
| si:ch211-199g17.2 | 24.56175335 | -0.563838152 | 0.3984438 | -1.415101 | 0.157039 | 0.707677 |
| si:dkey-65b12.10 | 1.024339737 | 3.476540236 | 2.0349298 | 1.7084325 | 0.087556 | NA |
| BX004981.1 | 9.787968138 | 0.04286824 | 0.6000009 | 0.071447 | 0.943042 | NA |
| pimr152 | 0 NA | NA | NA | NA | NA | NA |
| BX323074.1 | 4.015626252 | -0.282975642 | 1.0006248 | -0.282799 | 0.777331 | NA |
| CT583646.1 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-152f2.1 | 0 NA | NA | NA | NA | NA | NA |
| CR383669.1 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:dkeyp-2e4.3 | 14.60274926 | -0.521164502 | 0.5495887 | -0.948281 | 0.342986 | 0.878434 |
| pimr136 | 1.308375155 | 0.736523946 | 1.6727564 | 0.4403056 | 0.659716 | NA |
| CR383672.1 | 0.341486697 | 1.892317624 | 3.2124068 | 0.5890654 | 0.555817 | NA |
| BX649499.1 | 0.824875771 | -0.638730095 | 2.222328 | -0.287415 | 0.773795 | NA |
| CU207311.1 | 0 NA | NA | NA | NA | NA | NA |
| CU467861.1 | 278.085342 | -0.174837732 | 0.1324429 | -1.320099 | 0.186802 | 0.750951 |
| pimr61 | 0 NA | NA | NA | NA | NA | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| AL590150.1 | 26.7487424 | 0.067257062 | 0.3674665 | 0.1830291 | 0.854775 | 0.985174 |
| si:dkey-57a22.13 | 0.339758314 | 0.005883863 | 3.2682461 | 0.0018003 | 0.998564 | NA |
| nfil3-4 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-161j23.6 | 165.9443259 | 0.013572039 | 0.1702891 | 0.0797 | 0.936476 | 0.992702 |
| CT027702.1 | 4.813864927 | -0.066856026 | 0.8718717 | -0.076681 | 0.938877 | NA |
| si:dkey-222h21.12 | 0 NA | NA | NA | NA | NA | NA |
| BX649478.1 | 6.59443168 | 0.309254869 | 0.7436972 | 0.4158344 | 0.677531 | NA |
| jac4 | 1.190756486 | 2.514004893 | 1.9965149 | 1.2591967 | 0.207959 | NA |
| si:ch211-284e13.6 | 490.258423 | -0.114810486 | 0.1073721 | -1.069277 | 0.284945 | 0.845094 |
| BX469930.1 | 13.56159074 | 0.652999605 | 0.548808 | 1.1898508 | 0.234105 | 0.802753 |
| si:dkeyp-113d7.10 | 62.37845559 | -0.180779653 | 0.2507324 | -0.721006 | 0.470906 | 0.924838 |
| si:ch211-51h9.6 | 128.497171 | -0.058716593 | 0.1777616 | -0.330311 | 0.741165 | 0.973154 |
| si:dkey-79f11.7 | 7.156211699 | 0.554007039 | 0.778353 | 0.7117684 | 0.476608 | NA |
| hsp70.2 | 891.3155606 | -0.013260716 | 0.2743226 | -0.04834 | 0.961445 | 0.995842 |
| si:ch211-218c6.8 | 262.2098004 | -0.234134497 | 0.1406864 | -1.66423 | 0.096066 | 0.590174 |
| si:dkeyp-77c8.3 | 3.22558007 | -0.57441694 | 1.1088593 | -0.518025 | 0.604441 | NA |
| BX511023.1 | 60.32494551 | -0.044263891 | 0.2572394 | -0.172073 | 0.86338 | 0.985841 |
| BX005340.1 | 0 NA | NA | NA | NA | NA | NA |
| dlgap2b | 5.900158175 | 0.807723985 | 0.8558754 | 0.9437401 | 0.345302 | NA |
| BX571809.1 | 2.705725637 | -1.113233272 | 1.2097115 | -0.920247 | 0.357444 | NA |
| si:dkeyp-51b9.3 | 3.111658872 | 0.479487952 | 1.0763361 | 0.4454816 | 0.655972 | NA |
| si:dkey-33c12.14 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| zgc:153759 | 0.833476647 | 0.586781922 | 2.2129474 | 0.2651585 | 0.790887 | NA |
| snorc | 465.6483169 | -0.07135001 | 0.1143656 | -0.623876 | 0.532709 | 0.942805 |
| si:dkey-28d5.3 | 0 NA | NA | NA | NA | NA | NA |
| zgc:193742 | 128.3427314 | 0.018570821 | 0.1837201 | 0.1010821 | 0.919485 | 0.991651 |
| CU207217.1 | 0.31598276 | 0.005883445 | 3.3523626 | 0.001755 | 0.9986 | NA |
| si:dkey-6f10.4 | 0 NA | NA | NA | NA | NA | NA |
| dcun1d4 | 690.8936899 | 0.071832023 | 0.0935254 | 0.7680484 | 0.442458 | 0.916336 |
| BX120005.2 | 0.347458735 | -1.908042286 | 3.4571486 | -0.551912 | 0.581009 | NA |
| BX936320.1 | 46.68914511 | 0.009804405 | 0.2952329 | 0.0332091 | 0.973508 | 0.996315 |
| taar20d1 | 0 NA | NA | NA | NA | NA | NA |
| BX901930.1 | 0 NA | NA | NA | NA | NA | NA |
| CR396590.2 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX569787.1 | 93.40143542 | -0.478093348 | 0.2145603 | -2.228247 | 0.025864 | 0.310878 |
| si:dkey-79p17.3 | 6.581133323 | 1.02099344 | 0.7662987 | 1.3323701 | 0.182739 | NA |
| or115-8 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| zmp:0000001316 | 31.17031317 | 0.073610556 | 0.3443494 | 0.213767 | 0.830729 | 0.982994 |
| CU467861.2 | 7.726889003 | -0.40403967 | 0.7080562 | -0.570632 | 0.568249 | NA |
| CR762493.1 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| FP103004.1 | 41.63491494 | -0.031774846 | 0.3096737 | -0.102608 | 0.918274 | 0.991623 |
| vtg7 | 13.24977754 | 0.451331493 | 0.6000975 | 0.7520969 | 0.451993 | 0.918761 |
| si:ch1073-394i4.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| CR854838.1 | 0 NA | NA | NA | NA | NA | NA |
| cxc111.5 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| BX677668.2 | 7.681255502 | 0.036253148 | 0.6997066 | 0.0518119 | 0.958679 | NA |
| si:dkey-24c2.7 | 3.542655794 | -1.312436319 | 1.0922668 | -1.201571 | 0.22953 | NA |
| BX649599.1 | 0 NA | NA | NA | NA | NA | NA |
| CU041345.1 | 0 NA | NA | NA | NA | NA | NA |
| BX537137.1 | 0.365141898 | 1.973577737 | 3.3927314 | 0.5817076 | 0.560764 | NA |
| BX649502.3 | 0 NA | NA | NA | NA | NA | NA |
| BX005364.1 | 0 NA | NA | NA | NA | NA | NA |
| BX548032.1 | 1.629942151 | 0.008362405 | 1.4412693 | 0.0058021 | 0.995371 | NA |
| BX088710.1 | 0 NA | NA | NA | NA | NA | NA |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| zgc:153352 | 33.66221243 | 0.16877361 | 0.3293565 | 0.5124344 | 0.608347 | 0.956718 |
| BX571825.7 | 0 NA | NA | NA | NA | NA | NA |
| CR762431.1 | 37.1147996 | 0.324046938 | 0.3200213 | 1.0125794 | 0.311261 | 0.863542 |
| si:dkey-95p16.1 | 3.484341813 | 0.400398492 | 1.1218348 | 0.356914 | 0.721156 | NA |
| BX469925.2 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-246e12.3 | 8.207705983 | -0.716652386 | 0.694328 | -1.032152 | 0.302001 | NA |
| BX284635.1 | 49.13055055 | -0.215436332 | 0.2748788 | -0.78375 | 0.433187 | 0.913654 |
| BX548073.2 | 0.538871265 | 0.999144257 | 2.7784799 | 0.359601 | 0.719146 | NA |
| si:dkey-282h22.5 | 4.19646203 | 1.348791886 | 0.994855 | 1.3557673 | 0.175173 | NA |
| si:dkey-9i23.5 | 1.469259991 | 1.782268073 | 1.7611588 | 1.011986 | 0.311545 | NA |
| kif1 | 4.843402808 | 0.93712474 | 0.8701069 | 1.0770226 | 0.28147 | NA |
| rhbdd2 | 79.6679643 | -0.303300777 | 0.2316042 | -1.309565 | 0.190343 | 0.755033 |
| si:dkeyp-20g2.1 | 60.9726118 | -0.039891556 | 0.2513485 | -0.15871 | 0.873897 | 0.987881 |
| si:ch73-46j18.5 | 6553.379876 | 0.182747353 | 0.0664945 | 2.7483083 | 0.00599 | 0.117165 |
| fnrc7rs1 | 46.81278379 | 0.020468419 | 0.2817231 | 0.0726544 | 0.942081 | 0.993099 |
| thbd | 13.60918652 | 0.074694608 | 0.5401429 | 0.1382868 | 0.890014 | 0.989291 |
| si:dkey-7j22.1 | 4.744476359 | -1.378494707 | 0.9190505 | -1.499912 | 0.133637 | NA |
| AL953896.1 | 9.228632078 | 0.290242729 | 0.6355146 | 0.456705 | 0.647883 | NA |
| apopt1 | 195.3052379 | 0.052010986 | 0.1534784 | 0.3388815 | 0.734699 | 0.972021 |
| si:rp71-1f1.4 | 5.485650045 | -0.346963642 | 0.9319233 | -0.372309 | 0.709663 | NA |
| BX284666.1 | 3.022729205 | -0.266774883 | 1.1062384 | -0.241155 | 0.809435 | NA |
| sdhaf1 | 251.0346572 | -0.143645389 | 0.1357155 | -1.05843 | 0.289859 | 0.846246 |
| vegfb | 2.986693087 | -1.392035027 | 1.1691005 | -1.190689 | 0.233776 | NA |
| si:ch211-207c7.2 | 0.974991223 | -1.022830706 | 2.0964916 | -0.487877 | 0.625637 | NA |
| si:dkeyp-110g5.4 | 67.96296112 | -0.131232643 | 0.2462854 | -0.532848 | 0.594139 | 0.954434 |
| iqcc | 79.22905172 | -0.236514795 | 0.2320585 | -1.019203 | 0.308107 | 0.861088 |
| si:ch211-215m21.22 | 0 NA | NA | NA | NA | NA | NA |
| khyn | 222.0865069 | -0.289134562 | 0.1588586 | -1.820075 | 0.068748 | 0.513259 |
| si:ch73-103b9.2 | 21.99442214 | -0.546369846 | 0.4094187 | -1.334501 | 0.18204 | 0.744499 |
| BX323457.1 | 0.688986717 | 0.114008068 | 2.399209 | 0.047519 | 0.9621 | NA |
| si:dkey-149i17.8 | 0 NA | NA | NA | NA | NA | NA |
| si:dkeyp-44a8.2 | 1830.490863 | 0.101653147 | 0.0986236 | 1.0307181 | 0.302673 | 0.85729 |
| BX927275.1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:dkeyp-46h3.2 | 2.613225516 | 0.373494033 | 1.1968048 | 0.312076 | 0.754983 | NA |
| si:ch211-183d21.1 | 101.451675 | -0.044058148 | 0.2018839 | -0.218235 | 0.827246 | 0.982682 |
| si:dkey-222h21.1 | 0.349228403 | 0.005884014 | 3.2372587 | 0.0018176 | 0.99855 | NA |
| si:dkey-80c24.5 | 0.639827579 | -1.440067194 | 2.4366738 | -0.590997 | 0.554522 | NA |
| si:ch73-34314.3 | 0 NA | NA | NA | NA | NA | NA |
| arid1b | 988.6815985 | -0.184251361 | 0.0945103 | -1.949537 | 0.051231 | 0.443542 |
| znf1013 | 63.88934937 | -0.024155682 | 0.2490241 | -0.097001 | 0.922725 | 0.99233 |
| si:ch73-376124.2 | 80.37009268 | -0.306763886 | 0.2594272 | -1.182466 | 0.237021 | 0.805854 |
| CR405715.1 | 3.106661858 | 0.428580749 | 1.0760283 | 0.3982988 | 0.69041 | NA |
| CR376835.1 | 0.515885857 | -0.89611015 | 2.8190897 | -0.317872 | 0.750582 | NA |
| si:dkey-9311.6 | 1.818175409 | -3.213124482 | 1.6789957 | -1.913718 | 0.055656 | NA |
| pku300 | 0 NA | NA | NA | NA | NA | NA |
| gpsmla | 867.9734369 | 0.158829851 | 0.0921723 | 1.7231835 | 0.084855 | 0.560519 |
| si:dkey-21e2.11 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-250k15.10 | 11.42314364 | -1.813637095 | 0.6598756 | -2.748453 | 0.005988 | 0.117165 |
| jac1 | 23.36751868 | 1.314140096 | 0.4477686 | 2.934864 | 0.003337 | 0.077242 |
| nnt2 | 30.2959168 | 0.16649187 | 0.3442113 | 0.4836909 | 0.628605 | 0.957354 |
| si:dkey-47k20.1 | 0.484368597 | 0.855487352 | 2.7040894 | 0.316368 | 0.751723 | NA |
| si:dkey-88116.4 | 0 NA | NA | NA | NA | NA | NA |
| BX663522.1 | 0 NA | NA | NA | NA | NA | NA |
| BX005153.1 | 1.364296476 | -0.705781629 | 1.7443612 | -0.404607 | 0.685766 | NA |

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| si:dkey-21e2.8 | 7.540660626 | -0.762536321 | 0.7038242 | -1.083419 | 0.278623 | NA |
| si:ch211-13315.4 | 4.805872224 | 1.646660299 | 0.9088466 | 1.8118132 | 0.070015 | NA |
| si:dkey-242h9.5 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX571825.8 | 0 NA | | NA | NA | NA | NA |
| BX927394.1 | 0.845032922 | -3.195649681 | 2.1776262 | -1.467492 | 0.142242 | NA |
| CR855328.1 | 0 NA | | NA | NA | NA | NA |
| BX649502.4 | 0 NA | | NA | NA | NA | NA |
| BX005068.1 | 0.670675047 | -1.455259498 | 2.4036813 | -0.605429 | 0.544894 | NA |
| pdapla | 2029.503684 | 0.047335752 | 0.0724446 | 0.6534062 | 0.513494 | 0.936615 |
| si:dkey-85a20.4 | 1.222514451 | 1.394641811 | 1.9626635 | 0.7105863 | 0.477341 | NA |
| si:dkey-56e3.2 | 15.22204923 | 0.991711112 | 0.5329855 | 1.8606717 | 0.062791 | 0.489019 |
| fncl7rs2 | 0.645291463 | -2.8201041 | 2.5306349 | -1.114386 | 0.265114 | NA |
| slc25a5 | 55970.34653 | -0.098478837 | 0.0826205 | -1.191943 | 0.233284 | 0.801695 |
| si:ch211-214j8.12 | 56.10372066 | -0.535257155 | 0.2796867 | -1.913774 | 0.055649 | 0.461579 |
| AL929315.1 | 1.472246632 | 1.049390408 | 1.6667905 | 0.6295875 | 0.528965 | NA |
| or123-1 | 0.964610636 | -0.018889399 | 1.958304 | -0.009646 | 0.992304 | NA |
| pimr201 | 0.996127896 | -0.965496869 | 1.8966759 | -0.509047 | 0.610719 | NA |
| BX927385.1 | 1.51295199 | 0.327014375 | 1.4960191 | 0.2185897 | 0.82697 | NA |
| si:dkey-6111.4 | 121.4677756 | -0.228805812 | 0.2002776 | -1.142443 | 0.25327 | 0.823033 |
| BX571681.1 | 0 NA | | NA | NA | NA | NA |
| CU394254.1 | 0 NA | | NA | NA | NA | NA |
| BX323586.1 | 0.365141898 | 1.973577737 | 3.3927314 | 0.5817076 | 0.560764 | NA |
| si:ch211-198d23.1 | 29.63774835 | -0.699997103 | 0.3554857 | -1.969129 | 0.048938 | 0.435115 |
| BX927388.1 | 2.701980093 | 0.767053272 | 1.2236327 | 0.6268656 | 0.530747 | NA |
| or125-6 | 0 NA | | NA | NA | NA | NA |
| si:ch211-222e20.4 | 123.6921638 | -0.162520358 | 0.1801065 | -0.902357 | 0.366867 | 0.88734 |
| si:ch211-95j8.3 | 1.198429168 | -1.20658346 | 3.9052074 | -0.308968 | 0.757346 | NA |
| si:dkey-16p19.5 | 12.96434084 | 0.302814927 | 0.5352738 | 0.5657196 | 0.571584 | 0.949472 |
| si:ch1073-385f13.3 | 16.59007957 | -0.623896245 | 0.5151266 | -1.211151 | 0.225837 | 0.79334 |
| BX957274.1 | 0.492110303 | -0.89618148 | 2.8628934 | -0.313033 | 0.754255 | NA |
| CU861651.2 | 0.635301933 | 2.809457917 | 2.5427008 | 1.1049109 | 0.269198 | NA |
| pimr150 | 0 NA | | NA | NA | NA | NA |
| BX322660.1 | 0.491560863 | 0.853615855 | 2.865157 | 0.2979299 | 0.765757 | NA |
| CR925763.1 | 0.31759079 | 1.807926197 | 3.579045 | 0.5051421 | 0.613459 | NA |
| si:dkey-174k12.3 | 0 NA | | NA | NA | NA | NA |
| si:dkeyp-44d3.1 | 2.573214281 | -0.113217404 | 1.2672649 | -0.08934 | 0.928812 | NA |
| BX005058.1 | 0 NA | | NA | NA | NA | NA |
| si:dkey-256e7.5 | 17.11468186 | 0.275917587 | 0.4619907 | 0.5972362 | 0.55035 | 0.946549 |
| BX546499.1 | 18.26031338 | -0.313476133 | 0.4401264 | -0.712241 | 0.476315 | 0.926486 |
| si:ch211-15j1.4 | 8.216942997 | -1.17792308 | 0.6972271 | -1.68944 | 0.091135 | NA |
| znf1003 | 25.57276854 | -0.322955072 | 0.3793873 | -0.851254 | 0.394628 | 0.898861 |
| CU855900.1 | 0 NA | | NA | NA | NA | NA |
| BX936298.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:dkey-262g12.12 | 82.21677328 | -0.072573283 | 0.2209804 | -0.328415 | 0.742598 | 0.973232 |
| aupl | 718.1831478 | -0.06144513 | 0.1067899 | -0.575383 | 0.565032 | 0.948739 |
| lamp1b | 820.8708558 | -0.022834527 | 0.0918472 | -0.248614 | 0.803659 | 0.979643 |
| CR848741.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:dkey-204f11.3 | 0 NA | | NA | NA | NA | NA |
| BX322665.1 | 3.70400521 | 2.200596521 | 1.1076107 | 1.986796 | 0.046945 | NA |
| sptbn4b | 53.72259179 | -0.011314344 | 0.3140681 | -0.036025 | 0.971262 | 0.996315 |
| zgc:174193 | 1.342958123 | -0.680000894 | 1.7232513 | -0.394603 | 0.693136 | NA |
| zgc:174931 | 14.58995362 | 0.136116724 | 0.5433557 | 0.2505113 | 0.802192 | 0.979492 |
| pimr29 | 0 NA | | NA | NA | NA | NA |
| CR954294.1 | 0 NA | | NA | NA | NA | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| CR812470.1 | 51.23397327 | 0.197308716 | 0.2725945 | 0.7238178 | 0.469178 | 0.924496 |
| CR753844.1 | 0.657469457 | 1.487996951 | 2.3011149 | 0.6466417 | 0.517864 | NA |
| EBF1 (1 of many) | 0 NA | NA | NA | NA | NA | NA |
| AL935295.1 | 7.486245519 | 0.881755192 | 0.7231124 | 1.2193888 | 0.222697 | NA |
| ptprua | 933.8181478 | 0.038283238 | 0.0889484 | 0.4303983 | 0.666906 | 0.964736 |
| BX649641.1 | 0 NA | NA | NA | NA | NA | NA |
| BX571701.2 | 0 NA | NA | NA | NA | NA | NA |
| BX323080.1 | 0.990622727 | -0.0667832 | 1.9438623 | -0.034356 | 0.972593 | NA |
| ago1 | 9.581502372 | -0.020811096 | 0.6509551 | -0.03197 | 0.974496 | NA |
| CR381531.1 | 1.155713436 | -1.281524989 | 1.8786642 | -0.682147 | 0.495146 | NA |
| si:ch211-223p8.8 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-57a22.11 | 63.33126106 | 0.014795326 | 0.2551394 | 0.0579892 | 0.953757 | 0.994213 |
| qrfpr4 | 10.19625259 | 0.050092628 | 0.6154828 | 0.0813875 | 0.935134 | NA |
| si:dkey-1h24.6 | 1.521604194 | -0.961730371 | 1.6012032 | -0.60063 | 0.548087 | NA |
| CR457445.1 | 27.94756295 | -0.007862119 | 0.3852237 | -0.020409 | 0.983717 | 0.996944 |
| ppp3r1a | 322.3642206 | -0.028911686 | 0.1241311 | -0.232912 | 0.815829 | 0.981594 |
| cyp27c1 | 151.7262519 | 0.246939966 | 0.1653676 | 1.4932793 | 0.135364 | 0.670849 |
| dnaaf3 | 3.952448138 | 0.498436688 | 0.9518073 | 0.5236739 | 0.600505 | NA |
| si:dkey-93m18.3 | 4.812366959 | 1.154517939 | 0.8772038 | 1.3161342 | 0.188129 | NA |
| BX005156.1 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-271e10.2 | 1.143845172 | -1.265201982 | 1.909223 | -0.662679 | 0.507536 | NA |
| tlr20.3 | 0.496945679 | -0.834564081 | 2.8549631 | -0.29232 | 0.770042 | NA |
| pard3ba | 92.07509697 | -0.3053299 | 0.2125067 | -1.436801 | 0.150774 | 0.698912 |
| BX248497.1 | 259.8770446 | 0.093288861 | 0.1334009 | 0.6993121 | 0.484357 | 0.929601 |
| coa6 | 40.60879918 | -0.067623375 | 0.302861 | -0.223282 | 0.823316 | 0.982196 |
| AL954134.2 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-58f10.12 | 5.290520399 | 1.545334811 | 0.9068263 | 1.7041134 | 0.08836 | NA |
| AL845369.1 | 0.976719606 | -0.046864593 | 2.2023826 | -0.021279 | 0.983023 | NA |
| BX649292.1 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-130h14.6 | 0 NA | NA | NA | NA | NA | NA |
| CU682811.1 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| pimr133 | 0 NA | NA | NA | NA | NA | NA |
| tpt1 | 31420.76184 | -0.336505295 | 0.0903635 | -3.723908 | 0.000196 | 0.008396 |
| CT025775.1 | 0 NA | NA | NA | NA | NA | NA |
| cyp11a2 | 11.31026223 | 0.368475751 | 0.5959709 | 0.6182781 | 0.536392 | 0.943336 |
| pimr200 | 0.317711143 | 1.810477155 | 3.2978238 | 0.5489915 | 0.583011 | NA |
| si:dkeyp-20e4.8 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX649384.2 | 1.157751549 | 2.488197843 | 1.9005833 | 1.3091759 | 0.190475 | NA |
| or124-1 | 0.48448895 | 0.85344211 | 2.878836 | 0.2964539 | 0.766883 | NA |
| BX537280.1 | 1.340331546 | -3.866967578 | 3.7746737 | -1.024451 | 0.305622 | NA |
| CU463109.1 | 0 NA | NA | NA | NA | NA | NA |
| BX571681.2 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:dkey-31b16.7 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-266a5.12 | 8.086799692 | 0.673400475 | 0.7287727 | 0.9240199 | 0.355476 | NA |
| CR847503.1 | 24.82160368 | 0.547006633 | 0.3892359 | 1.4053346 | 0.159922 | 0.712228 |
| VASH1 | 142.4839082 | 0.293099716 | 0.1774065 | 1.6521363 | 0.098507 | 0.597984 |
| BX569790.1 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| gbgt112 | 17.00940447 | -0.588669639 | 0.4863406 | -1.210406 | 0.226123 | 0.793638 |
| AL954655.2 | 28.15484169 | 0.053592852 | 0.3747717 | 0.1430013 | 0.886289 | 0.988936 |
| si:ch211-67f24.7 | 20.10988102 | -0.570246825 | 0.4432152 | -1.286614 | 0.198229 | 0.76333 |
| unc5da | 444.9808559 | 0.152083016 | 0.1248219 | 1.2184001 | 0.223072 | 0.789115 |
| si:ch73-381f5.2 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-188i13.8 | 8.795978087 | -0.050744706 | 0.6326358 | -0.080212 | 0.936069 | NA |
| si:dkey-184p9.7 | 92.63677558 | -0.30614464 | 0.2338553 | -1.30912 | 0.190494 | 0.755212 |

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| si:dkey-266f7.4 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| enam | 487.6024595 | -0.209913226 | 0.1333698 | -1.573919 | 0.115506 | 0.637206 |
| mhcluka | 1.290183837 | -0.02344436 | 1.647742 | -0.014228 | 0.988648 | NA |
| si:ch73-256j6.5 | 5.054126771 | 0.63840888 | 0.9026668 | 0.7072476 | 0.479413 | NA |
| si:ch211-263k4.2 | 13.00952431 | -0.631876692 | 0.5328277 | -1.185893 | 0.235665 | 0.804824 |
| BX510917.1 | 0.831706979 | -0.653219184 | 2.2172216 | -0.294612 | 0.768291 | NA |
| si:ch211-57m13.7 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX571825.9 | 0 | NA | NA | NA | NA | NA |
| ftr37 | 3.497706781 | -0.118132249 | 1.0030523 | -0.117773 | 0.906248 | NA |
| si:ch211-150o23.2 | 160.6684542 | 0.10655027 | 0.1645836 | 0.6473929 | 0.517378 | 0.938592 |
| si:ch211-133n4.12 | 0 | NA | NA | NA | NA | NA |
| CR396590.3 | 0 | NA | NA | NA | NA | NA |
| BX248399.1 | 1.130329852 | -2.449181944 | 2.0196915 | -1.212652 | 0.225263 | NA |
| caiap | 1.448230372 | 1.025641948 | 1.6993965 | 0.603533 | 0.546154 | NA |
| si:dkey-61p9.9 | 67.81784204 | -0.022616937 | 0.2384927 | -0.094833 | 0.924448 | 0.992676 |
| si:dkey-5i3.1 | 0 | NA | NA | NA | NA | NA |
| si:dkey-57a22.14 | 0 | NA | NA | NA | NA | NA |
| znf1151 | 27.35222313 | -0.326942957 | 0.3663048 | -0.892543 | 0.372102 | 0.892629 |
| si:dkeyp-68b7.7 | 26.37844876 | 0.186642743 | 0.3746307 | 0.4982046 | 0.61834 | 0.957354 |
| si:ch211-253p18.2 | 10.19874 | 0.866856572 | 0.6028628 | 1.4379002 | 0.150462 | NA |
| BX530064.1 | 0 | NA | NA | NA | NA | NA |
| CR769772.1 | 0.547712847 | 2.559541715 | 2.9076406 | 0.8802813 | 0.378707 | NA |
| tarsl2 | 421.1444546 | -0.017149963 | 0.111267 | -0.154133 | 0.877505 | 0.987881 |
| BX640547.1 | 2.321567749 | 0.03878383 | 1.3533206 | 0.0286583 | 0.977137 | NA |
| si:ch73-338o16.4 | 2.679911971 | -3.801724469 | 1.5404296 | -2.467964 | 0.013588 | NA |
| si:rp71-23d18.4 | 0 | NA | NA | NA | NA | NA |
| si:ch1073-170o4.1 | 27.49496102 | -0.030447393 | 0.3783812 | -0.080468 | 0.935865 | 0.992702 |
| BX323550.1 | 0 | NA | NA | NA | NA | NA |
| znf1109 | 20.00762191 | 0.712809207 | 0.431142 | 1.653305 | 0.098269 | 0.597502 |
| si:dkey-88p24.11 | 176.7134892 | -0.229602389 | 0.1723833 | -1.331929 | 0.182883 | 0.745944 |
| si:dkey-21e2.15 | 13.30480162 | -1.69698518 | 0.578183 | -2.935031 | 0.003335 | 0.077242 |
| BX323038.1 | 2.187365793 | 0.715941476 | 1.3414459 | 0.5337088 | 0.593543 | NA |
| rprm3 | 67.52829859 | 0.01524555 | 0.2376682 | 0.0641464 | 0.948854 | 0.99381 |
| BX470224.1 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| ppib | 7157.286096 | -0.122138201 | 0.0769261 | -1.587734 | 0.112346 | 0.627572 |
| camta2 | 23.57986604 | -0.301031323 | 0.4008648 | -0.750955 | 0.45268 | 0.919496 |
| CU075735.2 | 0.474778155 | 0.852397662 | 2.898154 | 0.2941175 | 0.768668 | NA |
| CR855277.2 | 9.71417778 | -0.239654688 | 0.6133349 | -0.39074 | 0.695989 | NA |
| BX957328.1 | 0.522329263 | 0.999930388 | 2.8066578 | 0.3562709 | 0.721638 | NA |
| si:ch1073-110a20.2 | 7.706780267 | -0.045341864 | 0.7684577 | -0.059004 | 0.952949 | NA |
| si:dkey-151g10.6 | 15900.79219 | -0.446044819 | 0.1066779 | -4.18123 | 2.90E-05 | 0.001706 |
| CU466285.1 | 0.474778155 | 0.852397662 | 2.898154 | 0.2941175 | 0.768668 | NA |
| hoxc9a | 116.3707196 | 0.075206944 | 0.189899 | 0.3960365 | 0.692078 | 0.967354 |
| stap2a | 492.5699874 | -0.176603199 | 0.1132587 | -1.559291 | 0.118928 | 0.642772 |
| fn dc7rs4 | 322.6830626 | 0.031353747 | 0.1249198 | 0.2509909 | 0.801821 | 0.979492 |
| si:dkey-21e2.3 | 0 | NA | NA | NA | NA | NA |
| si:dkey-93n13.2 | 147.9847486 | 0.174407013 | 0.1662107 | 1.0493127 | 0.294034 | 0.849999 |
| CR388168.1 | 0.325573202 | 0.005883621 | 3.3172783 | 0.0017736 | 0.998585 | NA |
| si:dkeyp-67a8.4 | 13.96605338 | -0.083295161 | 0.5609039 | -0.148502 | 0.881947 | 0.988344 |
| si:dkey-42p14.3 | 5.098046023 | 0.036350714 | 0.8963052 | 0.0405562 | 0.96765 | NA |
| BX248511.1 | 5.445308593 | 0.583949486 | 0.863358 | 0.67637 | 0.498806 | NA |
| CR589943.1 | 4.629053938 | -0.21440723 | 0.8970912 | -0.239003 | 0.811103 | NA |
| BX548075.1 | 0 | NA | NA | NA | NA | NA |
| CR318588.2 | 0 | NA | NA | NA | NA | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| si:ch211-191d15.2 | 0.531799352 | 0.999478841 | 2.790358 | 0.3581902 | 0.720201 | NA |
| si:ch211-93g21.2 | 1.123526383 | 0.393221643 | 1.8303296 | 0.2148365 | 0.829895 | NA |
| si:dkey-66g10.2 | 2.280738783 | -1.260458015 | 1.3534773 | -0.931274 | 0.351712 | NA |
| zgc:162611 | 74.76478849 | 0.427755807 | 0.255867 | 1.6717894 | 0.094566 | 0.584906 |
| AL845320.1 | 0.665960023 | -1.495776328 | 2.4092162 | -0.620856 | 0.534694 | NA |
| si:ch73-92e7.4 | 81.16936117 | -0.184705999 | 0.2369857 | -0.779397 | 0.435746 | 0.914408 |
| CR788322.1 | 0 NA | NA | NA | NA | NA | NA |
| BX510324.1 | 0.323844819 | -1.825095364 | 3.274639 | -0.557342 | 0.577293 | NA |
| SRBD1 | 111.2428174 | -0.093291129 | 0.1941553 | -0.480498 | 0.630874 | 0.957354 |
| si:ch211-210c8.7 | 169.2919922 | 0.012114537 | 0.1609921 | 0.0752493 | 0.940016 | 0.992857 |
| si:ch1073-126c3.2 | 22.71136445 | -0.254149959 | 0.4287737 | -0.592737 | 0.553357 | 0.947265 |
| si:ch211-260p9.3 | 4.780340549 | 0.719249351 | 0.8839647 | 0.813663 | 0.415838 | NA |
| CU138515.1 | 1.507100304 | 1.842319674 | 1.6667457 | 1.1053394 | 0.269013 | NA |
| BX936337.1 | 843.3685236 | -0.041164178 | 0.1138024 | -0.361716 | 0.717564 | 0.96909 |
| upk3b | 13.09125375 | 0.067983263 | 0.548906 | 0.1238523 | 0.901432 | 0.990121 |
| zgc:193541 | 2677.864843 | -0.027667132 | 0.0906039 | -0.305364 | 0.760089 | 0.975374 |
| BX537288.1 | 0.325573202 | 0.005883621 | 3.3172783 | 0.0017736 | 0.998585 | NA |
| si:dkeyp-85e10.3 | 4.279974891 | -0.481451002 | 0.9929285 | -0.48488 | 0.627762 | NA |
| CU074419.1 | 0.524057646 | 2.503896172 | 2.7289583 | 0.9175282 | 0.358866 | NA |
| BX649294.1 | 86.32859808 | -0.175822881 | 0.2120779 | -0.829048 | 0.407077 | 0.901305 |
| si:dkey-161j23.7 | 197.5860988 | -0.179086679 | 0.1453994 | -1.231688 | 0.218066 | 0.785379 |
| si:dkey-193b15.5 | 3.035387768 | -0.462580036 | 1.1821187 | -0.391314 | 0.695565 | NA |
| zgc:171977 | 0 NA | NA | NA | NA | NA | NA |
| si:dkeyp-46h3.3 | 1.354156595 | 0.015823789 | 1.57664 | 0.0100364 | 0.991992 | NA |
| zgc:194246 | 112.9633937 | 0.309304712 | 0.2073931 | 1.4913933 | 0.135858 | 0.672288 |
| si:ch73-44m9.5 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-23c22.5 | 5.110236474 | 0.078018599 | 0.8269527 | 0.0943447 | 0.924835 | NA |
| CT027589.1 | 0.341486697 | 1.892317624 | 3.2124068 | 0.5890654 | 0.555817 | NA |
| si:ch211-114113.9 | 0.80742327 | 0.548673017 | 2.1289713 | 0.2577174 | 0.796625 | NA |
| si:dkey-188i13.11 | 122.5072946 | 0.011947729 | 0.1889221 | 0.0632416 | 0.949574 | 0.99381 |
| si:ch211-67f24.7 | 12.03082517 | -0.236314766 | 0.546135 | -0.432704 | 0.66523 | 0.964736 |
| si:ch211-157j23.3 | 8.315656981 | 0.012790738 | 0.6460268 | 0.0197991 | 0.984204 | NA |
| BX927258.1 | 5.905203015 | 0.287816496 | 0.8096378 | 0.355488 | 0.722224 | NA |
| zgc:153317 | 12.18710204 | -0.194100305 | 0.5398535 | -0.359543 | 0.719189 | 0.969183 |
| AL954320.1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:dkey-201121.2 | 0 NA | NA | NA | NA | NA | NA |
| BX323586.2 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX547930.1 | 0 NA | NA | NA | NA | NA | NA |
| BX323812.1 | 0.332524763 | 0.005883742 | 3.292841 | 0.0017868 | 0.998574 | NA |
| mlnl | 22.60579551 | -0.429893377 | 0.4055858 | -1.059932 | 0.289176 | 0.845979 |
| crhr2 | 22.70348614 | 0.397126249 | 0.4310293 | 0.9213439 | 0.356871 | 0.883422 |
| zp3c | 0.323844819 | -1.825095364 | 3.274639 | -0.557342 | 0.577293 | NA |
| si:ch211-106h4.12 | 115.4280388 | 0.374962945 | 0.2023413 | 1.8531212 | 0.063865 | 0.493997 |
| si:dkey-95h12.2 | 0 NA | NA | NA | NA | NA | NA |
| zgc:171474 | 0 NA | NA | NA | NA | NA | NA |
| BX649641.2 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:dkey-66k12.3 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-44g23.2 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-132b12.4 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-114c12.5 | 1.941330241 | -0.030104089 | 1.3853588 | -0.02173 | 0.982663 | NA |
| si:dkey-32e6.3 | 69.22531593 | 0.480113303 | 0.2450533 | 1.9592197 | 0.050087 | 0.43824 |
| znf1047 | 11.07752006 | -0.249766087 | 0.5899579 | -0.423363 | 0.672031 | 0.965257 |
| BX537338.1 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| BX000981.1 | 0.356300316 | 0.005884122 | 3.214964 | 0.0018302 | 0.99854 | NA |

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| si:dkey-222h21. 3 | 1. 045287033 | 0. 090981892 | 1. 9340789 | 0. 0470415 | 0. 96248 | NA |
| BX001050. 1 | 0. 157187365 | -0. 955901296 | 4. 0804729 | -0. 234262 | 0. 814781 | NA |
| si:dkey-117n7. 3 | 54. 5593462 | -0. 020736775 | 0. 2746711 | -0. 075497 | 0. 939819 | 0. 992857 |
| si:ch211-250g4. 3 | 29. 36937284 | -0. 020277567 | 0. 4098019 | -0. 049481 | 0. 960536 | 0. 995421 |
| CU681845. 1 | 0. 325452849 | 0. 005883619 | 3. 3177086 | 0. 0017734 | 0. 998585 | NA |
| cytl | 16282. 17202 | 0. 002910072 | 0. 0947366 | 0. 0307175 | 0. 975495 | 0. 996762 |
| gna15. 3 | 11. 412439 | -0. 992700949 | 0. 5763771 | -1. 722312 | 0. 085013 | 0. 560519 |
| si:ch73-366i20. 1 | 11. 35488606 | -0. 377784147 | 0. 5674414 | -0. 665768 | 0. 50556 | 0. 935724 |
| BX294379. 1 | 20. 81309386 | 0. 164902089 | 0. 4502879 | 0. 3662148 | 0. 714205 | 0. 96909 |
| BX548044. 4 | 0 | NA | NA | NA | NA | NA |
| mrpl34 | 374. 0155741 | 0. 149580925 | 0. 118375 | 1. 2636191 | 0. 206367 | 0. 774011 |
| BX649388. 2 | 0 | NA | NA | NA | NA | NA |
| si:dkeyp-27c8. 1 | 0. 471562095 | -2. 373056629 | 3. 0645586 | -0. 774355 | 0. 438721 | NA |
| ftr26 | 1. 332271062 | 0. 763437842 | 1. 6495887 | 0. 462805 | 0. 643504 | NA |
| BX004981. 2 | 2. 003533331 | -0. 514167452 | 1. 3416074 | -0. 383247 | 0. 701536 | NA |
| BX321877. 1 | 15. 6420563 | 0. 077896932 | 0. 4878576 | 0. 1596715 | 0. 87314 | 0. 987846 |
| CU207275. 1 | 6. 087781842 | -0. 790499252 | 0. 8061772 | -0. 980553 | 0. 326813 | NA |
| si:dkey-93m18. 4 | 4. 051944361 | 0. 512815854 | 0. 9762804 | 0. 5252752 | 0. 599392 | NA |
| znf1128 | 5. 036133973 | -1. 174940285 | 0. 9343531 | -1. 257491 | 0. 208576 | NA |
| tmsb2 | 854. 4537994 | 0. 153013138 | 0. 0958069 | 1. 5970986 | 0. 110244 | 0. 62463 |
| si:dkeyp-82a1. 3 | 0. 317711143 | 1. 810477155 | 3. 2978238 | 0. 5489915 | 0. 583011 | NA |
| AL935198. 1 | 2. 416967566 | 0. 996613846 | 1. 2873182 | 0. 7741783 | 0. 438825 | NA |
| si:ch211-127i16. 2 | 186. 3201115 | -0. 210192681 | 0. 1534323 | -1. 369938 | 0. 170706 | 0. 728116 |
| pias2 | 616. 5810679 | 0. 018008088 | 0. 1038754 | 0. 1733624 | 0. 862367 | 0. 985841 |
| AL929058. 1 | 277. 8638968 | 0. 215582438 | 0. 1336606 | 1. 6129088 | 0. 106764 | 0. 615857 |
| si:dkey-222h21. 11 | 2. 599548558 | -0. 038915716 | 1. 2294682 | -0. 031652 | 0. 974749 | NA |
| CU499330. 1 | 25. 46119006 | 0. 663391682 | 0. 3975941 | 1. 6685149 | 0. 095214 | 0. 58671 |
| zmat4a | 107. 3532185 | 0. 059549612 | 0. 1930989 | 0. 3083892 | 0. 757786 | 0. 975374 |
| si:ch211-161n3. 3 | 4. 813421298 | -0. 101856546 | 0. 8721019 | -0. 116794 | 0. 907023 | NA |
| BX294113. 1 | 0 | NA | NA | NA | NA | NA |
| BX005329. 2 | 15. 20172947 | 0. 106656675 | 0. 4940829 | 0. 215868 | 0. 829091 | 0. 982737 |
| si:ch211-202f5. 3 | 252. 3487918 | 0. 326089931 | 0. 146246 | 2. 2297359 | 0. 025765 | 0. 310555 |
| tnni4b. 1 | 2. 022075663 | 1. 607502852 | 1. 3874082 | 1. 1586373 | 0. 246604 | NA |
| si:dkeyp-77c8. 2 | 40. 65956271 | 0. 638413881 | 0. 3459611 | 1. 8453346 | 0. 064989 | 0. 497901 |
| BX323543. 1 | 0 | NA | NA | NA | NA | NA |
| acy3. 1 | 29. 87808098 | -0. 33242003 | 0. 3594296 | -0. 924854 | 0. 355042 | 0. 882321 |
| si:dkey-33c12. 11 | 16. 87688409 | -0. 689103416 | 0. 4615103 | -1. 493148 | 0. 135398 | 0. 670851 |
| rarres3 | 16. 54388201 | -0. 250032156 | 0. 473737 | -0. 527787 | 0. 597647 | 0. 95534 |
| mphosph6 | 224. 0202898 | 0. 094216424 | 0. 141695 | 0. 6649239 | 0. 506099 | 0. 935724 |
| adgrf3b | 48. 27143387 | 0. 014587014 | 0. 2864228 | 0. 0509283 | 0. 959383 | 0. 995165 |
| BX511259. 1 | 0. 158795395 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| BX890551. 1 | 0 | NA | NA | NA | NA | NA |
| BX294181. 1 | 0 | NA | NA | NA | NA | NA |
| CR383662. 1 | 2. 65947283 | -2. 149878984 | 1. 3195394 | -1. 629265 | 0. 103257 | NA |
| si:ch211-174j14. 2 | 0. 515885857 | -0. 89611015 | 2. 8190897 | -0. 317872 | 0. 750582 | NA |
| CR847870. 1 | 0 | NA | NA | NA | NA | NA |
| si:dkey-83k24. 5 | 73. 77855362 | -0. 292065292 | 0. 227415 | -1. 284283 | 0. 199043 | 0. 764531 |
| CR356233. 2 | 0 | NA | NA | NA | NA | NA |
| FAM163A | 29. 42559266 | 0. 247031908 | 0. 3638875 | 0. 6788689 | 0. 497221 | 0. 93322 |
| selenoh | 441. 095077 | -0. 374635717 | 0. 1280417 | -2. 925889 | 0. 003435 | 0. 078428 |
| CT737131. 1 | 0 | NA | NA | NA | NA | NA |
| si:ch211-213a13. 2 | 14. 18269312 | 0. 611766112 | 0. 5296894 | 1. 1549524 | 0. 24811 | 0. 817415 |
| si:dkeyp-77c8. 4 | 1. 571932231 | 4. 088279848 | 1. 8298064 | 2. 234269 | 0. 025465 | NA |
| si:ch211-222n4. 2 | 1. 49813837 | 1. 006839534 | 1. 522663 | 0. 661236 | 0. 508461 | NA |

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| BX950184.1 | 1.180145236 | 0.365759426 | 1.9291048 | 0.1896006 | 0.849622 | NA |
| BX640520.1 | 1.019741812 | -0.999014948 | 1.9781285 | -0.50503 | 0.613538 | NA |
| CR513782.2 | 0.356300316 | 0.005884122 | 3.214964 | 0.0018302 | 0.99854 | NA |
| AL935144.1 | 0 | NA | NA | NA | NA | NA |
| si:ch211-234c11.2 | 2.049586718 | 0.555428723 | 1.4044988 | 0.395464 | 0.6925 | NA |
| si:dkey-104n9.1 | 51.86763713 | 0.608982881 | 0.2887424 | 2.1090872 | 0.034937 | 0.363807 |
| ugt2a7 | 289.175261 | -0.680154553 | 0.1478483 | -4.600355 | 4.22E-06 | 0.000353 |
| si:ch211-161h7.5 | 213.5519004 | -0.486742998 | 0.1977601 | -2.461281 | 0.013844 | 0.211721 |
| BX465186.1 | 0 | NA | NA | NA | NA | NA |
| si:ch211-158d24.4 | 55.05012715 | -0.248294606 | 0.2754642 | -0.901368 | 0.367393 | 0.887458 |
| c6 | 23.24101268 | -0.042103978 | 0.4074226 | -0.103342 | 0.917691 | 0.991623 |
| vap | 0 | NA | NA | NA | NA | NA |
| BX548073.3 | 28.09139891 | 0.339691114 | 0.4488766 | 0.7567584 | 0.449195 | 0.918265 |
| STMP1 | 635.978163 | 0.17041572 | 0.1071767 | 1.5900449 | 0.111825 | 0.627242 |
| lgals916 | 0 | NA | NA | NA | NA | NA |
| BX682548.1 | 2.412184514 | 1.413354695 | 1.4114983 | 1.0013152 | 0.316674 | NA |
| CR847870.2 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |
| FP016056.1 | 21.72678466 | 0.483667457 | 0.4175705 | 1.1582894 | 0.246746 | 0.816669 |
| SMIM18 | 104.4576767 | -0.110919038 | 0.2143732 | -0.517411 | 0.604869 | 0.95651 |
| ubac2 | 171.0859687 | 0.068427411 | 0.1601548 | 0.4272579 | 0.669191 | 0.965037 |
| c3b.1 | 662.8421821 | 0.194062677 | 0.112416 | 1.7262905 | 0.084295 | 0.55841 |
| thumpd2 | 72.80185456 | -0.118505546 | 0.2316601 | -0.511549 | 0.608967 | 0.956718 |
| CR925713.1 | 5.147699276 | -1.016134835 | 0.8918844 | -1.139312 | 0.254573 | NA |
| si:ch211-139g16.8 | 6.759432066 | -1.136043102 | 0.8004871 | -1.41919 | 0.155844 | NA |
| BX897740.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| plscr3a | 50.80208751 | -1.234725838 | 0.2787494 | -4.42952 | 9.44E-06 | 0.000689 |
| proca | 51.91247127 | 0.470748922 | 0.2945035 | 1.5984494 | 0.109943 | 0.624178 |
| si:dkey-163f12.10 | 0 | NA | NA | NA | NA | NA |
| si:ch73-92i20.1 | 3.18388149 | -0.133375247 | 1.0396492 | -0.128289 | 0.897921 | NA |
| L0018605.1 | 5.550594294 | 1.253169387 | 0.8449072 | 1.4832035 | 0.13802 | NA |
| CT573467.1 | 0 | NA | NA | NA | NA | NA |
| BX323543.2 | 0 | NA | NA | NA | NA | NA |
| BX649502.5 | 0 | NA | NA | NA | NA | NA |
| BX649388.3 | 4.282615015 | -0.418654325 | 0.977786 | -0.428166 | 0.668531 | NA |
| BX511310.1 | 5.686319545 | 0.361854388 | 0.7865784 | 0.460036 | 0.64549 | NA |
| tac3a | 63.06137585 | 0.070151587 | 0.254333 | 0.2758257 | 0.782682 | 0.97627 |
| iqsec3b | 38.80796794 | 0.057211398 | 0.3069434 | 0.1863907 | 0.852138 | 0.985174 |
| adam17b | 24.75507449 | 0.096241771 | 0.3903233 | 0.2465694 | 0.805241 | 0.979883 |
| cc134b.8 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX005313.2 | 9.639007546 | 0.053166671 | 0.6296435 | 0.0844393 | 0.932707 | NA |
| tmprss12 | 0 | NA | NA | NA | NA | NA |
| si:ch211-132g1.6 | 0 | NA | NA | NA | NA | NA |
| BX000444.1 | 0 | NA | NA | NA | NA | NA |
| BX004774.1 | 9.603954053 | 0.300428158 | 0.6095837 | 0.4928416 | 0.622125 | NA |
| CT573344.1 | 42.07016473 | -0.686339429 | 0.3158228 | -2.173179 | 0.029767 | 0.334058 |
| si:ch211-209118.2 | 48.83943898 | -0.353463235 | 0.310384 | -1.138793 | 0.254789 | 0.823484 |
| espn1b | 24.64456024 | 0.125833746 | 0.3876462 | 0.3246098 | 0.745476 | 0.974094 |
| BX511265.1 | 0.794338034 | 3.131709106 | 2.3335617 | 1.3420297 | 0.179586 | NA |
| si:dkeyp-122a9.2 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:dkey-266m15.7 | 33.13588017 | -0.089593565 | 0.3420096 | -0.261962 | 0.793351 | 0.977937 |
| CR847509.1 | 0.990784365 | 0.018336633 | 1.8663564 | 0.0098248 | 0.992161 | NA |
| gstk4 | 0.50625413 | -0.940106488 | 2.8357787 | -0.331516 | 0.740255 | NA |
| si:dkey-117m1.4 | 317.3463145 | -0.29953099 | 0.1351847 | -2.215717 | 0.026711 | 0.315011 |
| scpp8 | 9.762289614 | -0.611816087 | 0.6371343 | -0.960262 | 0.336923 | NA |

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| RANBP2 | 1927.706414 | -0.036788713 | 0.1019525 | -0.360842 | 0.718218 | 0.96909 |
| si:ch73-11216.1 | 270.4859017 | -0.02479888 | 0.1363061 | -0.181935 | 0.855634 | 0.985174 |
| si:rp71-45k5.2 | 0 NA | | NA | NA | NA | NA |
| CR788254.2 | 1.371530028 | -0.640785266 | 1.8369316 | -0.348835 | 0.727214 | NA |
| si:ch211-57f7.7 | 8.772506769 | -0.63564935 | 0.6757714 | -0.940628 | 0.346896 | NA |
| si:dkey-117n7.2 | 92.16471466 | -0.03426452 | 0.2050178 | -0.167129 | 0.867268 | 0.987125 |
| BX936323.1 | 0 NA | | NA | NA | NA | NA |
| BX294189.1 | 2.50056158 | -0.510623241 | 1.2885816 | -0.396268 | 0.691908 | NA |
| BX004800.1 | 0 NA | | NA | NA | NA | NA |
| znf1010 | 129.9772434 | -0.022288759 | 0.1861736 | -0.11972 | 0.904705 | 0.990567 |
| CR932983.1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| fn dc7rs3 | 47.91491836 | -0.154155882 | 0.2917193 | -0.528439 | 0.597195 | 0.955244 |
| CU137717.1 | 0 NA | | NA | NA | NA | NA |
| pimr83 | 0 NA | | NA | NA | NA | NA |
| si:ch73-21g5.7 | 63.80695224 | -0.550062155 | 0.2672801 | -2.057999 | 0.03959 | 0.390659 |
| si:ch73-236c18.8 | 244.1696153 | 0.003250973 | 0.1412016 | 0.0230236 | 0.981631 | 0.996944 |
| si:dkeyp-106c3.3 | 9.651219914 | -0.09724788 | 0.6021238 | -0.161508 | 0.871693 | NA |
| CR853291.1 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |
| si:rp71-23d18.8 | 4.252733524 | 0.673545725 | 0.9692227 | 0.6949339 | 0.487097 | NA |
| si:dkey-16p6.2 | 2.188973823 | 1.191399035 | 1.3193453 | 0.9030229 | 0.366514 | NA |
| BX510336.1 | 0 NA | | NA | NA | NA | NA |
| CR749763.2 | 0.325573202 | 0.005883621 | 3.3172783 | 0.0017736 | 0.998585 | NA |
| mef2b | 46.1724475 | -0.259216846 | 0.3033102 | -0.854626 | 0.392758 | 0.897688 |
| CR759927.1 | 3.172882439 | -0.451648694 | 1.0701155 | -0.422056 | 0.672984 | NA |
| si:dkey-93m18.6 | 9.82008741 | -0.416535716 | 0.6121008 | -0.680502 | 0.496187 | NA |
| zgc:77118 | 1.297537742 | 0.031968932 | 1.7469507 | 0.0182998 | 0.9854 | NA |
| si:ch211-15j1.1 | 15.58813849 | 0.694675512 | 0.5206498 | 1.3342472 | 0.182123 | 0.744502 |
| si:dkey-79c1.1 | 2.489280538 | -0.980779674 | 1.2273236 | -0.799121 | 0.42422 | NA |
| CR354547.1 | 1.834906788 | -0.823777427 | 1.4572737 | -0.565287 | 0.571879 | NA |
| CT027756.1 | 0.330916733 | -1.849579229 | 3.2489867 | -0.569279 | 0.569167 | NA |
| EIF2AK1 | 293.8186308 | -0.128508738 | 0.1283464 | -1.001265 | 0.316699 | 0.867129 |
| or125-7 | 0.498553709 | 0.926267934 | 2.6786929 | 0.345791 | 0.7295 | NA |
| GUCY1A2 | 58.21067233 | -0.110725701 | 0.2783603 | -0.397778 | 0.690794 | 0.967157 |
| si:dkey-30j10.5 | 1.269155061 | 2.614569192 | 3.9472603 | 0.6623757 | 0.50773 | NA |
| si:dkey-75a21.2 | 158.5477665 | -0.050584486 | 0.1601701 | -0.315817 | 0.752141 | 0.974577 |
| BX571724.1 | 1.99638235 | -0.467313187 | 1.3274943 | -0.352027 | 0.724818 | NA |
| si:ch211-198m1.1 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| chia.6 | 106.2353444 | 0.573060249 | 0.1938697 | 2.9559039 | 0.003118 | 0.073687 |
| CR788285.1 | 0 NA | | NA | NA | NA | NA |
| c3a.4 | 2.010766882 | -0.477928131 | 1.3557981 | -0.352507 | 0.724458 | NA |
| si:ch211-212c13.10 | 211.3193317 | -0.036914658 | 0.1505456 | -0.245206 | 0.806297 | 0.980105 |
| si:dkey-112e17.1 | 46.4663154 | -0.379268736 | 0.2811413 | -1.349033 | 0.177326 | 0.738201 |
| ftr32 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| AL845362.1 | 1.628213769 | -0.563718013 | 1.4711157 | -0.383191 | 0.701578 | NA |
| CR786562.1 | 42.97687091 | -0.412529057 | 0.3106738 | -1.327853 | 0.184227 | 0.747376 |
| CT573148.1 | 8.143504802 | -0.584903656 | 0.7033365 | -0.831613 | 0.405627 | NA |
| si:ch211-284e13.9 | 1.330071311 | -2.707674392 | 1.853274 | -1.461022 | 0.144009 | NA |
| si:ch211-146110.7 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| BX936308.2 | 24.34763501 | -0.052184678 | 0.3982893 | -0.131022 | 0.895758 | 0.989814 |
| znf1127 | 2.949636131 | 0.642693895 | 1.1063005 | 0.5809397 | 0.561281 | NA |
| CR749762.2 | 2.135258044 | -1.16186778 | 1.3038928 | -0.891076 | 0.372888 | NA |
| CR456628.1 | 4.586099761 | -0.21712478 | 0.8893764 | -0.244131 | 0.807129 | NA |
| AL928845.1 | 2.167672256 | -0.703178131 | 1.2973829 | -0.541997 | 0.58782 | NA |
| si:ch211-139n6.3 | 16.76157789 | -0.163192465 | 0.4755265 | -0.343183 | 0.731461 | 0.971557 |

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| CR847566.1 | 0.515216064 | 0.926382026 | 2.6525479 | 0.3492423 | 0.726907 | NA |
| si:ch211-215d8.2 | 95.09800552 | 0.031003929 | 0.2090032 | 0.1483419 | 0.882073 | 0.988344 |
| si:dkey-65l23.2 | 0 NA | NA | NA | NA | NA | NA |
| TST | 242.6034224 | 0.094012657 | 0.1511809 | 0.6218552 | 0.534037 | 0.943276 |
| si:ch211-89o9.4 | 108.8772995 | 0.315745644 | 0.2067937 | 1.5268626 | 0.126795 | 0.656588 |
| BX649641.3 | 0.347458735 | -1.908042286 | 3.4571486 | -0.551912 | 0.581009 | NA |
| GMEB2 | 281.8012016 | -0.219878886 | 0.1361436 | -1.615051 | 0.1063 | 0.615567 |
| BX530024.1 | 0.865544342 | 3.23079022 | 2.2781012 | 1.4181944 | 0.156134 | NA |
| CU681836.1 | 176.5189841 | -0.012877235 | 0.169916 | -0.075786 | 0.939589 | 0.992857 |
| BX537358.1 | 5.152010713 | -1.071074671 | 0.849852 | -1.260307 | 0.207559 | NA |
| si:dkey-238m4.4 | 2.560008691 | 0.642131771 | 1.2235951 | 0.5247911 | 0.599728 | NA |
| si:ch211-226h8.11 | 0 NA | NA | NA | NA | NA | NA |
| BX936438.1 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CR753837.1 | 0.974080725 | -0.034512448 | 1.8748673 | -0.018408 | 0.985313 | NA |
| MFSD3 | 45.36780713 | 0.352063415 | 0.2975752 | 1.1831074 | 0.236767 | 0.805854 |
| znf5691 | 25.43664278 | 0.140724612 | 0.3846845 | 0.3658183 | 0.714501 | 0.96909 |
| si:dkey-229d11.3 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| BX901930.2 | 0 NA | NA | NA | NA | NA | NA |
| taarl9o | 0.514116189 | -2.475533565 | 2.7461255 | -0.901464 | 0.367342 | NA |
| cngk | 4.960508824 | -0.035481323 | 0.8789307 | -0.040369 | 0.967799 | NA |
| si:ch73-62b13.1 | 19.94839405 | 0.284710594 | 0.4285248 | 0.664397 | 0.506436 | 0.935724 |
| AL954694.2 | 0 NA | NA | NA | NA | NA | NA |
| igicls1 | 0 NA | NA | NA | NA | NA | NA |
| or137-6 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:dkey-204f11.51 | 0 NA | NA | NA | NA | NA | NA |
| BX530037.3 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-11o1.3 | 5.540068995 | -1.184662756 | 0.8333886 | -1.421501 | 0.155171 | NA |
| CR786582.1 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:ch211-173m16.2 | 0.633934609 | 1.436045836 | 2.6103598 | 0.5501333 | 0.582228 | NA |
| CABZ01039782.1 | 7.593610742 | -0.121237459 | 0.7369272 | -0.164518 | 0.869324 | NA |
| BX510924.1 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CR513782.3 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-9i23.14 | 10.07790428 | 0.443717976 | 0.6067942 | 0.7312495 | 0.464627 | NA |
| CU570889.1 | 1.503172171 | -1.79012084 | 1.6481094 | -1.086166 | 0.277405 | NA |
| ifitml | 149.2456165 | -0.395244542 | 0.1963427 | -2.013034 | 0.044111 | 0.412803 |
| si:dkey-221j11.3 | 189.8075812 | 0.315007928 | 0.1867535 | 1.6867575 | 0.09165 | 0.57849 |
| BX957257.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CT025585.1 | 1.161805827 | -3.660681204 | 1.934818 | -1.892003 | 0.058491 | NA |
| BX890559.1 | 8.293128398 | 0.120069171 | 0.6546737 | 0.1834031 | 0.854482 | NA |
| si:dkey-83f18.4 | 0 NA | NA | NA | NA | NA | NA |
| ubb | 4189.488083 | 0.311342081 | 0.0727218 | 4.2812731 | 1.86E-05 | 0.001178 |
| adgrf8 | 33.07556247 | 0.292941518 | 0.3325376 | 0.8809274 | 0.378357 | 0.895192 |
| si:ch211-209j10.6 | 200.5710084 | 0.037770557 | 0.1535998 | 0.2459025 | 0.805758 | 0.979893 |
| si:dkey-57a22.15 | 2003.783147 | 0.126178605 | 0.0766937 | 1.6452267 | 0.099923 | 0.601211 |
| BX323028.1 | 0.491320158 | 0.8528132 | 2.8656354 | 0.2976 | 0.766008 | NA |
| si:dkeyp-87a6.2 | 0.330916733 | -1.849579229 | 3.2489867 | -0.569279 | 0.569167 | NA |
| si:ch211-114l13.1 | 115.0038892 | 0.009480144 | 0.201998 | 0.0469319 | 0.962568 | 0.995927 |
| BX640512.1 | 0 NA | NA | NA | NA | NA | NA |
| si:rp71-1h3.1 | 11.53234389 | 0.320160951 | 0.5622932 | 0.5693844 | 0.569095 | 0.948983 |
| CR524821.1 | 0.825855294 | 1.891116598 | 2.1306575 | 0.8875742 | 0.37477 | NA |
| si:dkey-38n4.2 | 1.63085265 | -0.564911028 | 1.581708 | -0.357153 | 0.720978 | NA |
| si:ch73-249k16.4 | 2.113760313 | -1.192408571 | 1.4535733 | -0.820329 | 0.412029 | NA |
| si:ch211-195h23.4 | 0.663561848 | -1.490280258 | 2.4116568 | -0.617949 | 0.536609 | NA |
| BX088709.1 | 3.316974524 | 0.926811205 | 1.1009506 | 0.8418281 | 0.399884 | NA |

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| si:ch211-13f8.1 | 163.4093536 | 0.17513395 | 0.1726498 | 1.0143886 | 0.310397 | 0.862656 |
| si:ch73-27e22.7 | 0 NA | | NA | NA | NA | NA |
| si:ch211-239f4.6 | 0.854503011 | -3.209619274 | 2.2865784 | -1.403678 | 0.160415 | NA |
| CR396590.4 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |
| si:ch211-141e20.2 | 22.31625972 | 0.209195811 | 0.4221037 | 0.4956029 | 0.620175 | 0.957354 |
| si:dkey-58f10.7 | 0.847782112 | 0.655103352 | 2.1028616 | 0.3115295 | 0.755398 | NA |
| si:ch211-263m18.4 | 0 NA | | NA | NA | NA | NA |
| si:ch211-57i17.2 | 6.838813419 | -0.214714963 | 0.7428252 | -0.289052 | 0.772542 | NA |
| CU633785.1 | 0 NA | | NA | NA | NA | NA |
| nyap2b | 202.9476852 | -0.201040771 | 0.151575 | -1.326346 | 0.184725 | 0.747597 |
| BX284697.1 | 1.308615861 | 0.736812935 | 1.6726917 | 0.4404953 | 0.659578 | NA |
| inpp5jb | 8.59336609 | -0.795461588 | 0.6492796 | -1.225145 | 0.220521 | NA |
| CU469531.2 | 2.25628215 | 0.383766697 | 1.3225249 | 0.2901773 | 0.771681 | NA |
| mtmr3 | 0 NA | | NA | NA | NA | NA |
| acer3 | 6.484508934 | -0.2422217 | 0.7530783 | -0.321642 | 0.747724 | NA |
| si:ch1073-272j17.3 | 1.043517365 | -0.941794384 | 2.0508711 | -0.459217 | 0.646079 | NA |
| BX842702.1 | 0 NA | | NA | NA | NA | NA |
| lrrc66 | 1.816168291 | -0.859048062 | 1.5260785 | -0.562912 | 0.573495 | NA |
| BX649476.1 | 0 NA | | NA | NA | NA | NA |
| EPB41L2 | 2851.420303 | -0.058620189 | 0.0826512 | -0.709248 | 0.478171 | 0.926857 |
| si:ch211-28e16.5 | 0 NA | | NA | NA | NA | NA |
| si:ch211-235i11.5 | 51.36795799 | 0.153846509 | 0.2703034 | 0.5691624 | 0.569246 | 0.948983 |
| tgm2l | 181.5551693 | 0.157396556 | 0.2068046 | 0.7610882 | 0.446604 | 0.917154 |
| uqcc3 | 220.297507 | -0.084386691 | 0.1444187 | -0.58432 | 0.559005 | 0.948478 |
| BX640539.1 | 2.519686637 | -1.038754654 | 1.3660163 | -0.760426 | 0.447 | NA |
| si:ch211-150d5.3 | 0.476506538 | 2.394892832 | 2.8161716 | 0.8504073 | 0.395099 | NA |
| CU469314.1 | 0.687217049 | -1.490137326 | 2.387795 | -0.624064 | 0.532585 | NA |
| si:dkeyp-82a1.1 | 13.97927102 | -0.176800304 | 0.5146265 | -0.343551 | 0.731184 | 0.971557 |
| si:dkeyp-20g2.3 | 0 NA | | NA | NA | NA | NA |
| CR392330.1 | 0.643284345 | 1.438369819 | 2.4327963 | 0.5912414 | 0.554359 | NA |
| CT583651.1 | 0 NA | | NA | NA | NA | NA |
| AL953894.1 | 4.177020485 | -0.117630255 | 1.0022356 | -0.117368 | 0.906569 | NA |
| BX511184.1 | 0 NA | | NA | NA | NA | NA |
| crha | 0.31598276 | 0.005883445 | 3.3523626 | 0.001755 | 0.9986 | NA |
| si:dkey-286j17.4 | 30.31651404 | -0.773239577 | 0.3552033 | -2.176893 | 0.029489 | 0.332709 |
| si:ch73-376124.4 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| BX323822.1 | 0 NA | | NA | NA | NA | NA |
| casp6 | 82.51861591 | -0.283608274 | 0.2397684 | -1.182843 | 0.236872 | 0.805854 |
| zgc:111986 | 4032.833716 | 0.006182956 | 0.0669611 | 0.0923365 | 0.926431 | 0.992702 |
| BX530075.2 | 0 NA | | NA | NA | NA | NA |
| pimr49 | 0 NA | | NA | NA | NA | NA |
| BX936421.1 | 0.633934609 | 1.436045836 | 2.6103598 | 0.5501333 | 0.582228 | NA |
| gad1a | 14.40433478 | -0.462457291 | 0.5118867 | -0.903437 | 0.366294 | 0.887239 |
| sertad2a | 82.56382437 | -0.257906917 | 0.226149 | -1.140429 | 0.254108 | 0.823394 |
| edil3a | 1257.910963 | 0.011724979 | 0.0873573 | 0.1342186 | 0.89323 | 0.989291 |
| si:dkey-21e2.12 | 0 NA | | NA | NA | NA | NA |
| BX470229.1 | 9.713339313 | 0.940415974 | 0.6357864 | 1.4791381 | 0.139103 | NA |
| si:dkey-216e24.9 | 1.196340722 | 1.367701255 | 1.8023662 | 0.7588365 | 0.44795 | NA |
| CR933734.1 | 0.499182217 | -0.916838237 | 2.6774436 | -0.34243 | 0.732027 | NA |
| creblb | 405.7751641 | 0.044832674 | 0.1216005 | 0.3686883 | 0.71236 | 0.969087 |
| si:ch211-229b6.1 | 0.330916733 | -1.849579229 | 3.2489867 | -0.569279 | 0.569167 | NA |
| swsap1 | 9.193237171 | -0.848542628 | 0.6326809 | -1.341186 | 0.17986 | NA |
| znf1135 | 8.521576809 | 0.224420297 | 0.6583759 | 0.3408696 | 0.733202 | NA |
| BX539332.1 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |

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| si:dkey-69c1.1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX465862.1 | 17.96630081 | -0.153072364 | 0.4848039 | -0.315741 | 0.752199 | 0.974577 |
| CT027825.1 | 0.802200093 | 1.852032281 | 2.2653592 | 0.8175446 | 0.413617 | NA |
| si:dkeyp-34f6.4 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| iqcbl | 3.808425078 | 0.118521823 | 0.9798701 | 0.1209567 | 0.903725 | NA |
| si:ch211-9n13.3 | 0 NA | NA | NA | NA | NA | NA |
| CU467110.1 | 106.8944251 | 0.028192249 | 0.2017954 | 0.1397071 | 0.888891 | 0.989291 |
| tnfaip6 | 116.1774509 | 0.249245558 | 0.1975432 | 1.2617269 | 0.207047 | 0.774967 |
| BX927377.1 | 0 NA | NA | NA | NA | NA | NA |
| BX323559.2 | 1.354276948 | 0.016538586 | 1.6286883 | 0.0101545 | 0.991898 | NA |
| si:dkey-10613.7 | 63.1163442 | 0.400443211 | 0.2439161 | 1.641725 | 0.100647 | 0.603272 |
| BX649502.6 | 4.015357808 | -1.019395617 | 0.9774886 | -1.042872 | 0.297008 | NA |
| mpc1 | 722.5050042 | -0.047227988 | 0.1093095 | -0.432057 | 0.6657 | 0.964736 |
| CR388143.1 | 17.03174897 | -0.061732031 | 0.4896834 | -0.126065 | 0.89968 | 0.990121 |
| si:dkey-7814.10 | 0 NA | NA | NA | NA | NA | NA |
| BX511129.1 | 29.8167816 | -0.103180155 | 0.3568834 | -0.289114 | 0.772494 | 0.975687 |
| ahdc1 | 719.4803288 | 0.013282897 | 0.095726 | 0.1387596 | 0.88964 | 0.989291 |
| oip5-as1 | 2518.73116 | 0.088218686 | 0.0731513 | 1.2059759 | 0.227827 | 0.794963 |
| si:ch211-14a11.2 | 0.341366344 | 1.891903201 | 3.2128156 | 0.5888614 | 0.555954 | NA |
| si:dkey-76d14.2 | 6.097595068 | 0.870617931 | 0.7772759 | 1.1200887 | 0.262676 | NA |
| gpr52 | 48.93091197 | -0.313297427 | 0.2781166 | -1.126497 | 0.259955 | 0.828288 |
| si:dkey-56m15.6 | 0.812928439 | -0.504524747 | 2.2480137 | -0.224431 | 0.822422 | NA |
| CR384062.1 | 0.651026051 | -0.042574319 | 2.4423909 | -0.017431 | 0.986092 | NA |
| CU693484.1 | 72.24406954 | -0.257793904 | 0.2522268 | -1.022072 | 0.306747 | 0.860249 |
| si:ch73-7i4.3 | 1.123767089 | 0.391854525 | 1.9650308 | 0.1994139 | 0.841939 | NA |
| znf653 | 113.9510553 | -0.215490951 | 0.1861939 | -1.157347 | 0.247131 | 0.816774 |
| CT009596.1 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CR361551.1 | 56.691866 | 0.24772342 | 0.2680481 | 0.9241751 | 0.355395 | 0.882347 |
| CU466287.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:dkey-175d9.2 | 5.256225367 | -0.184726319 | 0.8114459 | -0.227651 | 0.819918 | NA |
| CYP46A1 | 5.935344027 | -1.50296269 | 0.9014579 | -1.667258 | 0.095463 | NA |
| si:ch211-197e7.3 | 4.482879323 | -0.423003952 | 1.0056753 | -0.420617 | 0.674035 | NA |
| BX571825.10 | 0 NA | NA | NA | NA | NA | NA |
| pamr1 | 171.7978587 | 0.042816591 | 0.175654 | 0.2437553 | 0.80742 | 0.980642 |
| BX530034.1 | 5.663652914 | -0.507253448 | 0.7976694 | -0.635919 | 0.524829 | NA |
| si:dkey-95p16.2 | 51.31887906 | -0.159951106 | 0.2700539 | -0.592293 | 0.553654 | 0.947383 |
| BX571701.3 | 0 NA | NA | NA | NA | NA | NA |
| BX664716.1 | 1.005718337 | -0.979164561 | 1.8926618 | -0.517348 | 0.604913 | NA |
| BX004785.2 | 0 NA | NA | NA | NA | NA | NA |
| CR450740.1 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-7814.8 | 0.513487682 | -0.887846295 | 2.6557956 | -0.334305 | 0.738149 | NA |
| CR677617.1 | 8.950994705 | -0.662609867 | 0.6920083 | -0.957517 | 0.338306 | NA |
| urp1 | 45.65844419 | 0.239257794 | 0.294907 | 0.8112992 | 0.417194 | 0.906237 |
| si:ch211-217k17.9 | 131.6153689 | 0.093152851 | 0.2156274 | 0.4320085 | 0.665735 | 0.964736 |
| CU651633.1 | 0 NA | NA | NA | NA | NA | NA |
| si:zfos-905g2.1 | 69.16511733 | -0.514452054 | 0.2449172 | -2.100514 | 0.035684 | 0.368007 |
| zgc:194281 | 14.85636386 | 0.002527847 | 0.5164566 | 0.0048946 | 0.996095 | 0.998888 |
| BX649448.2 | 1.12805203 | -2.447047822 | 1.9526379 | -1.253201 | 0.210133 | NA |
| rsflb.1 | 0 NA | NA | NA | NA | NA | NA |
| zgc:77614 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-135f11.6 | 0.347458735 | -1.908042286 | 3.4571486 | -0.551912 | 0.581009 | NA |
| si:dkey-238j22.1 | 0 NA | NA | NA | NA | NA | NA |
| BX324218.1 | 0.521188103 | -2.493476766 | 2.9577741 | -0.843025 | 0.399215 | NA |
| BX323812.2 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| CT573204.1 | 18.19595259 | 0.600179288 | 0.4664114 | 1.2868024 | 0.198163 | 0.76333 |
| b3gnt3.3 | 35.46349774 | 0.076272757 | 0.3672426 | 0.2076904 | 0.835471 | 0.984089 |
| BX548044.5 | 0.333314908 | -1.858695402 | 3.5126701 | -0.52914 | 0.596708 | NA |
| slc37a4b | 22.90181375 | -0.045186905 | 0.3991109 | -0.113219 | 0.909857 | 0.990702 |
| si:dkey-230i18.2 | 0.508023798 | 0.926122713 | 2.6636728 | 0.3476864 | 0.728076 | NA |
| BX005309.1 | 333.4896994 | 0.077949001 | 0.1300821 | 0.5992295 | 0.54902 | 0.946312 |
| BX539321.1 | 0.975568402 | 0.934212443 | 2.1194354 | 0.4407836 | 0.65937 | NA |
| CR450686.2 | 7.423900879 | 0.18081293 | 0.6948505 | 0.2602185 | 0.794695 | NA |
| BX294165.1 | 2.669534639 | -0.737177766 | 1.1629507 | -0.633886 | 0.526155 | NA |
| si:ch73-56d11.5 | 31.0916954 | -0.137239491 | 0.4207116 | -0.326208 | 0.744267 | 0.974094 |
| si:dkey-111e8.4 | 0.317711143 | 1.810477155 | 3.2978238 | 0.5489915 | 0.583011 | NA |
| BX649641.4 | 1.155163996 | -0.396716192 | 1.7478367 | -0.226976 | 0.820443 | NA |
| selenop | 10566.34289 | 0.24752893 | 0.074483 | 3.3232951 | 0.00089 | 0.028373 |
| BX005438.1 | 58.13563618 | -0.036027474 | 0.2740045 | -0.131485 | 0.895392 | 0.989814 |
| BX842699.1 | 2.350764906 | -2.532271048 | 1.508116 | -1.679096 | 0.093133 | NA |
| BX324007.1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX571854.1 | 10.19734144 | 0.456825776 | 0.6424198 | 0.7111016 | 0.477021 | NA |
| si:dkey-20i20.7 | 23.77331584 | -0.219572453 | 0.3973366 | -0.552611 | 0.58053 | 0.951621 |
| si:ch211-225b11.4 | 103.0998777 | 0.102977643 | 0.1931096 | 0.5332602 | 0.593853 | 0.954434 |
| BX294388.1 | 1.465882293 | 0.270744345 | 1.6885553 | 0.1603408 | 0.872613 | NA |
| bckdhbl | 384.7382135 | -0.0164538 | 0.1201466 | -0.136948 | 0.891072 | 0.989291 |
| si:dkey-25o1.7 | 15.3244803 | -0.137442473 | 0.5486468 | -0.250512 | 0.802192 | 0.979492 |
| lamc3 | 877.3715713 | 0.194568362 | 0.1104185 | 1.7620995 | 0.078052 | 0.544221 |
| si:ch73-256j6.4 | 1.477280433 | -1.766093184 | 1.6754071 | -1.054128 | 0.291824 | NA |
| AL929493.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX000981.2 | 15.34865362 | -0.412145514 | 0.507431 | -0.81222 | 0.416665 | 0.906237 |
| CT025897.1 | 8.168485889 | -0.520929859 | 0.6757454 | -0.770897 | 0.440768 | NA |
| si:dkey-80c24.4 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| FP236157.1 | 5.698355393 | -1.548565783 | 0.8944531 | -1.731299 | 0.083398 | NA |
| zgc:193505 | 611.9527651 | 0.016095016 | 0.1203876 | 0.1336933 | 0.893645 | 0.989291 |
| CU207343.1 | | 0 NA | NA | NA | NA | NA |
| si:dkey-234124.8 | 5.292096345 | 0.332179392 | 0.8473792 | 0.392008 | 0.695052 | NA |
| si:ch211-282k23.2 | 11.96126721 | -1.512098561 | 0.6302746 | -2.399111 | 0.016435 | 0.236409 |
| CR391910.2 | 2.377437742 | 0.465403164 | 1.2468402 | 0.3732661 | 0.70895 | NA |
| CR536604.1 | 13.26614175 | 0.585386656 | 0.557019 | 1.0509275 | 0.293292 | 0.849129 |
| si:dkey-88n24.10 | 0.521188103 | -2.493476766 | 2.9577741 | -0.843025 | 0.399215 | NA |
| oip5 | 24.21546692 | -0.151126218 | 0.382773 | -0.394819 | 0.692976 | 0.96736 |
| BX470224.2 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| omd | 11.99348846 | 0.584642781 | 0.5490818 | 1.0647645 | 0.286982 | 0.845979 |
| si:ch211-93g21.1 | 25.3840617 | 0.161897685 | 0.399949 | 0.4047958 | 0.685628 | 0.966307 |
| or124-3 | | 0 NA | NA | NA | NA | NA |
| BX255912.1 | 2.465697616 | 2.006541235 | 1.3352416 | 1.5027552 | 0.132902 | NA |
| si:dkey-159f12.2 | 210.6887258 | 0.081454638 | 0.2023063 | 0.4026302 | 0.68722 | 0.966376 |
| cc134b.1 | 74.91678432 | 0.51973784 | 0.2309984 | 2.2499626 | 0.024451 | 0.3019 |
| BX664750.1 | | 0 NA | NA | NA | NA | NA |
| si:dkey-92i17.2 | 76.59129039 | 0.270620495 | 0.2226668 | 1.2153609 | 0.224228 | 0.791484 |
| CT025909.1 | 1.868272784 | -0.804119683 | 1.3949472 | -0.576452 | 0.56431 | NA |
| si:ch211-234c11.3 | 8.816735011 | -1.199493689 | 0.659938 | -1.817585 | 0.069128 | NA |
| BX005419.1 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:dkey-45h7.1 | 7.88877645 | -0.176507842 | 0.6785829 | -0.260112 | 0.794777 | NA |
| sult3st2 | 60.66860892 | -0.183818515 | 0.2579122 | -0.712717 | 0.476021 | 0.926338 |
| si:dkey-27b3.4 | 0.476386185 | 2.392464142 | 3.0533824 | 0.7835455 | 0.433307 | NA |
| spc24 | 219.7622135 | 0.062494679 | 0.1431389 | 0.4366017 | 0.6624 | 0.964665 |
| CR392341.1 | 6.74679396 | -0.758872203 | 0.7663221 | -0.990278 | 0.322038 | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| BX537143.1 | | 0 NA | NA | NA | NA | NA |
| si00a11 | 406.1136682 | 0.309201602 | 0.3104715 | 0.9959097 | 0.319294 | 0.867746 |
| si:ch211-106h4.4 | 21.97301043 | 0.864067923 | 0.4128967 | 2.0926978 | 0.036376 | 0.372502 |
| si:ch211-249h16.8 | 2.475765219 | -1.457410054 | 1.2361177 | -1.179022 | 0.238389 | NA |
| BX000981.3 | 0.651146404 | -0.045019457 | 2.587009 | -0.017402 | 0.986116 | NA |
| si:dkey-26i13.5 | 0.968187754 | 2.173022767 | 2.1450023 | 1.0130632 | 0.31103 | NA |
| BX537282.1 | 2.767855328 | 0.154517109 | 1.2181253 | 0.1268483 | 0.89906 | NA |
| ugt5a2 | 13.74506441 | -0.875603772 | 0.5472914 | -1.599886 | 0.109624 | 0.623766 |
| AL954868.1 | 1.672417178 | 0.012632872 | 1.4948056 | 0.0084512 | 0.993257 | NA |
| BX511034.3 | 12.95381316 | 0.457507508 | 0.5217521 | 0.8768677 | 0.380559 | 0.895192 |
| BX294113.2 | 0.490502273 | -2.421143305 | 2.7891168 | -0.868068 | 0.385357 | NA |
| AL954359.1 | 13.67951133 | 0.077396782 | 0.5328649 | 0.1452465 | 0.884516 | 0.98879 |
| CR513785.1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:ch211-287n14.3 | 0.82062886 | -1.887809105 | 2.232843 | -0.845473 | 0.397847 | NA |
| ftr25 | 6.377356831 | 0.516890928 | 0.7591353 | 0.6808944 | 0.495938 | NA |
| si:dkeyp-2e4.6 | 1.378911671 | 1.64127814 | 1.7384613 | 0.9440982 | 0.345119 | NA |
| tm7sf3 | 638.1279114 | -0.075008298 | 0.1051665 | -0.713234 | 0.475701 | 0.926202 |
| entpd5b | 448.9108494 | 0.149763763 | 0.1254722 | 1.1936012 | 0.232634 | 0.80121 |
| si:dkey-6f10.3 | 1.643848528 | 3.056427142 | 1.7262286 | 1.7705808 | 0.07663 | NA |
| CR318646.2 | 0.798743327 | -0.585351522 | 2.137483 | -0.273851 | 0.784199 | NA |
| CT573186.1 | | 0 NA | NA | NA | NA | NA |
| si:dkey-285e18.5 | 3.846893898 | -0.1218161 | 0.9698396 | -0.125604 | 0.900045 | NA |
| BX005283.1 | 2.487032714 | 0.183030945 | 1.1713673 | 0.1562541 | 0.875833 | NA |
| ankmy2b | 1.995471851 | 0.006123268 | 1.3624957 | 0.0044942 | 0.996414 | NA |
| BX001030.1 | 324.8551014 | 0.06445068 | 0.142216 | 0.4531885 | 0.650413 | 0.960708 |
| zgc:171435 | 8.819701317 | -0.152336302 | 0.6489341 | -0.234748 | 0.814404 | NA |
| si:dkey-28d5.4 | | 0 NA | NA | NA | NA | NA |
| si:ch211-56a11.2 | 60.01397181 | -0.082836082 | 0.2728664 | -0.303577 | 0.76145 | 0.975374 |
| AL845312.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:dkey-218h11.6 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| tmem238a | 203.9215442 | 0.245993977 | 0.1498621 | 1.6414689 | 0.1007 | 0.603407 |
| CU467633.2 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:rp71-36a1.2 | 68.92438412 | 0.028709691 | 0.2521951 | 0.1138392 | 0.909365 | 0.990702 |
| si:dkey-193c22.1 | 132.846661 | 0.094296381 | 0.172899 | 0.5453843 | 0.585489 | 0.95262 |
| CU074419.2 | 2.81000832 | 0.188400883 | 1.1884005 | 0.1585332 | 0.874037 | NA |
| FP016018.1 | | 0 NA | NA | NA | NA | NA |
| BX005301.1 | 1.155163996 | -0.396716192 | 1.7478367 | -0.226976 | 0.820443 | NA |
| BX649502.7 | | 0 NA | NA | NA | NA | NA |
| BX537166.2 | 1.644635418 | -0.579573079 | 1.506492 | -0.384717 | 0.700447 | NA |
| BX255917.1 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:dkey-217m5.8 | | 0 NA | NA | NA | NA | NA |
| si:ch73-27e22.4 | 35.15976405 | 0.116674783 | 0.3443504 | 0.3388257 | 0.734741 | 0.972021 |
| si:dkey-126g1.9 | 38.93444507 | 0.080142164 | 0.3399554 | 0.2357432 | 0.813632 | 0.981081 |
| si:ch211-122114.4 | | 0 NA | NA | NA | NA | NA |
| si:dkeyp-46h3.8 | 0.531799352 | 0.999478841 | 2.790358 | 0.3581902 | 0.720201 | NA |
| CR356222.1 | 3.109964864 | -1.319780657 | 1.2578927 | -1.0492 | 0.294086 | NA |
| CR385053.1 | | 0 NA | NA | NA | NA | NA |
| arhgap20b | 1.829442905 | -0.28947141 | 1.4482335 | -0.199879 | 0.841575 | NA |
| si:dkeyp-7a3.1 | 2.694331001 | 0.060924456 | 1.2351292 | 0.0493264 | 0.960659 | NA |
| CR854927.1 | 0.475018861 | 0.853207185 | 2.8976509 | 0.2944479 | 0.768416 | NA |
| si:dkey-256i11.2 | 3.725553428 | 0.137062397 | 1.0344703 | 0.1324953 | 0.894593 | NA |
| artnb | 15.73691898 | 0.092604639 | 0.4704945 | 0.196824 | 0.843965 | 0.985174 |
| BX901930.3 | | 0 NA | NA | NA | NA | NA |
| BX470224.3 | 0.333314908 | -1.858695402 | 3.5126701 | -0.52914 | 0.596708 | NA |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| rnf212b | 2.028047701 | 0.488979081 | 1.3304427 | 0.3675311 | 0.713223 | NA |
| si:dkey-54g2.2 | 0 NA | NA | NA | NA | NA | NA |
| BX276096.1 | 0 NA | NA | NA | NA | NA | NA |
| CR931802.1 | 7.041303072 | -0.411000493 | 0.7226412 | -0.568748 | 0.569527 | NA |
| BX539307.3 | 24.43775694 | -0.419410752 | 0.3892046 | -1.07761 | 0.281208 | 0.84357 |
| CR396583.1 | 3.820482719 | 0.896018778 | 0.9771635 | 0.9169589 | 0.359164 | NA |
| si:ch211-209a2.2 | 0.823965273 | 0.503156481 | 2.2182458 | 0.2268263 | 0.820559 | NA |
| pth1a | 3.403505862 | 1.619516132 | 1.1109681 | 1.4577522 | 0.144909 | NA |
| si:dkey-83m22.7 | 12.67005747 | 0.639048376 | 0.5709928 | 1.1191881 | 0.26306 | 0.830245 |
| BX276103.1 | 0.317831496 | 1.808837541 | 3.5779923 | 0.5055454 | 0.613176 | NA |
| CU207257.1 | 0 NA | NA | NA | NA | NA | NA |
| htrlaa | 107.2736459 | -0.091212018 | 0.1925677 | -0.473662 | 0.635741 | 0.958142 |
| si:dkey-122c11.1 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-217k17.11 | 0.365141898 | 1.973577737 | 3.3927314 | 0.5817076 | 0.560764 | NA |
| FP102171.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| cd180 | 1.820254807 | -0.234595052 | 1.3683104 | -0.171449 | 0.863871 | NA |
| rimbp2 | 0 NA | NA | NA | NA | NA | NA |
| BX004774.2 | 80.93219826 | -0.027707433 | 0.2878346 | -0.096262 | 0.923313 | 0.992588 |
| FP101875.1 | 0.499972362 | -2.44370697 | 3.0013188 | -0.814211 | 0.415524 | NA |
| si:ch211-197h24.9 | 164.7809734 | -0.043055905 | 0.1578769 | -0.272718 | 0.78507 | 0.97627 |
| si:ch211-250k18.7 | 10.61715644 | -0.042017686 | 0.6205664 | -0.067709 | 0.946018 | NA |
| si:ch211-271e10.6 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-145c18.5 | 7.62871842 | 0.115109593 | 0.7101538 | 0.1620911 | 0.871234 | NA |
| prr18 | 1309.962079 | -0.349589119 | 0.0908513 | -3.847926 | 0.000119 | 0.005649 |
| si:ch1073-296i8.2 | 58.18917461 | -0.178876088 | 0.289757 | -0.617331 | 0.537016 | 0.943336 |
| rbp2b | 318.4410367 | 0.151463868 | 0.1428567 | 1.0602504 | 0.289031 | 0.845979 |
| si:ch211-272h9.6 | 0 NA | NA | NA | NA | NA | NA |
| BX547993.1 | 0 NA | NA | NA | NA | NA | NA |
| BX663499.1 | 0 NA | NA | NA | NA | NA | NA |
| cxcl11.7 | 0 NA | NA | NA | NA | NA | NA |
| BX548078.1 | 19.73542691 | 0.724404475 | 0.4343092 | 1.6679465 | 0.095326 | 0.587222 |
| lrriq1 | 20.59833855 | -0.459559541 | 0.4202881 | -1.093439 | 0.274201 | 0.839127 |
| si:dkey-70b23.2 | 10.7124241 | 0.068578431 | 0.6166066 | 0.1112191 | 0.911443 | NA |
| taarl7a | 0 NA | NA | NA | NA | NA | NA |
| BX255915.1 | 0 NA | NA | NA | NA | NA | NA |
| CR450686.3 | 10.20833157 | -0.227525585 | 0.6272161 | -0.362755 | 0.716788 | NA |
| CT583625.1 | 0 NA | NA | NA | NA | NA | NA |
| si:rp71-79p20.2 | 0 NA | NA | NA | NA | NA | NA |
| itln2 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-81p22.11 | 4.139183675 | -0.081588804 | 0.9303637 | -0.087696 | 0.930119 | NA |
| slx4 | 4.3542824 | 2.108798521 | 1.0296822 | 2.0480091 | 0.040559 | NA |
| setbpl | 26.46299908 | -0.23867628 | 0.3794644 | -0.628982 | 0.529361 | 0.942209 |
| si:dkey-196n19.2 | 8.090340301 | -0.39670784 | 0.7030165 | -0.564294 | 0.572554 | NA |
| sst6 | 40.6612823 | -0.199362007 | 0.30029 | -0.663898 | 0.506755 | 0.935734 |
| ccdc73 | 1.294259067 | 3.830954643 | 1.9403765 | 1.9743357 | 0.048344 | NA |
| pimr113 | 4.470857299 | -2.435244432 | 1.1997522 | -2.029789 | 0.042378 | NA |
| si:dkeyp-2c8.3 | 2.465546269 | -0.967067841 | 1.2236668 | -0.790303 | 0.429351 | NA |
| CR762470.1 | 0.31759079 | 1.807926197 | 3.579045 | 0.5051421 | 0.613459 | NA |
| si:ch211-142c4.1 | 0 NA | NA | NA | NA | NA | NA |
| ch25h13 | 2.773508588 | 0.873428394 | 1.1383686 | 0.7672633 | 0.442925 | NA |
| CT027772.2 | 1.006776927 | 0.956324643 | 2.0726162 | 0.4614094 | 0.644505 | NA |
| si:ch211-110p13.9 | 80.2707827 | 0.088237026 | 0.2249763 | 0.3922058 | 0.694906 | 0.96736 |
| si:dkey-259j3.5 | 5.863090137 | 0.282114982 | 0.845027 | 0.3338532 | 0.73849 | NA |
| si:ch211-102c2.8 | 14.02891898 | 0.788646862 | 0.5151514 | 1.530903 | 0.125793 | 0.654803 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| BX085193.2 | 2.586773051 | 2.084283134 | 1.3387196 | 1.5569228 | 0.119489 | NA |
| znf1121 | 8.50154754 | 0.16143141 | 0.7046073 | 0.2291084 | 0.818785 | NA |
| si:ch73-382f3.1 | 39.53989557 | 0.010807344 | 0.3092628 | 0.0349455 | 0.972123 | 0.996315 |
| CR628410.1 | 7.554990174 | -0.455173192 | 0.7020012 | -0.648394 | 0.51673 | NA |
| si:ch211-165f21.4 | 1.903597824 | 1.441005883 | 1.4863203 | 0.9695124 | 0.33229 | NA |
| si:dkey-83f18.14 | 2.781689425 | -0.909541844 | 1.2142429 | -0.749061 | 0.453821 | NA |
| BX571825.11 | 0 NA | NA | NA | NA | NA | NA |
| zgc:152936 | 3.141756236 | 0.741279492 | 1.1364592 | 0.6522711 | 0.514226 | NA |
| zgc:136461 | 79.02289469 | 0.549692592 | 0.2985941 | 1.8409362 | 0.065631 | 0.500566 |
| si:ch211-1f22.12 | 1.105255998 | -0.398330741 | 1.974669 | -0.20172 | 0.840135 | NA |
| si:dkey-57c22.1 | 6.124396134 | 0.69467171 | 0.8044546 | 0.8635313 | 0.387845 | NA |
| BX649457.1 | 0 NA | NA | NA | NA | NA | NA |
| CU639468.1 | 111.5762064 | 0.033380846 | 0.190373 | 0.1753445 | 0.860809 | 0.985773 |
| si:dkey-19a16.1 | 0 NA | NA | NA | NA | NA | NA |
| BX248512.1 | 0 NA | NA | NA | NA | NA | NA |
| igl3v2 | 0 NA | NA | NA | NA | NA | NA |
| or125-1 | 1.188986818 | 1.302846014 | 1.9437106 | 0.6702881 | 0.502674 | NA |
| si:dkey-79f11.10 | 1.691124433 | -2.06650781 | 1.8098741 | -1.141796 | 0.253539 | NA |
| BX957345.1 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-274k16.2 | 1.943248001 | 2.296079959 | 1.5562465 | 1.4753961 | 0.140106 | NA |
| si:dkey-248f6.3 | 0.689615224 | -1.495598879 | 2.3854835 | -0.626958 | 0.530687 | NA |
| weel | 369.0638058 | 0.168713382 | 0.1145174 | 1.473256 | 0.140682 | 0.681252 |
| CR356223.1 | 3.289620609 | 0.247625166 | 1.0822624 | 0.2288033 | 0.819022 | NA |
| BX004840.1 | 0 NA | NA | NA | NA | NA | NA |
| BX901878.1 | 0 NA | NA | NA | NA | NA | NA |
| CU137716.1 | 2.587480874 | 0.003150506 | 1.1817579 | 0.0026659 | 0.997873 | NA |
| BX324213.1 | 3.336862982 | 0.560077037 | 1.0747013 | 0.5211467 | 0.602265 | NA |
| si:dkey-196j8.2 | 48.78284881 | 0.026091614 | 0.2764724 | 0.0943733 | 0.924813 | 0.992676 |
| zgc:174224 | 24.48931004 | -0.070417118 | 0.3998569 | -0.176106 | 0.860211 | 0.985773 |
| si:dkey-28d5.10 | 1.504351114 | -0.343407952 | 1.5790382 | -0.217479 | 0.827835 | NA |
| si:zfos-2330d3.7 | 40.21673361 | 0.874000667 | 0.3087527 | 2.8307468 | 0.004644 | 0.097899 |
| pimr69 | 1.062808558 | 2.296330608 | 2.0991908 | 1.0939123 | 0.273993 | NA |
| CT027791.1 | 0.356300316 | 0.005884122 | 3.214964 | 0.0018302 | 0.99854 | NA |
| BX908800.1 | 0.500402445 | 2.450713647 | 2.7706722 | 0.8845195 | 0.376416 | NA |
| tmsb5 | 7.332816155 | -0.083176772 | 0.7251366 | -0.114705 | 0.908679 | NA |
| CR677513.1 | 4.996043576 | -0.582151711 | 0.8352224 | -0.697002 | 0.485802 | NA |
| CT027756.2 | 0 NA | NA | NA | NA | NA | NA |
| CR376740.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| BX530037.4 | 0 NA | NA | NA | NA | NA | NA |
| BX510657.1 | 270.6212845 | 0.07787373 | 0.1458118 | 0.53407 | 0.593293 | 0.954434 |
| trhr2 | 5.9751881 | -0.670117226 | 0.8484906 | -0.789776 | 0.429659 | NA |
| CU694380.1 | 0.339758314 | 0.005883863 | 3.2682461 | 0.0018003 | 0.998564 | NA |
| CT030031.1 | 2.711423438 | 1.18318494 | 1.2608956 | 0.9383687 | 0.348055 | NA |
| BX323559.3 | 59.12540776 | -0.014004645 | 0.2652369 | -0.052801 | 0.957891 | 0.99467 |
| CR456628.2 | 0 NA | NA | NA | NA | NA | NA |
| BX284666.2 | 0 NA | NA | NA | NA | NA | NA |
| BX324137.1 | 0.31598276 | 0.005883445 | 3.3523626 | 0.001755 | 0.9986 | NA |
| BX276103.2 | 7.314095353 | 0.702024885 | 0.7332387 | 0.9574303 | 0.33835 | NA |
| CR354542.1 | 0 NA | NA | NA | NA | NA | NA |
| BX890562.1 | 2.171909124 | 1.168434516 | 1.3246536 | 0.882068 | 0.37774 | NA |
| CR855277.3 | 8.396133958 | 0.03712685 | 0.6805798 | 0.0545518 | 0.956496 | NA |
| BX005032.1 | 0 NA | NA | NA | NA | NA | NA |
| CR392341.2 | 0 NA | NA | NA | NA | NA | NA |
| rflnb | 271.0836339 | 0.245693916 | 0.1579474 | 1.5555426 | 0.119817 | 0.644872 |

| | | | | | | |
|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| ftr04 | 0.841528083 | 3.19809933 | 2.2959749 | 1.3929156 | 0.163645 | NA |
| si:dkeyp-1h4.6 | 362.1039033 | 0.563615396 | 0.1302462 | 4.3273077 | 1.51E-05 | 0.001002 |
| BX004770.1 | 10.95335093 | -0.129619786 | 0.6216343 | -0.208515 | 0.834827 | NA |
| si:dkeyp-77c8.1 | 81.14725019 | 0.104855718 | 0.22384 | 0.4684405 | 0.63947 | 0.959994 |
| BX294181.2 | 2.651518157 | -0.438665464 | 1.4016649 | -0.31296 | 0.754311 | NA |
| vma21 | 970.0517944 | -0.01705076 | 0.0985515 | -0.173014 | 0.862641 | 0.985841 |
| BX546499.2 | 5.446858043 | -0.961867643 | 0.8636752 | -1.113691 | 0.265412 | NA |
| BX530407.2 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| AL929321.1 | 0 | NA | NA | NA | NA | NA |
| si:dkey-9i23.16 | 82.27293707 | 0.18721352 | 0.21485 | 0.8713684 | 0.383553 | 0.895192 |
| si:dkey-251i10.2 | 950.2388709 | -0.102438553 | 0.1266191 | -0.809029 | 0.418499 | 0.906406 |
| BX530064.2 | 1.24549986 | 2.565897048 | 2.0172075 | 1.2720045 | 0.203372 | NA |
| si:dkey-111e8.5 | 14.22144731 | -0.224455418 | 0.530484 | -0.423114 | 0.672212 | 0.965257 |
| CR396590.5 | 0 | NA | NA | NA | NA | NA |
| si:ch211-250k18.6 | 5.624585738 | 0.387384764 | 0.9130805 | 0.4242613 | 0.671375 | NA |
| BX571825.12 | 0 | NA | NA | NA | NA | NA |
| BX548247.1 | 0.841648436 | 3.197630988 | 2.1594651 | 1.4807514 | 0.138673 | NA |
| ftr79 | 7.637882559 | -2.719039168 | 0.8459943 | -3.214016 | 0.001309 | NA |
| BX950224.1 | 3.041535484 | 0.633570339 | 1.2158258 | 0.5211029 | 0.602295 | NA |
| CR933734.2 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:dkey-222h21.9 | 0.689615224 | -1.495598879 | 2.3854835 | -0.626958 | 0.530687 | NA |
| CR925803.1 | 0.792368945 | 1.848914193 | 2.4268398 | 0.7618608 | 0.446143 | NA |
| si:ch211-220f16.1 | 8.261474333 | -0.439387943 | 0.6699774 | -0.655825 | 0.511937 | NA |
| zgc:77486 | 479.351842 | 0.082282063 | 0.1218411 | 0.6753227 | 0.499471 | 0.934006 |
| CR749763.3 | 5.136812547 | 0.10122001 | 0.8854532 | 0.1143144 | 0.908989 | NA |
| si:dkeyp-72a4.1 | 1.473854661 | 1.840539378 | 1.7103251 | 1.0761343 | 0.281867 | NA |
| si:ch211-165f21.7 | 0.824126911 | 0.609775617 | 2.0333139 | 0.2998925 | 0.764259 | NA |
| BX323543.3 | 0.49144051 | 0.855669345 | 2.6923358 | 0.3178167 | 0.750624 | NA |
| gzm3.3 | 4.481927387 | -0.313450441 | 0.87407 | -0.35861 | 0.719887 | NA |
| si:ch211-279g13.1 | 4.376916794 | 1.455614913 | 0.9434212 | 1.5429109 | 0.122852 | NA |
| BX465838.1 | 0 | NA | NA | NA | NA | NA |
| znf1058 | 3.795084593 | 0.321302758 | 1.0658254 | 0.3014591 | 0.763064 | NA |
| si:dkey-9i23.15 | 129.0119143 | -0.017326352 | 0.1791482 | -0.096715 | 0.922953 | 0.992466 |
| si:ch73-7i4.2 | 9.054141721 | 0.374426573 | 0.6445202 | 0.5809384 | 0.561282 | NA |
| si:ch73-376124.6 | 37.38776478 | 0.467062329 | 0.3297497 | 1.4164145 | 0.156654 | 0.70691 |
| si:dkey-6a5.3 | 1.545287134 | 0.991900992 | 1.7324568 | 0.5725401 | 0.566956 | NA |
| cc134b.4 | 1.830353403 | -0.819163785 | 1.4009786 | -0.584708 | 0.558744 | NA |
| serp2 | 154.0837559 | -0.222570712 | 0.1651548 | -1.347649 | 0.177771 | 0.738343 |
| FP102120.1 | 152.2062243 | 0.066569875 | 0.2001781 | 0.3325532 | 0.739472 | 0.972943 |
| si:dkey-98j1.5 | 3.787009917 | 0.151516999 | 1.0201563 | 0.1485233 | 0.88193 | NA |
| CU467633.3 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| CR388373.1 | 0.476626891 | 2.395187592 | 2.815932 | 0.8505843 | 0.395 | NA |
| swt1 | 162.2651824 | -0.111145164 | 0.1653043 | -0.672367 | 0.50135 | 0.934613 |
| si:dkey-192g7.3 | 56.50598373 | -0.415135583 | 0.2790439 | -1.487707 | 0.136828 | 0.673303 |
| si:ch211-130h14.4 | 5.108387738 | -0.10329453 | 0.8240519 | -0.12535 | 0.900247 | NA |
| znf1137 | 5.744570171 | -0.416908572 | 0.7933089 | -0.525531 | 0.599214 | NA |
| si:dkey-111e8.1 | 242.5855634 | -0.203260901 | 0.1646398 | -1.23458 | 0.216987 | 0.784302 |
| BX649641.5 | 1.638501742 | 0.571100201 | 1.5154132 | 0.3768611 | 0.706277 | NA |
| AL831745.2 | 6.578833708 | -1.051582269 | 0.751882 | -1.3986 | 0.161933 | NA |
| AL935183.1 | 109.507968 | 0.094698212 | 0.1920378 | 0.4931227 | 0.621926 | 0.957354 |
| CR387989.1 | 0 | NA | NA | NA | NA | NA |
| si:dkey-237j10.2 | 11.83595712 | -0.508601891 | 0.5669891 | -0.897022 | 0.369707 | 0.889476 |
| BX890544.1 | 0 | NA | NA | NA | NA | NA |
| si:dkeyp-3f10.16 | 0 | NA | NA | NA | NA | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| znf1045 | 0.650905698 | -0.045771139 | 2.5873401 | -0.01769 | 0.985886 | NA |
| si:dkey-76p14.2 | 2.822437064 | 0.149676251 | 1.157332 | 0.1293287 | 0.897098 | NA |
| si:ch211-226f6.1 | 0 NA | NA | NA | NA | NA | NA |
| krt17 | 3217.293613 | 0.256923122 | 0.2448824 | 1.0491693 | 0.2941 | 0.849999 |
| si:ch73-376124.3 | 134.5497063 | -0.006237499 | 0.1838329 | -0.03393 | 0.972933 | 0.996315 |
| si:dkeyp-73d8.8 | 33.27508249 | -0.128363431 | 0.3619 | -0.354693 | 0.72282 | 0.970375 |
| si:dkeyp-26a9.7 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CR759830.1 | 1.986870975 | -0.500293445 | 1.3080111 | -0.382484 | 0.702102 | NA |
| BX004962.1 | 0.666819193 | 1.487924459 | 2.4081466 | 0.6178712 | 0.53666 | NA |
| taok3b | 225.6659091 | 0.017586429 | 0.1383845 | 0.1270838 | 0.898874 | 0.990121 |
| BX248332.1 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-88116.3 | 8.791530513 | -0.175162431 | 0.6351654 | -0.275775 | 0.782721 | NA |
| cyp2j20 | 33.22606213 | 1.502121069 | 0.3786861 | 3.9666653 | 7.29E-05 | 0.003753 |
| si:ch211-191j22.7 | 9.095768864 | -0.138832499 | 0.6337648 | -0.21906 | 0.826603 | NA |
| CR749774.1 | 0 NA | NA | NA | NA | NA | NA |
| CU570972.1 | 0 NA | NA | NA | NA | NA | NA |
| CR788236.1 | 0.317831496 | 1.808837541 | 3.5779923 | 0.5055454 | 0.613176 | NA |
| si:dkey-121n8.7 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| AL954149.1 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-81h8.1 | 16.76992328 | 0.040942379 | 0.4927629 | 0.0830874 | 0.933782 | 0.992702 |
| BX936317.1 | 1.544940617 | 1.906194886 | 1.7511677 | 1.0885279 | 0.276362 | NA |
| si:dkey-21e2.16 | 14.26109332 | -0.443068345 | 0.5614517 | -0.789148 | 0.430026 | 0.911615 |
| CR626882.1 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| or103-1 | 0.31598276 | 0.005883445 | 3.3523626 | 0.001755 | 0.9986 | NA |
| BX323880.1 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-223d7.6 | 0 NA | NA | NA | NA | NA | NA |
| CR759846.1 | 1.297805191 | -0.760789523 | 1.7411822 | -0.436938 | 0.662156 | NA |
| CR548634.1 | 3.365315777 | 0.647393608 | 1.0750968 | 0.6021724 | 0.547059 | NA |
| si:ch211-229n2.7 | 61.3979124 | -0.464260165 | 0.2669096 | -1.739391 | 0.081966 | 0.552725 |
| sult3st3 | 1.504738916 | -1.065827818 | 1.6676907 | -0.639104 | 0.522755 | NA |
| BX248089.1 | 0.807663976 | 0.546685639 | 2.2534268 | 0.2426019 | 0.808314 | NA |
| CR450817.1 | 2.801500059 | -1.234292008 | 1.2265752 | -1.006291 | 0.314275 | NA |
| CR936321.1 | 137.472669 | -0.059243817 | 0.1737472 | -0.340977 | 0.733121 | 0.971947 |
| si:ch211-278p9.3 | 0.989014697 | -1.039032001 | 1.9050484 | -0.54541 | 0.585472 | NA |
| BX323559.4 | 3.575582659 | -0.105896711 | 1.1161563 | -0.094876 | 0.924413 | NA |
| BX248118.1 | 9.884337535 | 0.693929356 | 0.6313088 | 1.0991916 | 0.271684 | NA |
| BX469925.3 | 0.814536469 | 0.637862482 | 2.230678 | 0.28595 | 0.774916 | NA |
| AL929237.1 | 32.32852526 | 2.818854159 | 0.4371197 | 6.448701 | 1.13E-10 | 2.66E-08 |
| BX005064.1 | 5.049330514 | -0.131840545 | 0.887319 | -0.148583 | 0.881883 | NA |
| si:ch73-37h15.2 | 79.16017899 | 0.013497739 | 0.2246821 | 0.0600748 | 0.952096 | 0.993904 |
| BX571827.1 | 0 NA | NA | NA | NA | NA | NA |
| znf1168 | 26.91493186 | -0.473380378 | 0.3812514 | -1.241649 | 0.214366 | 0.782493 |
| AL954145.1 | 138.6778368 | 0.19077314 | 0.1707287 | 1.1174052 | 0.263821 | 0.830245 |
| s1c22a21 | 51.38128072 | 0.256064813 | 0.276554 | 0.9259127 | 0.354491 | 0.882105 |
| BX571945.1 | 0 NA | NA | NA | NA | NA | NA |
| BX914211.1 | 14.84519071 | 0.10779956 | 0.4971224 | 0.2168471 | 0.828327 | 0.982721 |
| si:dkey-21o22.2 | 52.7057806 | 0.676444561 | 0.3045106 | 2.2214152 | 0.026323 | 0.312554 |
| CR846087.2 | 0.838899245 | -0.667458734 | 2.2321093 | -0.299026 | 0.76492 | NA |
| CR318674.1 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CR589874.1 | 42.88266688 | -0.210193114 | 0.3142473 | -0.668878 | 0.503573 | 0.935304 |
| or103-2 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:ch211-202c21.7 | 2.024203134 | 0.067917171 | 1.3988728 | 0.0485514 | 0.961277 | NA |
| AL954695.3 | 1.475032609 | 0.318592214 | 1.58558 | 0.200931 | 0.840753 | NA |
| CR751602.1 | 102.7273737 | -0.20598512 | 0.1997628 | -1.031149 | 0.302471 | 0.85729 |

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| ftr19 | 20.06202031 | -0.151753133 | 0.4244316 | -0.357544 | 0.720684 | 0.969381 |
| igfl | 44.6998604 | 0.233570023 | 0.2859948 | 0.8166932 | 0.414104 | 0.906107 |
| wu:fc21g02 | 2385.69194 | 0.108053295 | 0.0775921 | 1.3925817 | 0.163746 | 0.71945 |
| BX936305.1 | 0.325573202 | 0.005883621 | 3.3172783 | 0.0017736 | 0.998585 | NA |
| CT027756.3 | 3.306682052 | -0.914332289 | 1.0575665 | -0.864562 | 0.387279 | NA |
| BX511265.2 | 2.667487479 | 0.396527576 | 1.1541597 | 0.3435639 | 0.731174 | NA |
| BX936391.1 | 2.417366654 | -0.564011318 | 1.2848541 | -0.438969 | 0.660684 | NA |
| CR391990.1 | 0.83198897 | -0.546504737 | 2.1106392 | -0.258929 | 0.79569 | NA |
| pimr143 | 0 NA | NA | NA | NA | NA | NA |
| pimr134 | 0.679983498 | -1.527277543 | 2.5551009 | -0.597737 | 0.550016 | NA |
| BX465864.1 | 0 NA | NA | NA | NA | NA | NA |
| BX323875.1 | 0.347458735 | -1.908042286 | 3.4571486 | -0.551912 | 0.581009 | NA |
| CR812469.1 | 8.411345576 | -0.515803188 | 0.6479093 | -0.796104 | 0.425972 | NA |
| hist2h3c | 61.37478682 | 0.088218162 | 0.3016516 | 0.2924505 | 0.769942 | 0.975687 |
| si:ch73-256j6.2 | 1.475152962 | 0.31880875 | 1.5686434 | 0.2032385 | 0.838949 | NA |
| si:dkey-27j5.10 | 0 NA | NA | NA | NA | NA | NA |
| BX072561.1 | 0.476747244 | 2.393381959 | 3.0525537 | 0.7840589 | 0.433006 | NA |
| si:ch73-160h15.3 | 74.45658239 | 0.057252018 | 0.2302158 | 0.2486885 | 0.803602 | 0.979643 |
| si:dkeyp-19e1.4 | 0.317711143 | 1.810477155 | 3.2978238 | 0.5489915 | 0.583011 | NA |
| BX649434.1 | 1.838215462 | -1.418452594 | 1.4563693 | -0.973965 | 0.330074 | NA |
| AL807389.1 | 0 NA | NA | NA | NA | NA | NA |
| lrplba | 69.28112803 | 0.147186346 | 0.2328134 | 0.6322074 | 0.527251 | 0.941218 |
| si:ch73-263f13.1 | 0 NA | NA | NA | NA | NA | NA |
| BX927282.1 | 3.307654786 | 2.018094058 | 1.1678469 | 1.7280468 | 0.08398 | NA |
| znf1027 | 2.760931506 | 1.232510066 | 1.1984884 | 1.0283872 | 0.303768 | NA |
| cdkn2d | 76.73766368 | -0.153824319 | 0.2334839 | -0.658822 | 0.51001 | 0.936253 |
| si:ch211-208f21.2 | 7.819056823 | -0.570621593 | 0.7244429 | -0.78767 | 0.43089 | NA |
| shroom1 | 4.965787829 | 0.014544115 | 0.8372702 | 0.0173709 | 0.986141 | NA |
| si:ch211-125e6.14 | 0 NA | NA | NA | NA | NA | NA |
| AL954149.2 | 21.39027753 | 0.015697325 | 0.4343009 | 0.0361439 | 0.971168 | 0.996315 |
| BX322661.1 | 0.515095711 | 0.926015374 | 2.6527421 | 0.3490785 | 0.72703 | NA |
| CU207281.3 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| nup37 | 225.7713388 | -0.296813157 | 0.1422624 | -2.086378 | 0.036944 | 0.376072 |
| si:dkeyp-82a1.2 | 1.478888463 | -0.978751762 | 1.5408752 | -0.635192 | 0.525303 | NA |
| BX649484.1 | 2.329697258 | -0.832337136 | 1.2722313 | -0.654234 | 0.512961 | NA |
| CR936371.1 | 1.434165613 | 0.985213129 | 1.6745955 | 0.588329 | 0.556311 | NA |
| si:dkey-27d5.10 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| znf111 | 0.31598276 | 0.005883445 | 3.3523626 | 0.001755 | 0.9986 | NA |
| CR354556.1 | 216.8840383 | 0.083038154 | 0.1448611 | 0.5732261 | 0.566492 | 0.948739 |
| si:ch211-226h8.8 | 0 NA | NA | NA | NA | NA | NA |
| CT583646.2 | 8.375174913 | -1.702663013 | 0.7137476 | -2.385525 | 0.017055 | NA |
| elpl | 403.5627799 | -0.00778609 | 0.1101448 | -0.07069 | 0.943645 | 0.993364 |
| si:ch73-191k20.3 | 5.005916008 | -0.567605642 | 0.8828104 | -0.642953 | 0.520255 | NA |
| fth131 | 261.8021494 | 0.350647167 | 0.1349747 | 2.597873 | 0.00938 | 0.16228 |
| CR545465.1 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-179k24.1 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| BX601644.2 | 0.499972362 | -2.44370697 | 3.0013188 | -0.814211 | 0.415524 | NA |
| si:dkeyp-117b8.4 | 376.9043866 | -0.168395257 | 0.1228538 | -1.370697 | 0.17047 | 0.728048 |
| BX005417.1 | 5.720045756 | -0.246342175 | 0.7963634 | -0.309334 | 0.757068 | NA |
| si:ch1073-186o8.3 | 6.574081897 | -0.419805136 | 0.7416722 | -0.566025 | 0.571377 | NA |
| si:dkey-17e16.15 | 203.4541663 | -0.002521168 | 0.1750152 | -0.014405 | 0.988507 | 0.997486 |
| CR854965.1 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-219e20.2 | 0.664231641 | -2.853946573 | 2.346554 | -1.216229 | 0.223898 | NA |
| si:dkey-28d5.8 | 1.368970215 | -0.71302941 | 1.6542401 | -0.431031 | 0.666446 | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| pimr125 | 2.992899042 | 0.320450137 | 1.0841734 | 0.2955709 | 0.767558 | NA |
| si:dkey-211g8.4 | 5.68035755 | 0.183455062 | 0.8134969 | 0.2255142 | 0.821579 | NA |
| BX908395.1 | 0.330916733 | -1.849579229 | 3.2489867 | -0.569279 | 0.569167 | NA |
| or115-14 | 0 NA | | NA | NA | NA | NA |
| si:dkey-112g5.15 | 0 NA | | NA | NA | NA | NA |
| taarl2h | 0.317831496 | 1.808837541 | 3.5779923 | 0.5055454 | 0.613176 | NA |
| CR450777.1 | 2.099764578 | 0.189205728 | 1.382718 | 0.1368361 | 0.89116 | NA |
| BX649502.8 | 0 NA | | NA | NA | NA | NA |
| znf1171 | 68.76304552 | -0.228871237 | 0.2384958 | -0.959645 | 0.337234 | 0.876339 |
| shda | 14.85437364 | -0.457843851 | 0.5148106 | -0.889344 | 0.373818 | 0.893677 |
| BX085193.3 | 0 NA | | NA | NA | NA | NA |
| si:dkey-222h21.10 | 5.81628789 | 0.090755708 | 0.8152489 | 0.1113227 | 0.91136 | NA |
| CU693368.1 | 0.332645115 | 0.005883744 | 3.2924249 | 0.0017871 | 0.998574 | NA |
| wu:fc17b08 | 26.21057871 | 0.006545657 | 0.3663198 | 0.0178687 | 0.985744 | 0.996944 |
| si:ch211-119d14.2 | 20.64616401 | -0.286493367 | 0.4254479 | -0.673392 | 0.500698 | 0.93428 |
| BX649448.3 | 7.020280117 | 0.602509369 | 0.7254221 | 0.8305638 | 0.40622 | NA |
| B3GNT10 | 8.399589634 | 0.266032454 | 0.6587168 | 0.4038647 | 0.686312 | NA |
| BX324164.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| commd9 | 177.2296136 | 0.061067739 | 0.1540344 | 0.3964551 | 0.691769 | 0.967305 |
| CR388077.1 | 5.817603885 | 0.763373238 | 0.7815995 | 0.9766808 | 0.328727 | NA |
| taar19g | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX544876.1 | 0 NA | | NA | NA | NA | NA |
| CU539058.1 | 465.7496233 | -0.033050143 | 0.1050997 | -0.314465 | 0.753168 | 0.97481 |
| si:dkey-183n20.15 | 55.68417596 | -0.57367459 | 0.2655286 | -2.1605 | 0.030734 | 0.339614 |
| si:ch73-337115.2 | 27.07614338 | -0.254372125 | 0.3663264 | -0.694387 | 0.48744 | 0.931584 |
| CR855393.2 | 0 NA | | NA | NA | NA | NA |
| si:ch73-222f22.2 | 0 NA | | NA | NA | NA | NA |
| map3k19 | 13.3957134 | -0.901581714 | 0.559551 | -1.611259 | 0.107123 | 0.617015 |
| peak3 | 1.01990345 | -0.910958137 | 1.9547665 | -0.466019 | 0.641202 | NA |
| BX005156.2 | 0.647019846 | -1.455099716 | 2.4289208 | -0.599073 | 0.549125 | NA |
| mrpl44 | 450.708999 | -0.021711851 | 0.1175771 | -0.184661 | 0.853495 | 0.985174 |
| si:dkeyp-20g2.3 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| usp21 | 293.1476288 | 0.216717764 | 0.1317394 | 1.6450494 | 0.09996 | 0.601211 |
| si:ch73-196i15.3 | 38.41303488 | 0.363050966 | 0.3157377 | 1.1498501 | 0.250206 | 0.820164 |
| dnah11 | 51.69451896 | -0.105842859 | 0.2847016 | -0.371768 | 0.710066 | 0.968928 |
| si:dkey-58f10.10 | 0.507044276 | -2.459587493 | 2.7586536 | -0.89159 | 0.372613 | NA |
| si:ch211-117m20.4 | 23.64019089 | 0.971243019 | 0.4077946 | 2.3816968 | 0.017233 | 0.242366 |
| CT997819.2 | 1.979517071 | -0.540778015 | 1.4087084 | -0.383882 | 0.701066 | NA |
| si:rp71-45g20.11 | 2.89285564 | 0.622753531 | 1.1893566 | 0.5236054 | 0.600553 | NA |
| CR318599.1 | 0.50625413 | -0.940106488 | 2.8357787 | -0.331516 | 0.740255 | NA |
| CR855337.1 | 18.11822528 | -0.304960686 | 0.4526355 | -0.673745 | 0.500474 | 0.934237 |
| si:dkey-222h21.2 | 29.41104686 | -0.381814455 | 0.3615775 | -1.055969 | 0.290983 | 0.846568 |
| CT573178.1 | 0.482640214 | -0.866525639 | 2.7061322 | -0.320208 | 0.748811 | NA |
| BX649350.1 | 0.474898508 | 0.855240867 | 2.7202602 | 0.3143967 | 0.75322 | NA |
| nuprla | 819.4718255 | -0.446933804 | 0.1321704 | -3.381497 | 0.000721 | 0.023759 |
| BX537274.1 | 4.320806096 | 1.181028392 | 0.9228066 | 1.2798222 | 0.200608 | NA |
| BX296552.1 | 0.953253781 | 3.394542042 | 2.2020103 | 1.541565 | 0.123179 | NA |
| si:dkey-237j11.3 | 1.43726132 | 2.849099914 | 1.9089963 | 1.4924596 | 0.135579 | NA |
| BX000981.4 | 1.325436598 | -2.680967306 | 1.8525508 | -1.447176 | 0.147848 | NA |
| si:ch211-226o13.3 | 0 NA | | NA | NA | NA | NA |
| si:dkey-247i3.6 | 1.021160465 | -3.467929953 | 2.1547914 | -1.609404 | 0.107528 | NA |
| si:ch73-92e7.6 | 27.55313874 | 0.24854438 | 0.3627587 | 0.6851508 | 0.493249 | 0.931926 |
| si:ch211-255g12.6 | 10434.11898 | -0.235656118 | 0.0683197 | -3.449316 | 0.000562 | 0.019327 |
| ndufa9b | 155.3071107 | -0.041370107 | 0.1662712 | -0.248811 | 0.803507 | 0.979643 |

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| CR753837.2 | 0.482640214 | -0.866525639 | 2.7061322 | -0.320208 | 0.748811 | NA |
| CR788285.2 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:rp71-80o10.4 | 59.41913365 | -0.306898977 | 0.2555339 | -1.201011 | 0.229747 | 0.79764 |
| CU326349.1 | 0 NA | NA | NA | NA | NA | NA |
| BX322647.1 | 1.495430465 | -0.994616347 | 1.5232261 | -0.652967 | 0.513778 | NA |
| CR788303.1 | 1.646992309 | -0.633760738 | 1.5074309 | -0.420424 | 0.674175 | NA |
| BX294389.1 | 0 NA | NA | NA | NA | NA | NA |
| efemp2a | 566.113454 | 0.167627818 | 0.1077444 | 1.5557918 | 0.119758 | 0.644854 |
| or124-2 | 0.50625413 | -0.940106488 | 2.8357787 | -0.331516 | 0.740255 | NA |
| SPATA1 | 5.974560588 | 0.152565272 | 0.7633659 | 0.1998586 | 0.841591 | NA |
| si:dkey-93n13.1 | 40.41082683 | -0.201482569 | 0.322555 | -0.624646 | 0.532204 | 0.942546 |
| si:dkey-9p24.5 | 0.506374483 | -0.940103506 | 2.8355584 | -0.331541 | 0.740236 | NA |
| BX901918.1 | 0.531799352 | 0.999478841 | 2.790358 | 0.3581902 | 0.720201 | NA |
| vgl14a | 59.42139078 | 0.093449863 | 0.2577214 | 0.3626003 | 0.716903 | 0.96909 |
| si:dkey-23f9.12 | 0 NA | NA | NA | NA | NA | NA |
| si:dkeyp-82a1.6 | 171.033673 | -0.205619898 | 0.1770124 | -1.161613 | 0.245393 | 0.815388 |
| pimr88 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| CR545466.1 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:dkey-20i20.8 | 13.57145236 | -0.567793038 | 0.6265037 | -0.906288 | 0.364783 | 0.886714 |
| si:dkey-222h21.8 | 0.333314908 | -1.858695402 | 3.5126701 | -0.52914 | 0.596708 | NA |
| si:dkey-26117.2 | 41.88753712 | 0.440157053 | 0.3048541 | 1.4438287 | 0.148787 | 0.69636 |
| si:ch211-114113.13 | 3.42269719 | -0.374603775 | 1.0723984 | -0.349314 | 0.726854 | NA |
| CR388079.1 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-187g4.1 | 0 NA | NA | NA | NA | NA | NA |
| si:ch73-34314.1 | 0 NA | NA | NA | NA | NA | NA |
| CR762497.1 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:dkey-260g12.1 | 34.78839996 | 0.002065165 | 0.3386639 | 0.006098 | 0.995135 | 0.998694 |
| AL935300.1 | 1.610482533 | 3.038710433 | 1.7590623 | 1.7274603 | 0.084085 | NA |
| CR759893.1 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:ch211-125e6.13 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-165f21.2 | 23.54792419 | -0.048173894 | 0.3961491 | -0.121605 | 0.903211 | 0.990121 |
| samd10b | 17.06115847 | 0.599996811 | 0.4836384 | 1.2405896 | 0.214757 | 0.782493 |
| BX927413.1 | 0 NA | NA | NA | NA | NA | NA |
| zzef1 | 704.9815721 | -0.10523 | 0.0952154 | -1.105178 | 0.269083 | 0.834439 |
| BX649266.1 | 3.674411502 | 0.261807824 | 0.992143 | 0.2638811 | 0.791872 | NA |
| si:dkey-85k15.6 | 1.185891111 | -0.36621692 | 1.8036008 | -0.203048 | 0.839098 | NA |
| adgrg4b | 17.06803964 | -1.177017386 | 0.4967943 | -2.369225 | 0.017825 | 0.247181 |
| si:dkeyp-30e7.2 | 0 NA | NA | NA | NA | NA | NA |
| celsr2 | 95.95138881 | -0.002584117 | 0.2102878 | -0.012288 | 0.990195 | 0.997679 |
| si:dkey-201k7.1 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |
| si:dkey-229d11.5 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| CR848841.1 | 15.87505115 | 0.550040802 | 0.5034615 | 1.092518 | 0.274605 | 0.839136 |
| si:dkey-78k11.4 | 0.521188103 | -2.493476766 | 2.9577741 | -0.843025 | 0.399215 | NA |
| si:dkey-199f5.6 | 8.856293416 | -0.275415281 | 0.6392929 | -0.430812 | 0.666605 | NA |
| BX545856.1 | 1.130880288 | 0.459759413 | 1.9539337 | 0.2352994 | 0.813976 | NA |
| si:dkey-33c12.10 | 1.139989318 | 0.439423795 | 1.8430523 | 0.2384218 | 0.811554 | NA |
| CU633933.1 | 0 NA | NA | NA | NA | NA | NA |
| BX548075.2 | 0 NA | NA | NA | NA | NA | NA |
| MFAP4 (1 of many) | 12.54923421 | 0.088953975 | 0.5367577 | 0.1657246 | 0.868374 | 0.987245 |
| CU463033.1 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:dkey-4c15.14 | 61.20319572 | -0.177274915 | 0.2507461 | -0.70699 | 0.479573 | 0.927091 |
| aknad1 | 12.39173869 | 0.540109053 | 0.5927671 | 0.9111658 | 0.362208 | 0.885944 |
| si:ch211-264e16.2 | 1.195240847 | -0.382051374 | 1.7326308 | -0.220504 | 0.825479 | NA |
| si:dkey-13n15.2 | 73.9370508 | 0.197389476 | 0.2605837 | 0.7574897 | 0.448757 | 0.917876 |

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| si:dkey-27p18.7 | 0.499972362 | -2.44370697 | 3.0013188 | -0.814211 | 0.415524 | NA |
| BX640465.1 | 0.846174082 | -0.46494763 | 2.1994676 | -0.211391 | 0.832582 | NA |
| si:dkey-12112.1 | 141.0792169 | 0.140409395 | 0.172823 | 0.8124462 | 0.416536 | 0.906237 |
| AL954359.2 | 12.50663418 | -0.264443852 | 0.5384532 | -0.491118 | 0.623343 | 0.957354 |
| si:ch211-222m18.4 | 0 | NA | NA | NA | NA | NA |
| her4.2 | 385.1524804 | -0.062654829 | 0.1340812 | -0.46729 | 0.640292 | 0.959994 |
| si:dkey-253d23.8 | 15.70757711 | -0.482076018 | 0.4872897 | -0.989301 | 0.322516 | 0.870226 |
| si:dkey-31f5.8 | 47.87800684 | -0.221605265 | 0.282437 | -0.784618 | 0.432677 | 0.91326 |
| caspl | 39.57164314 | 0.174137016 | 0.3099145 | 0.5618872 | 0.574193 | 0.950037 |
| CR848723.1 | 1.000134101 | 0.001091541 | 2.0514706 | 0.0005321 | 0.999575 | NA |
| BX571803.1 | 0.989873867 | 0.997084054 | 1.9939383 | 0.5000576 | 0.617034 | NA |
| plac8.2 | 1.468480137 | -2.855501588 | 1.8846635 | -1.515125 | 0.129741 | NA |
| si:dkey-161j23.5 | 160.302558 | -0.203577819 | 0.158689 | -1.282873 | 0.199537 | 0.764903 |
| si:dkeyp-73g8.5 | 0 | NA | NA | NA | NA | NA |
| znf1036 | 3.913115897 | -1.938996374 | 1.0792982 | -1.796534 | 0.07241 | NA |
| CR354556.2 | 1.304877104 | -0.769183969 | 1.7390479 | -0.442302 | 0.658271 | NA |
| AL929520.1 | 0.482760567 | -0.866527181 | 2.7059286 | -0.320233 | 0.748792 | NA |
| BX511231.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX571945.2 | 0 | NA | NA | NA | NA | NA |
| cfp | 213.6011641 | 0.012014483 | 0.1648372 | 0.072887 | 0.941896 | 0.993099 |
| cdh23 | 3.839234762 | 0.169688405 | 0.9774517 | 0.1736029 | 0.862178 | NA |
| CR293531.1 | 3.715203682 | 2.675174995 | 1.1953553 | 2.2379748 | 0.025223 | NA |
| AL928824.1 | 0.356300316 | 0.005884122 | 3.214964 | 0.0018302 | 0.99854 | NA |
| BX005210.1 | 0.316103113 | 0.005883447 | 3.3519121 | 0.0017553 | 0.9986 | NA |
| si:dkey-65b12.12 | 2.554262817 | 1.013112256 | 1.3368711 | 0.7578235 | 0.448557 | NA |
| CR354556.3 | 445.8640655 | 0.092649634 | 0.1088209 | 0.8513958 | 0.39455 | 0.898861 |
| BX465186.2 | 4.618116127 | 0.855756014 | 0.8957444 | 0.9553574 | 0.339397 | NA |
| or128-8 | 0.878629579 | 0.686795053 | 2.2010162 | 0.3120354 | 0.755014 | NA |
| si:dkeyp-80c12.8 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:ch73-199e17.1 | 208.4076476 | -0.093456603 | 0.1624726 | -0.575215 | 0.565146 | 0.948739 |
| BX957308.1 | 0 | NA | NA | NA | NA | NA |
| wu:fc63a07 | 103.4541507 | -0.04738534 | 0.208407 | -0.227369 | 0.820137 | 0.981594 |
| txnrd2.1 | 0 | NA | NA | NA | NA | NA |
| CU137648.1 | 0 | NA | NA | NA | NA | NA |
| BX927218.1 | 10.82159863 | -0.234448283 | 0.5985491 | -0.391694 | 0.695284 | NA |
| si:dkey-163f12.6 | 8.309348622 | 0.064431356 | 0.7317677 | 0.0880489 | 0.929838 | NA |
| BX569801.1 | 90.46169086 | 0.224569755 | 0.2336356 | 0.9611965 | 0.336453 | 0.876088 |
| si:ch1073-75o15.4 | 0 | NA | NA | NA | NA | NA |
| BX927121.1 | 0 | NA | NA | NA | NA | NA |
| si:ch211-162i8.4 | 1.651951293 | 1.990872718 | 1.775745 | 1.1211479 | 0.262225 | NA |
| si:dkey-27h10.2 | 13.4248463 | -0.276990994 | 0.5456055 | -0.507676 | 0.61168 | 0.95688 |
| si:ch1073-412h12.3 | 0.31598276 | 0.005883445 | 3.3523626 | 0.001755 | 0.9986 | NA |
| BX510923.1 | 618.1548399 | 0.344956896 | 0.0989007 | 3.4879122 | 0.000487 | 0.01747 |
| si:dkey-58f10.6 | 8.19155362 | 0.062804622 | 0.6564777 | 0.0956691 | 0.923783 | NA |
| taar19k | 0 | NA | NA | NA | NA | NA |
| si:ch211-202m22.1 | 7.487400256 | -0.699813266 | 0.7305391 | -0.957941 | 0.338093 | NA |
| si:ch211-284e13.12 | 0.323844819 | -1.825095364 | 3.274639 | -0.557342 | 0.577293 | NA |
| CR933017.1 | 1.304997457 | -0.766489526 | 1.6584892 | -0.462161 | 0.643966 | NA |
| BX548075.3 | 0.340386822 | -1.882368278 | 3.2159502 | -0.585323 | 0.558331 | NA |
| CR376762.1 | 2.401680166 | 0.010086734 | 1.2872093 | 0.0078361 | 0.993748 | NA |
| BX927101.1 | 3.096759274 | -0.623820686 | 1.1527972 | -0.541137 | 0.588413 | NA |
| si:ch211-238e22.4 | 0.473290478 | -0.833892061 | 2.901156 | -0.287434 | 0.77378 | NA |
| BX323457.2 | 7.406729374 | -0.191749105 | 0.7061224 | -0.271552 | 0.785966 | NA |
| CR376748.1 | 0 | NA | NA | NA | NA | NA |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| AL954767.1 | 75.37090744 | -0.017555435 | 0.2383313 | -0.07366 | 0.941281 | 0.992857 |
| plekha1b | 62.21244526 | -0.038028414 | 0.2521609 | -0.15081 | 0.880125 | 0.987881 |
| si:ch211-218m3.9 | 3.659847637 | -1.437394816 | 1.0619798 | -1.353505 | 0.175894 | NA |
| CR925709.2 | 1.157159828 | -0.479018393 | 1.9216574 | -0.249274 | 0.803149 | NA |
| CR354538.1 | 1.339181337 | 0.685980852 | 1.724488 | 0.3977881 | 0.690786 | NA |
| cc120b | 10.95896656 | 0.094261623 | 0.5642342 | 0.1670612 | 0.867322 | NA |
| gabrz | 43.71436187 | 0.270675191 | 0.3037505 | 0.8911102 | 0.37287 | 0.892868 |
| si:dkey-716.3 | 83.05389434 | 0.18213583 | 0.2302017 | 0.7912009 | 0.428827 | 0.911406 |
| or132-2 | 3.900959696 | 0.940038804 | 0.9890752 | 0.950422 | 0.341898 | NA |
| es1 | 3.536019632 | 0.774433352 | 1.1057814 | 0.7003494 | 0.483709 | NA |
| si:ch211-125e6.8 | 37.57915847 | 0.27270315 | 0.3999396 | 0.6818608 | 0.495327 | 0.931928 |
| si:ch211-152p23.2 | 1.995592204 | 0.006106639 | 1.3025092 | 0.0046884 | 0.996259 | NA |
| si:ch73-194h10.3 | 0.678375468 | -2.878459328 | 2.4926399 | -1.154783 | 0.248179 | NA |
| si:ch211-14c7.2 | 450.5128679 | 0.201356835 | 0.1149592 | 1.7515498 | 0.079851 | 0.548745 |
| BX511089.2 | 7.294609958 | -0.190336833 | 0.7475311 | -0.254621 | 0.799016 | NA |
| si:ch211-1f22.11 | 0 | NA | NA | NA | NA | NA |
| ksr2 | 399.4827915 | 0.053215634 | 0.1215187 | 0.4379215 | 0.661443 | 0.964234 |
| BX927181.1 | 0 | NA | NA | NA | NA | NA |
| BX548157.1 | 2.45469757 | -0.203670203 | 1.1789681 | -0.172753 | 0.862846 | NA |
| CR388168.2 | 1.133855642 | 2.462671251 | 1.9506495 | 1.2624878 | 0.206773 | NA |
| si:dkey-246e1.3 | 46.62122259 | 0.07822211 | 0.2970543 | 0.263326 | 0.792299 | 0.977937 |
| CR786571.2 | 3.634722454 | -0.020626954 | 1.0024845 | -0.020576 | 0.983584 | NA |
| BX957326.1 | 5.403197038 | 0.635814207 | 0.8411809 | 0.7558591 | 0.449734 | NA |
| si:ch211-137i24.12 | 63.12658252 | -0.239478023 | 0.2495611 | -0.959597 | 0.337258 | 0.876339 |
| CT027623.1 | 0.687217049 | -1.490137326 | 2.387795 | -0.624064 | 0.532585 | NA |
| si:dkey-96117.6 | 3.89121766 | 0.12229975 | 0.991096 | 0.1233985 | 0.901792 | NA |
| si:dkey-121h17.7 | 2.302705644 | -1.857274169 | 1.3604565 | -1.365185 | 0.172195 | NA |
| BX649349.1 | 0.674681252 | 0.02288157 | 2.4148996 | 0.0094752 | 0.99244 | NA |
| si:ch211-132b12.6 | 0 | NA | NA | NA | NA | NA |
| CU462914.1 | 0 | NA | NA | NA | NA | NA |
| taarl2a | 0 | NA | NA | NA | NA | NA |
| BX649490.2 | 21.891941 | -0.701800868 | 0.4403962 | -1.593567 | 0.111033 | 0.626294 |
| BX855614.1 | 34.39368411 | 0.105514559 | 0.3441034 | 0.3066362 | 0.75912 | 0.975374 |
| si:ch73-7i4.1 | 1.046266556 | 2.29659065 | 2.1083099 | 1.0893041 | 0.27602 | NA |
| BX470218.1 | 0.325573202 | 0.005883621 | 3.3172783 | 0.0017736 | 0.998585 | NA |
| si:dkey-24h22.5 | 0.325452849 | 0.005883619 | 3.3177086 | 0.0017734 | 0.998585 | NA |
| nuprlb | 1738.112378 | -0.500636847 | 0.0779827 | -6.419843 | 1.36E-10 | 3.17E-08 |
| si:dkeyp-53e4.1 | 5.097698417 | 0.264245652 | 0.8740485 | 0.3023238 | 0.762405 | NA |
| zgc:174855 | 1.670767863 | -0.603556225 | 1.4420043 | -0.418554 | 0.675542 | NA |
| BX005254.1 | 28.53014791 | 0.544709949 | 0.3698654 | 1.4727248 | 0.140825 | 0.681252 |
| si:ch211-139a5.9 | 132.7346842 | 0.073084141 | 0.1848567 | 0.3953556 | 0.69258 | 0.96736 |
| znf1144 | 66.20129386 | -0.066113133 | 0.2406004 | -0.274784 | 0.783482 | 0.97627 |
| AL953841.1 | 1.648013116 | 0.612181948 | 1.5693341 | 0.3900903 | 0.69647 | NA |
| AL928920.1 | 0 | NA | NA | NA | NA | NA |
| CU652528.1 | 0.785936826 | -3.109243185 | 2.5574139 | -1.215776 | 0.22407 | NA |
| CT025748.1 | 13.94010979 | -0.452177542 | 0.5402173 | -0.837029 | 0.402576 | 0.90084 |
| cdc42se2 | 59.30806218 | -0.229349451 | 0.281229 | -0.815525 | 0.414772 | 0.906237 |
| epstil | 1.019274942 | 0.15513021 | 2.1740357 | 0.0713559 | 0.943115 | NA |
| b4galnt2.1 | 3.790343074 | -0.365487563 | 0.9880281 | -0.369916 | 0.711445 | NA |
| si:ch211-92117.1 | 1.284479248 | 0.705670405 | 1.8843222 | 0.3744956 | 0.708036 | NA |
| CT573357.1 | 8.764920908 | 0.71346199 | 0.6401037 | 1.1146037 | 0.26502 | NA |
| si:dkey-35m8.1 | 91.11683201 | -0.017033531 | 0.2346158 | -0.072602 | 0.942123 | 0.993099 |
| c2cd5 | 968.895519 | -0.029023332 | 0.0874783 | -0.331777 | 0.740057 | 0.972943 |
| BX571803.2 | 1.503643539 | 0.396624324 | 1.5798506 | 0.2510518 | 0.801774 | NA |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| BX890572.1 | 1.536847897 | 0.353065782 | 1.5547275 | 0.2270917 | 0.820352 | NA |
| BX649502.9 | 0 NA | NA | NA | NA | NA | NA |
| CR383662.2 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |
| BX957257.2 | 0 NA | NA | NA | NA | NA | NA |
| si:ch73-113g13.3 | 0.340386822 | -1.882368278 | 3.2159502 | -0.585323 | 0.558331 | NA |
| si:dkey-7n6.2 | 175.2824475 | 0.223249329 | 0.1676045 | 1.3320011 | 0.18286 | 0.745944 |
| si:dkey-21h14.12 | 0.524057646 | 2.503896172 | 2.7289583 | 0.9175282 | 0.358866 | NA |
| si:ch73-256j6.3 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:ch211-154e10.1 | 42.8988043 | 0.042774156 | 0.2996485 | 0.1427478 | 0.886489 | 0.988936 |
| si:zfos-364h11.2 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:dkey-222h21.10 | 1.368970215 | -0.71302941 | 1.6542401 | -0.431031 | 0.666446 | NA |
| si:ch73-68b22.2 | 7.47636218 | -0.855778129 | 0.6932919 | -1.234369 | 0.217065 | NA |
| CR392012.1 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-262g12.3 | 28.58314528 | 0.315760196 | 0.360232 | 0.8765468 | 0.380733 | 0.895192 |
| BX323458.2 | 156.805991 | 0.270723336 | 0.1948992 | 1.3890427 | 0.16482 | 0.72105 |
| si:dkey-9p20.18 | 7.786912051 | 0.1733963 | 0.671553 | 0.258202 | 0.796251 | NA |
| zgc:113984 | 0 NA | NA | NA | NA | NA | NA |
| CR318624.1 | 0.824126911 | 0.609775617 | 2.0333139 | 0.2998925 | 0.764259 | NA |
| BX323543.4 | 0 NA | NA | NA | NA | NA | NA |
| AL935198.2 | 2.955100014 | 0.316496319 | 1.0785064 | 0.293458 | 0.769172 | NA |
| si:dkey-84j12.1 | 0 NA | NA | NA | NA | NA | NA |
| taarl6b | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-148f10.4 | 5.458595664 | 0.264755218 | 0.7973409 | 0.3320477 | 0.739853 | NA |
| BX323854.2 | 0 NA | NA | NA | NA | NA | NA |
| CR626935.1 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-120e1.7 | 17.05539397 | 0.095161434 | 0.4555463 | 0.2088952 | 0.83453 | 0.983992 |
| CR391921.1 | 9.482824034 | 0.167369111 | 0.6438222 | 0.2599617 | 0.794893 | NA |
| ms4a17c.1 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-68l7.2 | 1.015618509 | 2.235791211 | 2.0934924 | 1.067972 | 0.285533 | NA |
| dyrk2 | 656.900724 | -0.013933593 | 0.0967818 | -0.143969 | 0.885525 | 0.988936 |
| BX465844.1 | 1.322518982 | 0.714630552 | 1.6676242 | 0.4285321 | 0.668264 | NA |
| si:ch211-194g2.4 | 0.508144151 | 0.926490632 | 2.6634746 | 0.3478504 | 0.727953 | NA |
| si:dkey-149m13.5 | 27.84475763 | 0.285740975 | 0.3727788 | 0.7665163 | 0.443369 | 0.916631 |
| AL928977.1 | 1.14957976 | 0.422186685 | 1.750283 | 0.2412105 | 0.809392 | NA |
| CU570781.1 | 0 NA | NA | NA | NA | NA | NA |
| BX571681.3 | 1.469418374 | -0.969026147 | 1.5650397 | -0.61917 | 0.535804 | NA |
| BX510324.2 | 0.998526071 | -0.967342786 | 1.9879686 | -0.486599 | 0.626543 | NA |
| si:ch211-218d20.15 | 62.29926393 | 0.166156026 | 0.2630483 | 0.631656 | 0.527612 | 0.941521 |
| si:dkey-21e2.8 | 0 NA | NA | NA | NA | NA | NA |
| BX842684.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:dkey-24f15.2 | 0.31759079 | 1.807926197 | 3.579045 | 0.5051421 | 0.613459 | NA |
| CU571324.1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX470247.1 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-51a19.5 | 1.966682831 | -4.424062371 | 1.6782987 | -2.63604 | 0.008388 | NA |
| BX510337.1 | 0.333314908 | -1.858695402 | 3.5126701 | -0.52914 | 0.596708 | NA |
| rhoab | 1404.475609 | 0.114359043 | 0.0823658 | 1.3884286 | 0.165007 | 0.721223 |
| si:dkeyp-98a7.8 | 0.31759079 | 1.807926197 | 3.579045 | 0.5051421 | 0.613459 | NA |
| trarglb | 74.90588752 | 0.137037308 | 0.2304177 | 0.5947342 | 0.552021 | 0.947215 |
| CR769772.2 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:dkey-92j12.5 | 107.2248771 | 0.174493716 | 0.2004937 | 0.87032 | 0.384126 | 0.895192 |
| si:dkey-9i23.6 | 18.59590967 | -0.118591644 | 0.4856119 | -0.244211 | 0.807068 | 0.98034 |
| hb12 | 8.952575992 | -0.436165404 | 0.6464213 | -0.674739 | 0.499842 | NA |
| CR392012.2 | 2.193097125 | -0.203060173 | 1.2550789 | -0.161791 | 0.871471 | NA |
| si:dkey-149i17.7 | 0 NA | NA | NA | NA | NA | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| si:dkey-267j14.7 | 0.489712128 | -0.887840729 | 2.693685 | -0.329601 | 0.741702 | NA |
| BX005414.1 | 1.022491002 | 2.265845936 | 2.0916203 | 1.083297 | 0.278677 | NA |
| CR384089.1 | 0.69766666 | 1.536459923 | 2.3782158 | 0.6460557 | 0.518243 | NA |
| si:dkey-220k22.3 | 9.525031611 | 0.275611879 | 0.6285379 | 0.4384968 | 0.661026 | NA |
| BX005329.3 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-204f11.64 | 391.8134709 | 0.014490233 | 0.114193 | 0.1268925 | 0.899025 | 0.990121 |
| si:dkey-201c13.2 | 84.38576458 | 0.192219296 | 0.2613819 | 0.7353963 | 0.462098 | 0.922698 |
| BX510928.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| bc12a | 14.595387 | 0.15977112 | 0.5320508 | 0.300293 | 0.763954 | 0.975374 |
| cxcl11.6 | 0 NA | NA | NA | NA | NA | NA |
| sftpba | 186.5949811 | -0.018567746 | 0.1676581 | -0.110748 | 0.911816 | 0.991066 |
| arl8 | 985.8155355 | 0.025864818 | 0.0894287 | 0.2892229 | 0.772411 | 0.975687 |
| si:dkey-79i2.4 | 7.939038123 | -0.206170715 | 0.7245953 | -0.284532 | 0.776003 | NA |
| BX294165.2 | 0 NA | NA | NA | NA | NA | NA |
| BX548044.6 | 0 NA | NA | NA | NA | NA | NA |
| or125-2 | 1.153153623 | -1.360395608 | 1.9656115 | -0.692098 | 0.488876 | NA |
| si:dkey-83f18.6 | 0.332645115 | 0.005883744 | 3.2924249 | 0.0017871 | 0.998574 | NA |
| zgc:77614 | 0 NA | NA | NA | NA | NA | NA |
| CR318588.3 | 99.64615986 | -0.505957454 | 0.2050337 | -2.467679 | 0.013599 | 0.209269 |
| si:ch211-284e13.5 | 57.1645427 | -0.191680009 | 0.2542729 | -0.753836 | 0.450948 | 0.918761 |
| apela | 10.65639331 | 0.295217893 | 0.5963069 | 0.4950771 | 0.620546 | NA |
| acbd7 | 980.9756027 | -0.072434009 | 0.0899546 | -0.805229 | 0.420688 | 0.90651 |
| mical3b | 461.3419945 | 0.008825444 | 0.1095679 | 0.0805477 | 0.935802 | 0.992702 |
| CR392363.1 | 1.47876811 | -0.978269979 | 1.5879855 | -0.616045 | 0.537865 | NA |
| v2rc1 | 0.332645115 | 0.005883744 | 3.2924249 | 0.0017871 | 0.998574 | NA |
| znf1157 | 27.75363321 | -0.6362186 | 0.3866053 | -1.645654 | 0.099835 | 0.600955 |
| si:ch211-12e13.12 | 17.94693912 | 0.37862465 | 0.445838 | 0.8492426 | 0.395746 | 0.899378 |
| loxhd1a | 9.912270919 | -0.006867754 | 0.6018966 | -0.01141 | 0.990896 | NA |
| BX530079.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| zgc:173425 | 0.855602886 | -0.591621869 | 2.0951335 | -0.282379 | 0.777653 | NA |
| si:ch211-197g15.6 | 10.28374477 | -0.511522218 | 0.6345223 | -0.806153 | 0.420155 | NA |
| BX927218.2 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-84o3.2 | 1.80395351 | -0.214910589 | 1.5039205 | -0.1429 | 0.886369 | NA |
| rpe65b | 231.5786057 | -0.014960689 | 0.1375415 | -0.108772 | 0.913383 | 0.991119 |
| si:dkey-71d15.2 | 32.52051417 | 0.191021753 | 0.3704716 | 0.5156179 | 0.606121 | 0.956692 |
| BX640536.1 | 0 NA | NA | NA | NA | NA | NA |
| CR788311.1 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-125i10.3 | 116.9990328 | -0.128033609 | 0.187556 | -0.682642 | 0.494833 | 0.931926 |
| npy2r | 11.75118757 | -0.002942629 | 0.5876341 | -0.005008 | 0.996005 | 0.998888 |
| fyba | 2.29625319 | 0.887679114 | 1.2963275 | 0.6847646 | 0.493493 | NA |
| CT583625.2 | 3.62718367 | 0.286432288 | 1.0098143 | 0.2836485 | 0.77668 | NA |
| si:dkey-280e8.1 | 3.814908526 | 0.334624159 | 1.0782561 | 0.3103383 | 0.756304 | NA |
| BX248385.1 | 0 NA | NA | NA | NA | NA | NA |
| BX571803.3 | 0.341366344 | 1.891903201 | 3.2128156 | 0.5888614 | 0.555954 | NA |
| CR626923.1 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:dkey-192d15.1 | 1.337304863 | -2.692321341 | 1.849776 | -1.455485 | 0.145535 | NA |
| CU914617.1 | 0.325452849 | 0.005883619 | 3.3177086 | 0.0017734 | 0.998585 | NA |
| si:ch211-196h16.4 | 12.41472028 | -0.355319804 | 0.5538958 | -0.641492 | 0.521203 | 0.939056 |
| si:dkey-193n17.9 | 81.64640456 | 0.233111985 | 0.2174225 | 1.0721613 | 0.283648 | 0.84466 |
| twf2a | 256.2385842 | 0.629650784 | 0.143792 | 4.3788992 | 1.19E-05 | 0.000836 |
| ovch2 | 3.105164137 | 1.127517924 | 1.1162607 | 1.0100848 | 0.312455 | NA |
| si:ch211-171b20.3 | 0.632206226 | 0.012903346 | 2.6133421 | 0.0049375 | 0.99606 | NA |
| si:ch211-133n4.11 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-181m19.11 | 0 NA | NA | NA | NA | NA | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| BX294387.1 | | 0 NA | NA | NA | NA | NA |
| plxnb2a | 14.75227535 | -1.05067011 | 0.5566958 | -1.887333 | 0.059116 | 0.475427 |
| l3mbt11 | 127.8171759 | -0.088108955 | 0.1761481 | -0.500198 | 0.616936 | 0.956957 |
| CR392026.2 | | 0 NA | NA | NA | NA | NA |
| si:ch211-208g1.1 | 1.286568689 | 1.536509974 | 1.8937955 | 0.8113389 | 0.417171 | NA |
| ms4a17a.11 | 443.2675444 | 0.005218722 | 0.1524152 | 0.0342402 | 0.972686 | 0.996315 |
| si:dkey-111i23.1 | 0.339758314 | 0.005883863 | 3.2682461 | 0.0018003 | 0.998564 | NA |
| CU179758.1 | 5.568352274 | 0.160213459 | 0.7996021 | 0.2003665 | 0.841194 | NA |
| or133-10 | | 0 NA | NA | NA | NA | NA |
| si:dkey-58f10.4 | 1.292341307 | -0.031881014 | 1.858428 | -0.017155 | 0.986313 | NA |
| si:ch73-44m9.2 | 0.530029684 | -0.939524117 | 2.7937867 | -0.336291 | 0.736652 | NA |
| AL953907.1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:dkey-23a23.1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| F13A1 (1 of many) | 0.839569038 | -1.918727829 | 2.2199361 | -0.864317 | 0.387414 | NA |
| coa5 | 204.5157446 | -0.091759153 | 0.1525131 | -0.601648 | 0.547409 | 0.945526 |
| si:ch211-195b15.8 | 1425.35067 | -0.48005518 | 0.0857008 | -5.601527 | 2.12E-08 | 3.42E-06 |
| BX663515.1 | 0.877488419 | -1.943394526 | 2.3575695 | -0.824321 | 0.409757 | NA |
| CR749748.1 | 9.413677014 | -0.079551279 | 0.6284597 | -0.126581 | 0.899272 | NA |
| si:dkey-21e2.13 | 8.098944432 | 0.199349832 | 0.6841956 | 0.2913638 | 0.770773 | NA |
| BX927394.2 | | 0 NA | NA | NA | NA | NA |
| BX323457.3 | 2.90121581 | 0.98935766 | 1.2050613 | 0.821002 | 0.411645 | NA |
| zmp:0000001323 | 0.833476647 | 0.586781922 | 2.2129474 | 0.2651585 | 0.790887 | NA |
| BX936461.1 | 7.824058241 | 0.47553187 | 0.7082762 | 0.6713933 | 0.50197 | NA |
| BX640520.2 | | 0 NA | NA | NA | NA | NA |
| si:dkey-88l16.5 | 2.011316322 | -0.979272553 | 1.3394436 | -0.731104 | 0.464716 | NA |
| BX119902.1 | | 0 NA | NA | NA | NA | NA |
| si:ch211-147m20.3 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| ms4a17a.9 | 208.4599184 | 0.134284779 | 0.1879989 | 0.7142849 | 0.475051 | 0.925575 |
| BX511089.3 | | 0 NA | NA | NA | NA | NA |
| dio2 | 33.51426409 | -0.10319662 | 0.3817499 | -0.270325 | 0.78691 | 0.976596 |
| si:dkey-11o15.10 | 1.276978248 | 1.558674568 | 1.8171775 | 0.8577448 | 0.391033 | NA |
| gpr186 | 82.09253695 | 0.667905931 | 0.2195573 | 3.0420577 | 0.00235 | 0.060184 |
| si:dkey-163f12.11 | 1.646645792 | 0.041181395 | 1.4832032 | 0.0277652 | 0.977849 | NA |
| v2ra20 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CR407561.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| pimr152 | | 0 NA | NA | NA | NA | NA |
| si:ch73-313l22.2 | | 0 NA | NA | NA | NA | NA |
| CR396590.6 | | 0 NA | NA | NA | NA | NA |
| BX649434.2 | 0.825545564 | -1.896597388 | 2.3991135 | -0.790541 | 0.429212 | NA |
| si:dkey-258f14.2 | 43.58234408 | 0.098157474 | 0.2894056 | 0.3391693 | 0.734482 | 0.972021 |
| si:dkey-84o3.6 | 2.485586322 | -0.158818725 | 1.1839578 | -0.134142 | 0.89329 | NA |
| si:dkey-277m11.2 | 10.6894407 | 0.309066399 | 0.5862258 | 0.5272139 | 0.598045 | NA |
| si:ch211-197h24.8 | 25.91578869 | -0.081837147 | 0.3989765 | -0.205118 | 0.83748 | 0.984665 |
| illr2 | | 0 NA | NA | NA | NA | NA |
| BX470185.2 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| pimr178 | 0.349228403 | 0.005884014 | 3.2372587 | 0.0018176 | 0.99855 | NA |
| si:dkey-266f7.5 | 0.981272991 | -0.049048874 | 1.9489635 | -0.025167 | 0.979922 | NA |
| si:ch211-170d8.2 | 10.45439627 | -0.135725447 | 0.5987744 | -0.226672 | 0.820679 | NA |
| znf1061 | 0.339758314 | 0.005883863 | 3.2682461 | 0.0018003 | 0.998564 | NA |
| cplx4c | 221.9552681 | 0.275392401 | 0.1396806 | 1.9715863 | 0.048657 | 0.433734 |
| si:ch211-163b2.4 | 1.420878542 | 2.793083696 | 1.9569603 | 1.4272562 | 0.153506 | NA |
| cenph | 40.87892667 | 0.163201952 | 0.3118775 | 0.5232887 | 0.600773 | 0.956045 |
| tyrobp | 2.319598661 | -0.365565428 | 1.2950908 | -0.28227 | 0.777736 | NA |
| rbm33b | 11.43450812 | 0.138804466 | 0.56008 | 0.2478297 | 0.804266 | 0.979643 |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| si:ch1073-143110.2 | 31.1057979 | 0.112063246 | 0.3639246 | 0.3079298 | 0.758136 | 0.975374 |
| abcc6b.2 | 81.04119272 | 0.085102565 | 0.2216742 | 0.3839084 | 0.701046 | 0.968134 |
| si:ch211-231i17.4 | 2.119495897 | 1.697032437 | 1.4259561 | 1.1901015 | 0.234007 | NA |
| lingo4a | 11.44118094 | 0.467595484 | 0.5573541 | 0.8389558 | 0.401494 | 0.90084 |
| si:dkey-22i16.7 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CR749775.1 | 0.841889141 | 3.198609757 | 2.2957028 | 1.3933031 | 0.163528 | NA |
| or133-2 | 3.160415666 | 0.785550284 | 1.0661922 | 0.7367811 | 0.461255 | NA |
| si:ch73-196i15.5 | 5.182370976 | 1.084727419 | 0.8586148 | 1.2633458 | 0.206465 | NA |
| CR936403.1 | 1.121918354 | -0.422914697 | 1.8509454 | -0.228486 | 0.819269 | NA |
| ungb | 8.509317487 | -0.098461305 | 0.7160021 | -0.137515 | 0.890623 | NA |
| CU469568.2 | 3.748764847 | 0.015947995 | 1.013496 | 0.0157356 | 0.987445 | NA |
| CR735104.1 | | 0 NA | NA | NA | NA | NA |
| BX248322.1 | 1.412036961 | 1.647750358 | 1.816016 | 0.9073435 | 0.364225 | NA |
| si:dkey-9311.4 | 0.365141898 | 1.973577737 | 3.3927314 | 0.5817076 | 0.560764 | NA |
| si:ch211-53m15.2 | 0.340386822 | -1.882368278 | 3.2159502 | -0.585323 | 0.558331 | NA |
| apoa4b.2 | 257.18632 | 0.357638694 | 0.3724962 | 0.9601138 | 0.336998 | 0.876088 |
| si:dkey-58f10.11 | 0.475018861 | 0.853207185 | 2.8976509 | 0.2944479 | 0.768416 | NA |
| CR450833.1 | 4.435194163 | 0.085846042 | 0.9003295 | 0.0953496 | 0.924037 | NA |
| F0834814.1 | 8.26068394 | 0.107307028 | 0.6668286 | 0.1609215 | 0.872155 | NA |
| CR855257.1 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| BX005153.2 | | 0 NA | NA | NA | NA | NA |
| AL929210.1 | 0.330916733 | -1.849579229 | 3.2489867 | -0.569279 | 0.569167 | NA |
| si:ch211-132b12.2 | 30.68224245 | -0.144569747 | 0.3479294 | -0.415515 | 0.677765 | 0.965257 |
| BX511265.3 | 0.513487682 | -0.887846295 | 2.6557956 | -0.334305 | 0.738149 | NA |
| si:ch211-74m13.1 | 136.0116716 | -0.090859622 | 0.1773735 | -0.51225 | 0.608476 | 0.956718 |
| BX284697.2 | | 0 NA | NA | NA | NA | NA |
| CR392341.3 | 4.581234386 | -0.861992957 | 0.897424 | -0.960519 | 0.336794 | NA |
| si:ch73-379f5.5 | 0.521188103 | -2.493476766 | 2.9577741 | -0.843025 | 0.399215 | NA |
| AL929032.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX530407.3 | | 0 NA | NA | NA | NA | NA |
| CR377211.2 | | 0 NA | NA | NA | NA | NA |
| nf13-5 | 1408.788615 | -0.248963921 | 0.0849238 | -2.931614 | 0.003372 | 0.077672 |
| BX255915.2 | 0.475018861 | 0.853207185 | 2.8976509 | 0.2944479 | 0.768416 | NA |
| wnt16 | 47.1737219 | 0.179620179 | 0.2828798 | 0.6349699 | 0.525448 | 0.94013 |
| BX530068.1 | 50.94131755 | -0.249109833 | 0.273479 | -0.910892 | 0.362352 | 0.885944 |
| si:ch211-214p16.2 | | 0 NA | NA | NA | NA | NA |
| si:ch211-156j22.4 | 255.4580894 | -0.235087693 | 0.1345848 | -1.746762 | 0.080679 | 0.550687 |
| si:ch73-18b11.2 | 36.3234807 | -0.38365642 | 0.3449032 | -1.11236 | 0.265984 | 0.831945 |
| CR792454.1 | 1.166362468 | 0.393666232 | 1.8306178 | 0.2150456 | 0.829732 | NA |
| chst12b | 1.308694928 | 0.663383953 | 1.8738364 | 0.3540245 | 0.723321 | NA |
| cc134a.3 | 2.107758276 | -1.698437439 | 1.4463464 | -1.174295 | 0.240277 | NA |
| si:ch211-197g15.8 | 0.990664012 | 0.018879338 | 1.9436762 | 0.0097132 | 0.99225 | NA |
| CR377211.3 | 1.445522467 | -1.005141956 | 1.6998642 | -0.591307 | 0.554315 | NA |
| si:dkey-91f15.1 | 22.33689252 | 1.859519565 | 0.472146 | 3.9384416 | 8.20E-05 | 0.004148 |
| otx1 | 463.3384974 | -0.087455768 | 0.1062836 | -0.822853 | 0.410592 | 0.903084 |
| si:dkey-106c17.2 | 4.891863324 | 0.742810705 | 0.9212946 | 0.8062684 | 0.420088 | NA |
| si:dkey-84o3.4 | 10.35685653 | 0.173058151 | 0.6478592 | 0.2671231 | 0.789374 | NA |
| sult1st9 | 3.551219883 | 0.201054133 | 1.1727366 | 0.1714401 | 0.863878 | NA |
| taar18b | 0.323844819 | -1.825095364 | 3.274639 | -0.557342 | 0.577293 | NA |
| FP015823.1 | 0.670675047 | -1.455259498 | 2.4036813 | -0.605429 | 0.544894 | NA |
| pimr98 | 2.833003772 | -0.522160428 | 1.1125489 | -0.469337 | 0.638829 | NA |
| si:dkey-194e6.2 | 0.333314908 | -1.858695402 | 3.5126701 | -0.52914 | 0.596708 | NA |
| si:rp71-17i16.4 | 474.6903065 | 0.120658438 | 0.1225513 | 0.9845544 | 0.324843 | 0.871294 |
| si:dkey-21e2.10 | 0.499972362 | -2.44370697 | 3.0013188 | -0.814211 | 0.415524 | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| CR388079.2 | 2.322505987 | 0.862211419 | 1.2581021 | 0.685327 | 0.493138 | NA |
| sinhcafl | 828.0203103 | -0.063665909 | 0.0886615 | -0.718079 | 0.472709 | 0.924838 |
| si:ch211-67n3.9 | 69.68359941 | 0.180482845 | 0.2382237 | 0.7576192 | 0.448679 | 0.917876 |
| AL953903.1 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-240n22.3 | 7.647215216 | -0.379765726 | 0.680808 | -0.557816 | 0.57697 | NA |
| BX571955.2 | 21.21942534 | 0.023389599 | 0.4274462 | 0.0547194 | 0.956362 | 0.994543 |
| CR932983.2 | 5.693599927 | -0.880503935 | 0.8247154 | -1.067646 | 0.28568 | NA |
| BX927275.2 | 0.849510495 | 1.927128725 | 2.1168069 | 0.9103942 | 0.362615 | NA |
| lmo2 | 104.8802745 | 0.075034158 | 0.1973418 | 0.3802244 | 0.703779 | 0.968134 |
| thsd7ba | 394.8375068 | 0.140891352 | 0.1121249 | 1.2565567 | 0.208914 | 0.776073 |
| si:dkeyp-68b7.10 | 16.00872483 | 0.190772682 | 0.4887086 | 0.3903608 | 0.69627 | 0.96736 |
| CR388166.2 | 21.24534282 | -0.206060919 | 0.4568427 | -0.451054 | 0.65195 | 0.960708 |
| si:dkey-58f10.14 | 5.291707548 | -0.196203305 | 0.8151219 | -0.240704 | 0.809784 | NA |
| si:ch73-120g24.4 | 109.8518596 | -0.131919804 | 0.198942 | -0.663107 | 0.507262 | 0.935734 |
| ftr33 | 0.856462055 | 1.928072848 | 2.2076658 | 0.8733536 | 0.38247 | NA |
| FP067425.1 | 0.31598276 | 0.005883445 | 3.3523626 | 0.001755 | 0.9986 | NA |
| zgc:162928 | 188.1963072 | 0.055229625 | 0.1511643 | 0.3653615 | 0.714842 | 0.96909 |
| taar20t | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CR318668.1 | 0 NA | NA | NA | NA | NA | NA |
| CR388189.1 | 0 NA | NA | NA | NA | NA | NA |
| cb1n7 | 0.332645115 | 0.005883744 | 3.2924249 | 0.0017871 | 0.998574 | NA |
| BX322661.2 | 104.084452 | 0.186725384 | 0.2166306 | 0.8619529 | 0.388713 | 0.896271 |
| CU468826.1 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| pold2 | 198.3386255 | 0.05404397 | 0.1539566 | 0.3510338 | 0.725563 | 0.970402 |
| si:dkey-85k15.4 | 2.661044073 | 0.016239213 | 1.1267419 | 0.0144125 | 0.988501 | NA |
| si:dkey-250k15.7 | 25.48529861 | -0.968061834 | 0.4051689 | -2.38928 | 0.016881 | 0.239981 |
| si:dkey-7f3.14 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:ch211-236l14.1 | 0 NA | NA | NA | NA | NA | NA |
| pimr148 | 0 NA | NA | NA | NA | NA | NA |
| CT573133.1 | 2.814375584 | 0.520974681 | 1.1201875 | 0.4650781 | 0.641876 | NA |
| si:dkey-103d23.3 | 0.697787013 | 1.536711783 | 2.3781027 | 0.6461924 | 0.518155 | NA |
| CT025776.1 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:ch211-106h4.5 | 37.89631545 | 0.191882927 | 0.33579 | 0.5714372 | 0.567703 | 0.948739 |
| or127-1 | 2.126808516 | 1.685638895 | 1.4758742 | 1.1421291 | 0.2534 | NA |
| CU394254.2 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-238m4.3 | 0 NA | NA | NA | NA | NA | NA |
| BX005445.1 | 1.997801003 | -1.583517413 | 1.4589375 | -1.085391 | 0.277749 | NA |
| si:ch211-113e8.9 | 10.02834817 | 0.006122309 | 0.6285095 | 0.009741 | 0.992228 | NA |
| BX088713.1 | 0.508023798 | 0.926122713 | 2.6636728 | 0.3476864 | 0.728076 | NA |
| TC2N | 19.14440386 | 0.084561748 | 0.4695788 | 0.18008 | 0.85709 | 0.985597 |
| si:dkey-10h3.3 | 1.622629532 | 0.016637092 | 1.5873147 | 0.0104813 | 0.991637 | NA |
| BX908726.1 | 5.630329199 | 0.184411819 | 0.784098 | 0.2351897 | 0.814061 | NA |
| cd28 | 8.835265882 | 0.052780949 | 0.7053753 | 0.0748268 | 0.940353 | NA |
| ctslb | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-73p2.3 | 1.155833789 | -1.281252378 | 1.8785909 | -0.682028 | 0.495221 | NA |
| BX548073.4 | 0 NA | NA | NA | NA | NA | NA |
| CR545476.1 | 0 NA | NA | NA | NA | NA | NA |
| CR450782.1 | 12.35977381 | -0.072515572 | 0.5409119 | -0.134062 | 0.893354 | 0.989291 |
| CU657976.1 | 0 NA | NA | NA | NA | NA | NA |
| ITLN1 (1 of many) | 41.04573298 | 0.036976196 | 0.4134022 | 0.0894436 | 0.928729 | 0.992702 |
| ftr10 | 0 NA | NA | NA | NA | NA | NA |
| cfdbl | 275.2628277 | 0.124091411 | 0.1279413 | 0.9699089 | 0.332092 | 0.874653 |
| CU928069.1 | 0 NA | NA | NA | NA | NA | NA |
| BX649508.1 | 0 NA | NA | NA | NA | NA | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| tspan37 | 50.21975384 | 0.384495916 | 0.29385 | 1.3084769 | 0.190712 | 0.755212 |
| si:ch211-232m8.3 | 19.23740169 | 0.155379661 | 0.4286505 | 0.3624857 | 0.716989 | 0.96909 |
| pimr50 | 0 NA | NA | NA | NA | NA | NA |
| pimr127 | 0.325573202 | 0.005883621 | 3.3172783 | 0.0017736 | 0.998585 | NA |
| BX649516.1 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-229g14.3 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:ch211-132g1.4 | 0 NA | NA | NA | NA | NA | NA |
| CR749763.4 | 0 NA | NA | NA | NA | NA | NA |
| CR847899.2 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-28k24.2 | 2.827897692 | -1.70872598 | 1.2328078 | -1.386044 | 0.165733 | NA |
| AL953855.1 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-192k22.2 | 1.327123696 | -1.628668251 | 1.8860251 | -0.863545 | 0.387838 | NA |
| BX640512.2 | 0 NA | NA | NA | NA | NA | NA |
| btr04 | 0.521188103 | -2.493476766 | 2.9577741 | -0.843025 | 0.399215 | NA |
| BX005024.1 | 0 NA | NA | NA | NA | NA | NA |
| CU207311.2 | 0 NA | NA | NA | NA | NA | NA |
| CU694808.1 | 0.862716084 | -0.503809387 | 2.0872007 | -0.24138 | 0.80926 | NA |
| ftr97 | 60.95652275 | -0.387369543 | 0.2547288 | -1.520714 | 0.128332 | 0.658954 |
| si:dkey-82i20.2 | 48.1156166 | -0.245802886 | 0.2824015 | -0.870402 | 0.384081 | 0.895192 |
| si:ch73-34314.6 | 0 NA | NA | NA | NA | NA | NA |
| CT583652.1 | 0.824247264 | 0.61130654 | 2.1184171 | 0.2885676 | 0.772912 | NA |
| si:ch211-227e10.6 | 4.552380337 | -0.996942248 | 0.9323587 | -1.069269 | 0.284948 | NA |
| si:ch211-165f21.2 | 2.170541799 | 0.69101812 | 1.2637478 | 0.5468007 | 0.584516 | NA |
| si:dkey-250k15.9 | 1.170647409 | -2.468126443 | 1.9121268 | -1.290776 | 0.196782 | NA |
| si:ch73-266f23.1 | 70.47725572 | 0.146419636 | 0.2346779 | 0.6239175 | 0.532682 | 0.942805 |
| si:ch211-130m23.2 | 47.75725625 | -0.291765105 | 0.2908877 | -1.003016 | 0.315853 | 0.866931 |
| si:dkey-88116.2 | 0 NA | NA | NA | NA | NA | NA |
| CR388373.2 | 17.0686406 | 0.198537461 | 0.4563363 | 0.4350683 | 0.663513 | 0.964736 |
| BX004962.2 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:ch211-208h16.4 | 235.1796922 | 0.260505941 | 0.1394689 | 1.8678428 | 0.061784 | 0.485049 |
| AL954816.1 | 4.76135809 | -0.100881375 | 0.9117364 | -0.110648 | 0.911896 | NA |
| BX571724.2 | 0.658957134 | 2.851427774 | 2.5143902 | 1.1340434 | 0.256776 | NA |
| krt96 | 29.75376304 | -0.123242205 | 0.3796702 | -0.324603 | 0.745481 | 0.974094 |
| CT583625.3 | 0.837961008 | -3.186152199 | 2.1620582 | -1.473666 | 0.140571 | NA |
| znf1062 | 1.737730516 | 1.270550401 | 1.6042426 | 0.7919939 | 0.428364 | NA |
| si:dkey-114c15.5 | 13.11135833 | 0.122040758 | 0.5191638 | 0.2350718 | 0.814153 | 0.981081 |
| AL953903.2 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-255i3.4 | 188.8291226 | 0.213579956 | 0.1656354 | 1.2894584 | 0.197239 | 0.762204 |
| CR388363.1 | 0.666629816 | -2.858789115 | 2.7069088 | -1.056108 | 0.290919 | NA |
| taar20w | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| zgc:163080 | 99.66123913 | -0.514847425 | 0.2024412 | -2.543195 | 0.010984 | 0.181902 |
| CT025913.1 | 0 NA | NA | NA | NA | NA | NA |
| BX649500.1 | 1.147851377 | -0.386326166 | 1.8199142 | -0.212277 | 0.831891 | NA |
| AL590134.1 | 2.159971835 | -0.214951541 | 1.2581686 | -0.170845 | 0.864346 | NA |
| CR847563.1 | 6.861081055 | 0.492861431 | 0.82952 | 0.5941526 | 0.55241 | NA |
| CU469530.1 | 1.97126721 | 0.460325443 | 1.3758336 | 0.3345793 | 0.737942 | NA |
| CR450836.1 | 68.82750839 | -0.484605448 | 0.2400939 | -2.0184 | 0.04355 | 0.409681 |
| lrrfip1b | 63.81391361 | 0.196777794 | 0.2597852 | 0.7574634 | 0.448772 | 0.917876 |
| CU695074.1 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-7814.12 | 0 NA | NA | NA | NA | NA | NA |
| BX640478.1 | 1.983575848 | -1.525970255 | 1.4494796 | -1.052771 | 0.292446 | NA |
| si:ch211-235f1.3 | 2.362221779 | 0.861878636 | 1.3106976 | 0.6575724 | 0.510813 | NA |
| abr | 456.8422799 | 0.082926887 | 0.1058465 | 0.7834638 | 0.433355 | 0.913654 |
| si:ch73-52p7.1 | 20.48712525 | -0.154072491 | 0.4238918 | -0.363471 | 0.716253 | 0.96909 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| si:ch211-274p24.2 | 18.9116447 | 0.223222008 | 0.4937229 | 0.4521201 | 0.651182 | 0.960708 |
| BX324164.2 | 2.691932825 | 0.059712836 | 1.1762226 | 0.0507666 | 0.959511 | NA |
| si:dkey-189h5.6 | 23.27566305 | 0.661721702 | 0.4388433 | 1.5078769 | 0.131586 | 0.665022 |
| si:ch211-127n13.2 | 0 NA | NA | NA | NA | NA | NA |
| BX901918.2 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-57k2.7 | 59.83739863 | -0.086286381 | 0.2615695 | -0.329879 | 0.741491 | 0.973154 |
| BX957317.1 | 229.9906256 | 0.241900037 | 0.1462839 | 1.6536343 | 0.098202 | 0.59749 |
| si:dkey-23c22.7 | 4.436076923 | -0.768132146 | 0.9371765 | -0.819624 | 0.412431 | NA |
| si:dkey-19a16.11 | 0 NA | NA | NA | NA | NA | NA |
| CR854927.2 | 0 NA | NA | NA | NA | NA | NA |
| znf1132 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| AL732515.1 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:ch211-197e7.1 | 41.6793661 | -0.1848151 | 0.3049673 | -0.606016 | 0.544504 | 0.945438 |
| AL935117.1 | 2.421211221 | -0.217403659 | 1.2865635 | -0.16898 | 0.865812 | NA |
| BX649502.10 | 0 NA | NA | NA | NA | NA | NA |
| BX649610.1 | 0 NA | NA | NA | NA | NA | NA |
| AL845306.1 | 0.341366344 | 1.891903201 | 3.2128156 | 0.5888614 | 0.555954 | NA |
| si:ch211-210b2.4 | 10.88654002 | -0.095202462 | 0.5779782 | -0.164716 | 0.869167 | NA |
| CU469584.1 | 13.12022907 | 0.144680705 | 0.5495979 | 0.2632483 | 0.792359 | 0.977937 |
| zgc:66156 | 47.52540175 | 0.042793467 | 0.3300061 | 0.1296748 | 0.896824 | 0.989971 |
| CT030044.1 | 1.755852962 | 0.253541306 | 1.5720048 | 0.1612853 | 0.871869 | NA |
| or128-7 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:ch211-242f23.3 | 0.476386185 | 2.392464142 | 3.0533824 | 0.7835455 | 0.433307 | NA |
| camkmt | 195.5166364 | -0.115508557 | 0.150988 | -0.765018 | 0.444261 | 0.916726 |
| CR769772.3 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CR759970.1 | 0 NA | NA | NA | NA | NA | NA |
| CT990618.1 | 251.7075875 | 0.018273915 | 0.1347441 | 0.1356194 | 0.892122 | 0.989291 |
| CR759887.2 | 0 NA | NA | NA | NA | NA | NA |
| mybl2a | 137.6631105 | -0.059274748 | 0.1749574 | -0.338795 | 0.734764 | 0.972021 |
| si:ch211-157j23.2 | 2.714446866 | -0.699506096 | 1.1675466 | -0.599125 | 0.54909 | NA |
| CU468920.1 | 2.803108088 | -0.856910311 | 1.1640536 | -0.736143 | 0.461643 | NA |
| si:ch211-225k7.3 | 1.202474398 | -0.315413906 | 1.8153552 | -0.173748 | 0.862064 | NA |
| si:dkey-40h20.1 | 7.026930821 | -0.247241673 | 0.7333579 | -0.337136 | 0.736014 | NA |
| si:dkey-239j18.2 | 0.473170125 | -0.833888596 | 2.9014002 | -0.287409 | 0.773799 | NA |
| tmem119a | 22.8447928 | -0.204273247 | 0.3960605 | -0.515763 | 0.60602 | 0.956686 |
| CU694757.1 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-145c18.4 | 0 NA | NA | NA | NA | NA | NA |
| CR396590.7 | 0.339758314 | 0.005883863 | 3.2682461 | 0.0018003 | 0.998564 | NA |
| AL928866.1 | 0.829590794 | -0.541313395 | 2.1122702 | -0.256271 | 0.797742 | NA |
| BX927385.2 | 2.532185647 | 0.2170996 | 1.2338553 | 0.1759522 | 0.860331 | NA |
| si:dkey-261h17.1 | 746.4206501 | 0.100543657 | 0.0938704 | 1.0710903 | 0.284129 | 0.844697 |
| htr7c | 7.008289087 | 0.565756776 | 0.7343642 | 0.7704036 | 0.441061 | NA |
| cox8a | 2528.503705 | 0.066724951 | 0.0743376 | 0.8975939 | 0.369402 | 0.889127 |
| si:ch211-278p9.2 | 1.69115893 | 3.089930315 | 1.7196362 | 1.7968512 | 0.072359 | NA |
| si:dkey-269p2.1 | 4.120672337 | 0.570347797 | 0.9314512 | 0.6123217 | 0.540325 | NA |
| BX936318.1 | 0.665960023 | -1.495776328 | 2.4092162 | -0.620856 | 0.534694 | NA |
| AL954142.2 | 1.488788634 | 1.021546813 | 1.5869898 | 0.6437009 | 0.519769 | NA |
| CU682811.2 | 3.800655588 | -1.399519032 | 1.2132727 | -1.153507 | 0.248702 | NA |
| zgc:152652 | 0 NA | NA | NA | NA | NA | NA |
| BX950187.1 | 5.444956489 | 0.030208912 | 0.9043527 | 0.0334039 | 0.973352 | NA |
| si:dkeyp-2e4.3 | 30.09717751 | -0.569779257 | 0.3703287 | -1.538577 | 0.123908 | 0.652391 |
| rusc2 | 1761.66391 | 0.087701172 | 0.0758528 | 1.1562017 | 0.247599 | 0.817092 |
| CU595864.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| CR394546.3 | 16.69512548 | -0.181678331 | 0.4838042 | -0.37552 | 0.707273 | 0.968664 |

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| si:dkey-265e7.1 | 3.694692261 | 0.802785408 | 0.9962928 | 0.8057726 | 0.420374 | NA |
| si:dkey-20015.4 | 106.3897916 | 0.365886895 | 0.1981888 | 1.8461529 | 0.06487 | 0.497901 |
| si:rp71-36a1.1 | 115.2785507 | 0.257667526 | 0.1949774 | 1.3215248 | 0.186326 | 0.750697 |
| si:ch73-274k23.1 | 4.252754854 | -0.673542119 | 0.9439826 | -0.713511 | 0.47553 | NA |
| adgre17 | 0.531799352 | 0.999478841 | 2.790358 | 0.3581902 | 0.720201 | NA |
| ftr73 | 0.489712128 | -0.887840729 | 2.693685 | -0.329601 | 0.741702 | NA |
| mxra7 | 93.27517391 | -0.120301774 | 0.2259566 | -0.532411 | 0.594441 | 0.954434 |
| BX247868.1 | 3.777498543 | 0.133032358 | 0.9561981 | 0.1391264 | 0.88935 | NA |
| BX957322.2 | 27.91705581 | 3.26535236 | 0.4900749 | 6.6629664 | 2.68E-11 | 7.08E-09 |
| CR926469.1 | 0 | NA | NA | NA | NA | NA |
| si:ch211-207c6.2 | 16.13643392 | -0.96391263 | 0.4947951 | -1.948105 | 0.051402 | 0.444245 |
| si:dkey-22p6.2 | 0 | NA | NA | NA | NA | NA |
| si:ch211-215c18.3 | 42.94338438 | 0.181934918 | 0.3066243 | 0.593348 | 0.552948 | 0.947265 |
| si:dkey-79f11.9 | 0 | NA | NA | NA | NA | NA |
| sc:d0202 | 18.24591813 | 0.452561373 | 0.4925132 | 0.9188817 | 0.358157 | 0.884398 |
| si:dkey-19p15.4 | 0.633934609 | 1.436045836 | 2.6103598 | 0.5501333 | 0.582228 | NA |
| CR626907.2 | 16.59680681 | -0.110893953 | 0.4575072 | -0.242387 | 0.80848 | 0.980642 |
| CR769777.1 | 1.157562172 | -0.399802663 | 1.8346433 | -0.217918 | 0.827493 | NA |
| BX004840.2 | 0 | NA | NA | NA | NA | NA |
| fkbp1 | 103.2618685 | -0.370495809 | 0.1935828 | -1.913888 | 0.055634 | 0.461579 |
| galnt8b.2 | 18.05913278 | 0.332654847 | 0.4544479 | 0.7319978 | 0.46417 | 0.923204 |
| si:dkey-49n23.3 | 0 | NA | NA | NA | NA | NA |
| si:dkey-88n24.3 | 0.323844819 | -1.825095364 | 3.274639 | -0.557342 | 0.577293 | NA |
| si:ch211-191i18.4 | 13.94827879 | -0.089032152 | 0.5817093 | -0.153053 | 0.878357 | 0.987881 |
| si:dkey-14d8.1 | 34.95739816 | -0.152568809 | 0.3426489 | -0.445263 | 0.65613 | 0.961833 |
| si:ch211-157j23.3 | 1.453504879 | -1.807683458 | 1.6864857 | -1.071864 | 0.283781 | NA |
| CR318646.3 | 0 | NA | NA | NA | NA | NA |
| si:dkeyp-44a8.4 | 250.8754566 | 0.086520732 | 0.1489685 | 0.580799 | 0.561376 | 0.948728 |
| BX248512.2 | 0.996127896 | -0.965496869 | 1.8966759 | -0.509047 | 0.610719 | NA |
| ftr09 | 0 | NA | NA | NA | NA | NA |
| si:dkeyp-72h1.1 | 208.798265 | -0.073792212 | 0.1497743 | -0.492689 | 0.622232 | 0.957354 |
| sh2d1aa | 0.667059899 | 1.488443644 | 2.4079024 | 0.6181495 | 0.536477 | NA |
| si:dkey-4c15.12 | 7.571916846 | 0.38717884 | 0.708456 | 0.5465108 | 0.584715 | NA |
| CU914776.1 | 471.1973531 | 0.674791413 | 0.1238149 | 5.4500038 | 5.04E-08 | 7.38E-06 |
| CR936240.1 | 0.482640214 | -0.866525639 | 2.7061322 | -0.320208 | 0.748811 | NA |
| si:dkey-7814.7 | 0 | NA | NA | NA | NA | NA |
| si:ch211-213b8.4 | 6.241433527 | -1.092539359 | 0.8135975 | -1.34285 | 0.179321 | NA |
| si:ch211-77g15.32 | 3.156377224 | -1.943486649 | 1.183012 | -1.642829 | 0.100418 | NA |
| BX640520.3 | 0.365141898 | 1.973577737 | 3.3927314 | 0.5817076 | 0.560764 | NA |
| BX323065.1 | 2.266611409 | 1.30416549 | 1.3562144 | 0.9616219 | 0.33624 | NA |
| AL590146.1 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| zgc:112966 | 9.495729938 | -0.661801998 | 0.6143738 | -1.077198 | 0.281392 | NA |
| FP016012.1 | 0 | NA | NA | NA | NA | NA |
| CR388207.1 | 19.1963919 | -0.125482623 | 0.4787565 | -0.262101 | 0.793243 | 0.977937 |
| gdf10a | 386.8047061 | 0.19053498 | 0.1195378 | 1.5939304 | 0.110952 | 0.626294 |
| BX294163.1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:dkey-7814.2 | 1.159600284 | 3.665293876 | 1.9627315 | 1.8674454 | 0.061839 | NA |
| BX640481.1 | 2.487702507 | -0.19355015 | 1.1912939 | -0.162471 | 0.870935 | NA |
| pimr179 | 1.958154234 | -0.002462971 | 1.4893867 | -0.001654 | 0.998681 | NA |
| BX323590.2 | 121.4449354 | -0.25020631 | 0.1909352 | -1.310425 | 0.190052 | 0.754636 |
| BX901878.2 | 6.656796408 | 0.175881869 | 0.7502026 | 0.2344458 | 0.814639 | NA |
| BX537288.2 | 88.41544472 | -0.109687831 | 0.220018 | -0.49854 | 0.618103 | 0.957354 |
| BX664750.2 | 0 | NA | NA | NA | NA | NA |
| CR376741.1 | 4.251108794 | -0.009283605 | 0.9793082 | -0.00948 | 0.992436 | NA |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| si:ch1073-75f15.2 | 0.632206226 | 0.012903346 | 2.6133421 | 0.0049375 | 0.99606 | NA |
| CU468730.1 | 15.07579913 | -0.808969173 | 0.5037443 | -1.605912 | 0.108293 | 0.620153 |
| znf1170 | 31.50575107 | -0.306086184 | 0.3471712 | -0.881658 | 0.377962 | 0.895192 |
| si:ch73-256j6.6 | 0.349228403 | 0.005884014 | 3.2372587 | 0.0018176 | 0.99855 | NA |
| si:ch73-52f15.5 | 136.5309501 | 0.101232143 | 0.1748947 | 0.5788178 | 0.562712 | 0.948728 |
| si:rp71-1i20.1 | 3.357968661 | -1.557257885 | 1.1169199 | -1.394243 | 0.163244 | NA |
| BX897741.1 | 8.658369851 | -0.851456593 | 0.6815344 | -1.249323 | 0.211547 | NA |
| si:dkey-9i23.8 | 0.333314908 | -1.858695402 | 3.5126701 | -0.52914 | 0.596708 | NA |
| AL935184.2 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:ch211-226h7.8 | 25.89648637 | 0.038047629 | 0.4285398 | 0.0887844 | 0.929253 | 0.992702 |
| si:ch211-285c6.4 | 1.15118779 | 1.305539583 | 1.8815949 | 0.6938473 | 0.487778 | NA |
| CR847543.2 | 4.206613198 | 0.379276018 | 0.9205703 | 0.4120011 | 0.680339 | NA |
| RNF224 | 14.06084775 | -0.847287795 | 0.5247774 | -1.614566 | 0.106405 | 0.615567 |
| or125-4 | 5.085124837 | 0.487988137 | 0.862341 | 0.5658877 | 0.57147 | NA |
| CR388363.2 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:ch211-14a11.1 | 0.498674062 | 0.926637565 | 2.6784892 | 0.3459553 | 0.729376 | NA |
| BX324123.2 | 790.6185619 | 0.066988423 | 0.0978317 | 0.6847313 | 0.493514 | 0.931926 |
| si:ch211-133n4.7 | 0.839730676 | -1.88066928 | 2.2379651 | -0.840348 | 0.400713 | NA |
| AL929520.2 | 0 NA | NA | NA | NA | NA | NA |
| FP101887.1 | 198.5590271 | 0.067958267 | 0.1546941 | 0.4393073 | 0.660439 | 0.963802 |
| BX323074.2 | 177.384665 | 0.190859834 | 0.1651971 | 1.1553464 | 0.247949 | 0.817156 |
| si:ch211-217k17.8 | 30.78322245 | 0.122295687 | 0.3821463 | 0.3200232 | 0.748951 | 0.97419 |
| si:dkeyp-117b11.3 | 25.19158123 | 0.005034329 | 0.4143552 | 0.0121498 | 0.990306 | 0.997679 |
| si:dkey-7814.4 | 0 NA | NA | NA | NA | NA | NA |
| BX649490.3 | 0.635662991 | 2.808056561 | 2.7492814 | 1.0213784 | 0.307075 | NA |
| si:dkeyp-53e4.2 | 0 NA | NA | NA | NA | NA | NA |
| BX927216.1 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-191c17.2 | 0.476506538 | 2.394892832 | 2.8161716 | 0.8504073 | 0.395099 | NA |
| CR383662.3 | 7.816621613 | 0.405997032 | 0.719689 | 0.5641284 | 0.572667 | NA |
| ftr30 | 3.669033475 | -1.470131244 | 1.1224432 | -1.30976 | 0.190277 | NA |
| AL929017.2 | 9.330124285 | 0.319880153 | 0.6127778 | 0.5220166 | 0.601659 | NA |
| AL929237.2 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:ch211-19617.4 | 917.13758 | -0.166638984 | 0.1083631 | -1.537784 | 0.124101 | 0.652708 |
| si:rp71-17i16.6 | 24.0679803 | -0.010246482 | 0.3847396 | -0.026632 | 0.978753 | 0.996762 |
| si:dkey-19a16.13 | 5.256035991 | -0.745087035 | 0.830586 | -0.897062 | 0.369686 | NA |
| si:dkey-20i20.10 | 8.433798346 | -0.153262578 | 0.6905957 | -0.221928 | 0.82437 | NA |
| si:ch211-147d7.5 | 5.92958058 | -0.304769043 | 0.784565 | -0.388456 | 0.697679 | NA |
| si:dkey-240h12.3 | 12.19775107 | -0.041620219 | 0.5455451 | -0.076291 | 0.939188 | 0.992857 |
| si:ch211-191j22.3 | 479.9821942 | -0.109441579 | 0.1103028 | -0.992192 | 0.321104 | 0.868843 |
| BX000705.1 | 0 NA | NA | NA | NA | NA | NA |
| pimr171 | 4.045339317 | 0.235675287 | 1.0124807 | 0.2327702 | 0.81594 | NA |
| celal.2 | 3.374624228 | 0.613820888 | 1.0289564 | 0.596547 | 0.55081 | NA |
| si:ch73-90k17.1 | 0.809701093 | 0.53615962 | 2.3788628 | 0.2253848 | 0.82168 | NA |
| gstt2 | 148.6400347 | -0.192820085 | 0.1673262 | -1.15236 | 0.249173 | 0.818463 |
| BX649377.1 | 5.637758916 | -0.498875061 | 0.8317626 | -0.599781 | 0.548652 | NA |
| BX470183.1 | 0 NA | NA | NA | NA | NA | NA |
| CU657977.1 | 3.540061454 | -0.115458457 | 1.0132676 | -0.113947 | 0.90928 | NA |
| CR392001.1 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CR933734.3 | 38.14597485 | 0.19970966 | 0.3098187 | 0.6446017 | 0.519185 | 0.938945 |
| si:ch211-282j17.10 | 0.347458735 | -1.908042286 | 3.4571486 | -0.551912 | 0.581009 | NA |
| CHST12 (1 of many) | 0.846174082 | -0.46494763 | 2.1994676 | -0.211391 | 0.832582 | NA |
| AL929457.1 | 7.155902812 | 0.649844262 | 0.7645825 | 0.8499335 | 0.395362 | NA |
| CU467646.2 | 1.812993516 | -2.135589317 | 1.6619004 | -1.285028 | 0.198782 | NA |
| CU570881.1 | 0 NA | NA | NA | NA | NA | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| adgre6 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| CU459065.1 | 0 NA | | NA | NA | NA | NA |
| si:dkeyp-2e4.5 | 17.33102227 | -0.323893453 | 0.465384 | -0.69597 | 0.486447 | 0.930833 |
| si:dkey-286h21.1 | 0.323844819 | -1.825095364 | 3.274639 | -0.557342 | 0.577293 | NA |
| si:ch211-167j6.3 | 0 NA | | NA | NA | NA | NA |
| CU986305.1 | 2.639117254 | 0.354391793 | 1.1475719 | 0.3088188 | 0.757459 | NA |
| BX649622.1 | 9.015832125 | 0.455476674 | 0.6406482 | 0.7109622 | 0.477108 | NA |
| CR759885.1 | 12.23342737 | 0.23389837 | 0.5785762 | 0.4042654 | 0.686018 | 0.966376 |
| si:ch211-10d23.5 | 39.64580085 | -0.126827767 | 0.3155442 | -0.401933 | 0.687733 | 0.966442 |
| rca2.2 | 19.21948995 | 0.091972092 | 0.4366593 | 0.2106267 | 0.833179 | 0.983583 |
| CR396590.8 | 0 NA | | NA | NA | NA | NA |
| si:dkeyp-77c8.5 | 0.508144151 | 0.926490632 | 2.6634746 | 0.3478504 | 0.727953 | NA |
| entr1 | 177.4996601 | -0.033678739 | 0.1532597 | -0.21975 | 0.826066 | 0.982196 |
| si:dkey-204f11.13 | 0 NA | | NA | NA | NA | NA |
| BX323839.1 | 8.87952219 | -0.529958659 | 0.6640499 | -0.79807 | 0.42483 | NA |
| BX950188.2 | 0 NA | | NA | NA | NA | NA |
| znf1090 | 4.837561166 | 0.71231575 | 0.8904311 | 0.7999673 | 0.42373 | NA |
| si:dkey-71b5.3 | 37.50884205 | 0.266489974 | 0.3276816 | 0.8132588 | 0.41607 | 0.906237 |
| AL845369.2 | 0.658218317 | -0.061628513 | 2.4342948 | -0.025317 | 0.979802 | NA |
| CR392363.2 | 2.430842948 | -0.188310594 | 1.292486 | -0.145696 | 0.884161 | NA |
| CR854897.1 | 0.972352342 | -1.017118925 | 1.9872165 | -0.511831 | 0.608769 | NA |
| BX322661.3 | 0.521188103 | -2.493476766 | 2.9577741 | -0.843025 | 0.399215 | NA |
| si:dkey-58f10.13 | 1.601761304 | 1.957946414 | 1.7038977 | 1.1490986 | 0.250515 | NA |
| si:ch211-198c19.3 | 57.41540046 | 0.674202808 | 0.2717645 | 2.4808343 | 0.013108 | 0.20473 |
| BX005462.1 | 0 NA | | NA | NA | NA | NA |
| trim62.2 | 6.578575923 | 1.048996957 | 0.7524614 | 1.3940874 | 0.163291 | NA |
| senp3a | 300.638704 | 0.013178416 | 0.1268533 | 0.103887 | 0.917259 | 0.991572 |
| si:dkeyp-82a1.8 | 0.832927207 | 1.89113355 | 2.1260675 | 0.8894983 | 0.373735 | NA |
| sid1 | 1.006656575 | 0.95954179 | 1.9638723 | 0.4885968 | 0.625127 | NA |
| si:dkey-33c12.12 | 0.347458735 | -1.908042286 | 3.4571486 | -0.551912 | 0.581009 | NA |
| CR931802.2 | 0 NA | | NA | NA | NA | NA |
| BX247877.1 | 3.991225693 | 0.027723206 | 0.9734589 | 0.0284791 | 0.97728 | NA |
| si:dkeyp-106c3.2 | 0.349228403 | 0.005884014 | 3.2372587 | 0.0018176 | 0.99855 | NA |
| lenep | 134.280331 | 0.174263752 | 0.1768073 | 0.9856142 | 0.324322 | 0.870928 |
| si:ch211-163g19.2 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| CR318588.4 | 709.7202294 | -0.067711841 | 0.1123039 | -0.602934 | 0.546552 | 0.945526 |
| BX664610.1 | 168.5154237 | 0.290092875 | 0.1638924 | 1.7700203 | 0.076724 | 0.539626 |
| si:dkey-246j7.1 | 38.15299024 | -0.338523864 | 0.3277102 | -1.032998 | 0.301605 | 0.856944 |
| si:ch73-138i16.1 | 5.019098008 | 0.199529435 | 0.8621608 | 0.2314295 | 0.816981 | NA |
| CABZ0118770.1 | 4.042285048 | -0.121966028 | 0.9948143 | -0.122602 | 0.902422 | NA |
| si:dkey-65b13.1 | 2.494224981 | 0.177872727 | 1.1834387 | 0.1503016 | 0.880527 | NA |
| AL929576.1 | 3.221639233 | -0.153325792 | 1.0931401 | -0.140262 | 0.888453 | NA |
| BX537162.1 | 0 NA | | NA | NA | NA | NA |
| si:dkey-21e2.14 | 0 NA | | NA | NA | NA | NA |
| si:ch211-122114.7 | 0 NA | | NA | NA | NA | NA |
| cybrd1 | 67.59246635 | 0.002475127 | 0.2406482 | 0.0102853 | 0.991794 | 0.997697 |
| si:dkey-222h21.7 | 0.666629816 | -2.858789115 | 2.7069088 | -1.056108 | 0.290919 | NA |
| si:ch211-67e16.11 | 213.7536622 | 0.388624776 | 0.1605046 | 2.4212687 | 0.015466 | 0.228575 |
| BX663525.1 | 2.029388282 | 1.599396952 | 1.4420994 | 1.1090754 | 0.267398 | NA |
| CR925798.1 | 83.58206661 | -0.031435415 | 0.2221662 | -0.141495 | 0.887479 | 0.989291 |
| CT583727.1 | 2.234878028 | 0.830908077 | 1.4103303 | 0.5891585 | 0.555755 | NA |
| si:dkey-11e23.9 | 1.487730044 | -0.268459873 | 1.5651803 | -0.17152 | 0.863815 | NA |
| BX548073.5 | 0 NA | | NA | NA | NA | NA |
| pimr100 | 0.689615224 | -1.495598879 | 2.3854835 | -0.626958 | 0.530687 | NA |

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| spp2 | 8. 682147418 | -0. 422400955 | 0. 7291765 | -0. 579285 | 0. 562397 | NA |
| si:dkey-11o15. 5 | 20. 19502132 | 0. 512174429 | 0. 43378 | 1. 1807239 | 0. 237712 | 0. 806474 |
| si:ch211-134c9. 2 | 8. 396869272 | 0. 239969364 | 0. 6568117 | 0. 3653549 | 0. 714847 | NA |
| si:dkey-184a18. 5 | 38. 74684278 | -0. 213442339 | 0. 3102728 | -0. 687918 | 0. 491504 | 0. 931926 |
| BX322575. 1 | 22. 33288638 | 0. 386829103 | 0. 4369466 | 0. 8853006 | 0. 375995 | 0. 894587 |
| si:dkeyp-4f2. 6 | 0. 831078472 | 0. 593707769 | 2. 1126471 | 0. 2810255 | 0. 778691 | NA |
| AL627088. 1 | 1. 315955223 | -0. 066570411 | 1. 8293747 | -0. 03639 | 0. 970972 | NA |
| BX465206. 1 | 0. 974991223 | -1. 022830706 | 2. 0964916 | -0. 487877 | 0. 625637 | NA |
| grid2ipb | 200. 0562185 | 0. 006017564 | 0. 1488618 | 0. 0404238 | 0. 967755 | 0. 996315 |
| CR846087. 3 | 1. 503962317 | -2. 886341382 | 1. 8017439 | -1. 601971 | 0. 109162 | NA |
| si:dkeyp-51f12. 2 | 12. 65917895 | 0. 252095628 | 0. 5391022 | 0. 4676212 | 0. 640055 | 0. 959994 |
| si:ch211-209f23. 3 | 0. 182570949 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| si:dkey-57k2. 6 | 17. 78078341 | -0. 127459115 | 0. 4535008 | -0. 281056 | 0. 778667 | 0. 975942 |
| ftr60 | 1. 471775264 | -1. 028353818 | 1. 5759115 | -0. 652545 | 0. 514049 | NA |
| BX248510. 2 | 0. 854503011 | -3. 209619274 | 2. 2865784 | -1. 403678 | 0. 160415 | NA |
| caonaleb | 10. 16029452 | 0. 435791086 | 0. 6128539 | 0. 7110848 | 0. 477032 | NA |
| si:dkeyp-86h10. 3 | 373. 3236017 | 0. 443681178 | 0. 1230287 | 3. 6063235 | 0. 000311 | 0. 012137 |
| znf1157 | 25. 47602376 | -0. 209004683 | 0. 3875804 | -0. 539255 | 0. 589711 | 0. 953704 |
| BX927243. 1 | | 0 NA | NA | NA | NA | NA |
| taar19b | 0. 500402445 | 2. 450713647 | 2. 7706722 | 0. 8845195 | 0. 376416 | NA |
| dpm2 | 210. 4100696 | -0. 004311521 | 0. 1428573 | -0. 030181 | 0. 975923 | 0. 996762 |
| clqc | 4. 936765507 | 1. 452901288 | 0. 9347017 | 1. 5544011 | 0. 120089 | NA |
| CR927456. 1 | | 0 NA | NA | NA | NA | NA |
| si:ch211-13315. 7 | 71. 293955 | -0. 589527872 | 0. 2345063 | -2. 513911 | 0. 01194 | 0. 192266 |
| si:ch211-66k16. 2 | 0. 632206226 | 0. 012903346 | 2. 6133421 | 0. 0049375 | 0. 99606 | NA |
| dr11. 3 | 1. 451776496 | -2. 862465318 | 1. 8134246 | -1. 578486 | 0. 114454 | NA |
| cycsa | | 0 NA | NA | NA | NA | NA |
| si:dkey-284p5. 3 | 20. 37293707 | 1. 029800701 | 0. 4566706 | 2. 2550185 | 0. 024132 | 0. 299742 |
| BX248515. 2 | | 0 NA | NA | NA | NA | NA |
| si:ch1073-15f19. 2 | | 0 NA | NA | NA | NA | NA |
| CT025588. 1 | 2. 803643982 | -0. 199242602 | 1. 1306948 | -0. 176213 | 0. 860127 | NA |
| si:dkey-253d23. 3 | 43. 16616235 | 0. 137486283 | 0. 300142 | 0. 4580708 | 0. 646902 | 0. 960362 |
| CU207238. 1 | 0. 365141898 | 1. 973577737 | 3. 3927314 | 0. 5817076 | 0. 560764 | NA |
| BX545856. 2 | | 0 NA | NA | NA | NA | NA |
| si:dkey-97a13. 12 | 21. 97599608 | 0. 636483762 | 0. 4168389 | 1. 5269297 | 0. 126778 | 0. 656588 |
| hmx1 | 198. 1123265 | 0. 108519574 | 0. 1554068 | 0. 6982938 | 0. 484993 | 0. 93001 |
| CU681836. 2 | | 0 NA | NA | NA | NA | NA |
| tns3. 1 | 14. 60703529 | -0. 729378633 | 0. 4953524 | -1. 472444 | 0. 140901 | 0. 681252 |
| BX005024. 2 | | 0 NA | NA | NA | NA | NA |
| FP016213. 1 | 1. 322491243 | -1. 548905306 | 1. 8087333 | -0. 856348 | 0. 391805 | NA |
| si:ch211-191a16. 2 | 28. 8717066 | 0. 12856261 | 0. 4052818 | 0. 3172178 | 0. 751078 | 0. 97419 |
| znf1175 | 38. 35878597 | -0. 201635918 | 0. 3231188 | -0. 62403 | 0. 532608 | 0. 942805 |
| BX855614. 2 | | 0 NA | NA | NA | NA | NA |
| si:ch211-221n20. 2 | 0. 824205979 | 0. 498048327 | 2. 3641483 | 0. 2106671 | 0. 833147 | NA |
| FP016142. 1 | 85. 30419962 | -0. 078196242 | 0. 2284763 | -0. 342251 | 0. 732162 | 0. 971665 |
| si:dkey-79f11. 8 | 0. 182570949 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| tmem123 | 43. 86143341 | 0. 65772658 | 0. 3245319 | 2. 0266929 | 0. 042694 | 0. 406074 |
| ccdc141 | 123. 0528091 | -0. 013011531 | 0. 1979934 | -0. 065717 | 0. 947603 | 0. 99381 |
| ftr38 | 4. 199296081 | -0. 604442874 | 1. 0003253 | -0. 604246 | 0. 54568 | NA |
| AL845324. 2 | 0. 347458735 | -1. 908042286 | 3. 4571486 | -0. 551912 | 0. 581009 | NA |
| BX537103. 1 | 1. 561362267 | 1. 873467306 | 1. 7432854 | 1. 0746762 | 0. 28252 | NA |
| BX296526. 2 | 0. 665049525 | -0. 08670226 | 2. 5686305 | -0. 033754 | 0. 973073 | NA |
| BX571694. 1 | 5. 478365012 | 0. 102082916 | 0. 7940749 | 0. 1285558 | 0. 897709 | NA |
| si:dkey-84o3. 3 | 4. 792646926 | -0. 057625585 | 0. 8948861 | -0. 064394 | 0. 948656 | NA |

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| zgc:162509 | 0.651146404 | -0.045019457 | 2.587009 | -0.017402 | 0.986116 | NA |
| AL953867.2 | 0 | NA | NA | NA | NA | NA |
| BX927401.1 | 0.800351357 | 0.565853532 | 2.1350944 | 0.2650251 | 0.79099 | NA |
| CT573231.1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| ms4a17a.10 | 20.22150248 | 1.096246149 | 0.5214353 | 2.1023629 | 0.035521 | 0.367016 |
| trpm2 | 61.98138624 | -0.199953706 | 0.2556429 | -0.78216 | 0.43412 | 0.914001 |
| CR774194.1 | 2.735064098 | 0.738656946 | 1.2984618 | 0.5688708 | 0.569444 | NA |
| si:dkey-228a15.1 | 30.67751299 | 0.415927034 | 0.3820925 | 1.0885506 | 0.276352 | 0.839541 |
| CR792453.1 | 0 | NA | NA | NA | NA | NA |
| si:dkey-4c15.13 | 85.00935929 | -0.107945711 | 0.2192599 | -0.492319 | 0.622494 | 0.957354 |
| CDPF1 | 103.8380486 | 0.171046165 | 0.1962453 | 0.8715935 | 0.38343 | 0.895192 |
| BX322665.2 | 10.20715938 | -0.00926338 | 0.6182577 | -0.014983 | 0.988046 | NA |
| si:dkey-7i4.9 | 122.6352524 | -0.125795871 | 0.1860436 | -0.676164 | 0.498937 | 0.934006 |
| BX284666.3 | 0.838778893 | -0.672501496 | 2.3563046 | -0.285405 | 0.775334 | NA |
| BX465834.1 | 447.0387691 | -0.244335469 | 0.1239154 | -1.971793 | 0.048633 | 0.433734 |
| si:dkey-172k15.6 | 25.92849183 | -0.376355867 | 0.3842254 | -0.979518 | 0.327324 | 0.872658 |
| si:dkey-222h21.2 | 0.316103113 | 0.005883447 | 3.3519121 | 0.0017553 | 0.9986 | NA |
| CR931763.1 | 0.317831496 | 1.808837541 | 3.5779923 | 0.5055454 | 0.613176 | NA |
| BX005108.1 | 0.839060883 | -0.561237798 | 2.0216937 | -0.277608 | 0.781313 | NA |
| CR925709.3 | 0 | NA | NA | NA | NA | NA |
| si:ch211-196c10.15 | 6.796686174 | -0.974709666 | 0.7855512 | -1.240797 | 0.214681 | NA |
| CU657925.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX957357.1 | 0 | NA | NA | NA | NA | NA |
| si:dkey-21e2.12 | 0 | NA | NA | NA | NA | NA |
| si:ch211-234p6.9 | 0.814536469 | 0.637862482 | 2.230678 | 0.28595 | 0.774916 | NA |
| BX890591.1 | 5.611007012 | -1.68165883 | 0.8504692 | -1.977331 | 0.048004 | NA |
| znf423 | 0.808333769 | -0.605422531 | 2.2351432 | -0.270865 | 0.786495 | NA |
| CT573344.2 | 0 | NA | NA | NA | NA | NA |
| pimr186 | 2.691609549 | -0.00363273 | 1.1561864 | -0.003142 | 0.997493 | NA |
| si:ch211-271e10.1 | 1.757887666 | 0.078280266 | 1.5913271 | 0.0491918 | 0.960766 | NA |
| AL953903.3 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:dkey-73p2.1 | 1.964195297 | 0.468413351 | 1.323575 | 0.3539001 | 0.723414 | NA |
| si:ch1073-75o15.3 | 0.847782112 | 0.655103352 | 2.1028616 | 0.3115295 | 0.755398 | NA |
| sox11b | 1189.021064 | 0.165768057 | 0.0874234 | 1.896151 | 0.05794 | 0.472262 |
| si:dkey-269i1.4 | 0 | NA | NA | NA | NA | NA |
| si:ch73-138e16.3 | 43.94553955 | -0.020708433 | 0.2898803 | -0.071438 | 0.943049 | 0.993364 |
| si:zfos-2330d3.7 | 0.513487682 | -0.887846295 | 2.6557956 | -0.334305 | 0.738149 | NA |
| cxcl11.8 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| taar18j | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| fdxacb1 | 87.41163413 | -0.134745634 | 0.2174038 | -0.619794 | 0.535393 | 0.943336 |
| leg1.2 | 98.29571808 | -0.183392884 | 0.2489574 | -0.736644 | 0.461339 | 0.922161 |
| CR377211.4 | 2.308238551 | -0.81758949 | 1.2920505 | -0.632784 | 0.526874 | NA |
| si:dkey-234h16.7 | 211.8671052 | -0.148931294 | 0.1489476 | -0.999891 | 0.317363 | 0.867404 |
| BX465864.2 | 0 | NA | NA | NA | NA | NA |
| si:ch211-190k17.19 | 0 | NA | NA | NA | NA | NA |
| si:dkey-28d5.1 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:ch73-222f22.2 | 0 | NA | NA | NA | NA | NA |
| dio3b | 100.4829287 | -0.055536795 | 0.2055041 | -0.270247 | 0.786971 | 0.976596 |
| si:dkey-11o1.2 | 1.539005366 | 0.350453901 | 1.6299364 | 0.2150108 | 0.829759 | NA |
| zgc:194906 | 0.88633 | -0.542564367 | 2.3109422 | -0.234781 | 0.814379 | NA |
| emd | 297.4448437 | 0.092734096 | 0.1279582 | 0.7247221 | 0.468623 | 0.924328 |
| si:ch211-122114.6 | 0 | NA | NA | NA | NA | NA |
| hccsa.2 | 0.981822431 | -1.031556312 | 1.9826505 | -0.520292 | 0.60286 | NA |
| si:ch211-218h8.3 | 1.518295521 | -0.302185166 | 1.6161124 | -0.186983 | 0.851674 | NA |

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| AL928725.1 | | 0 NA | NA | NA | NA | NA |
| CR769777.2 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |
| CR854897.2 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| BX908740.1 | 0.349228403 | 0.005884014 | 3.2372587 | 0.0018176 | 0.99855 | NA |
| CR352226.1 | 1.000443831 | 3.450160141 | 2.0458237 | 1.6864406 | 0.091711 | NA |
| si:dkey-249d8.1 | 9.05961115 | -0.510958221 | 0.6725015 | -0.759787 | 0.447382 | NA |
| BX511100.3 | 0.959666193 | -3.394558403 | 2.232981 | -1.520191 | 0.128463 | NA |
| AL928685.1 | | 0 NA | NA | NA | NA | NA |
| BX936406.1 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| ghrhr1 | 1.86120087 | -0.798548741 | 1.3883063 | -0.575196 | 0.565158 | NA |
| ccr8.1 | 7.920588898 | -0.064926293 | 0.7133765 | -0.091013 | 0.927483 | NA |
| FP067424.1 | 12.94855815 | -0.251850723 | 0.5460069 | -0.461259 | 0.644613 | 0.96029 |
| si:dkey-85n7.8 | 13.81135993 | -0.811274587 | 0.5155316 | -1.573666 | 0.115565 | 0.637206 |
| FP103048.1 | | 0 NA | NA | NA | NA | NA |
| si:dkey-87o1.2 | 247.1456375 | -0.032362865 | 0.1359435 | -0.238061 | 0.811834 | 0.981081 |
| BX666064.1 | 1.011020583 | -2.242667267 | 2.1244332 | -1.055654 | 0.291126 | NA |
| CU633916.1 | 11.27046255 | 0.32333583 | 0.5814138 | 0.55612 | 0.578129 | 0.951024 |
| si:ch211-105n15.1 | | 0 NA | NA | NA | NA | NA |
| BX649485.2 | 12.29096417 | -0.711304026 | 0.6197278 | -1.147769 | 0.251064 | 0.820469 |
| si:ch1073-155h21.2 | 504.2940092 | 0.144446223 | 0.1245971 | 1.1593066 | 0.246331 | 0.816376 |
| BX649485.3 | 1.450319813 | 1.821033431 | 1.7709124 | 1.0283024 | 0.303808 | NA |
| CT027631.1 | 0.339758314 | 0.005883863 | 3.2682461 | 0.0018003 | 0.998564 | NA |
| si:dkey-16n15.6 | 11.62255225 | -0.811934446 | 0.5951057 | -1.364353 | 0.172456 | 0.731348 |
| si:ch73-362i18.1 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| hp | 155.5211948 | 0.163560806 | 0.2110284 | 0.7750655 | 0.438301 | 0.915672 |
| BX470242.1 | 1.820883314 | -0.81111314 | 1.3805197 | -0.587542 | 0.55684 | NA |
| dlg4b | 18.62995147 | 0.461432017 | 0.4894114 | 0.9428306 | 0.345768 | 0.87848 |
| BX005108.2 | 635.2610158 | 0.021656936 | 0.0955861 | 0.2265699 | 0.820758 | 0.981594 |
| BX649481.1 | | 0 NA | NA | NA | NA | NA |
| znhit6 | 154.3272081 | -0.358774637 | 0.1619837 | -2.214881 | 0.026768 | 0.315256 |
| CU855786.1 | | 0 NA | NA | NA | NA | NA |
| si:dkey-231j24.3 | 12.82993281 | 0.040523548 | 0.5616393 | 0.0721523 | 0.942481 | 0.993317 |
| BX649485.4 | 11.48430646 | -0.719747972 | 0.6320311 | -1.138786 | 0.254793 | 0.823484 |
| si:dkey-122a22.2 | 104.9374692 | 0.034807856 | 0.2200056 | 0.1582135 | 0.874289 | 0.987881 |
| BX324132.2 | 8.489836538 | 1.045563258 | 0.7292706 | 1.433711 | 0.151655 | NA |
| BX649295.1 | | 0 NA | NA | NA | NA | NA |
| ftr92 | 2.783795566 | 0.140307505 | 1.3029173 | 0.1076872 | 0.914244 | NA |
| smdtla | 100.2617342 | -0.008626223 | 0.2102303 | -0.041032 | 0.96727 | 0.996315 |
| otulina | | 0 NA | NA | NA | NA | NA |
| serpinb111 | 17.51810857 | -0.076903708 | 0.4713145 | -0.163169 | 0.870386 | 0.987421 |
| si:ch211-175f12.2 | 190.135001 | 0.427353279 | 0.1619956 | 2.6380554 | 0.008338 | 0.148141 |
| CU682777.2 | 314.9090506 | -0.841787583 | 0.1270629 | -6.624966 | 3.47E-11 | 8.92E-09 |
| alk | 232.404478 | 0.271600522 | 0.1480143 | 1.8349616 | 0.066511 | 0.50468 |
| AL954317.1 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CR354611.1 | 0.341366344 | 1.891903201 | 3.2128156 | 0.5888614 | 0.555954 | NA |
| si:dkey-185p13.1 | 0.515216064 | 0.926382026 | 2.6525479 | 0.3492423 | 0.726907 | NA |
| CR626882.2 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CU929426.1 | 2.704028249 | 1.11939469 | 1.2386107 | 0.9037502 | 0.366128 | NA |
| BX511173.1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| col24a1 | 203.6995499 | 0.333258718 | 0.1680024 | 1.9836549 | 0.047294 | 0.427031 |
| FP102167.1 | 76.67553171 | 0.154342675 | 0.2331967 | 0.6618563 | 0.508063 | 0.935734 |
| BX511100.4 | | 0 NA | NA | NA | NA | NA |
| si:dkey-239n17.6 | 9.952828185 | -0.391204007 | 0.5931453 | -0.659542 | 0.509548 | NA |
| CU672266.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |

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| CR352226.2 | 0.48448895 | 0.85344211 | 2.878836 | 0.2964539 | 0.766883 | NA |
| CT574585.1 | 0.522329263 | 0.999930388 | 2.8066578 | 0.3562709 | 0.721638 | NA |
| si:ch211-57m13.3 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:dkey-42i9.16 | 1.81297997 | -0.32088687 | 1.4512486 | -0.221111 | 0.825006 | NA |
| si:ch211-163l21.11 | 9.045616411 | 0.222274027 | 0.6922602 | 0.3210845 | 0.748146 | NA |
| CR407550.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CU683879.1 | 1.118303205 | 1.297464276 | 1.92255 | 0.6748663 | 0.499761 | NA |
| ptchl | 0 NA | NA | NA | NA | NA | NA |
| BX465849.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:ch1073-441p17.1 | 1.551499878 | -0.340953829 | 1.6673473 | -0.204489 | 0.837972 | NA |
| afp4 | 2919.842658 | 0.207158751 | 0.1941192 | 1.0671731 | 0.285894 | 0.845942 |
| ftr59 | 2.040197956 | 0.521653209 | 1.4801101 | 0.3524422 | 0.724507 | NA |
| oxrla | 1471.680302 | 0.132975319 | 0.0822807 | 1.6161179 | 0.106069 | 0.615567 |
| si:ch73-132k15.2 | 0.657977612 | -0.062339112 | 2.4345873 | -0.025606 | 0.979572 | NA |
| AL844185.1 | 0 NA | NA | NA | NA | NA | NA |
| AL845419.1 | 1.54332809 | -1.824983617 | 1.7446718 | -1.046033 | 0.295546 | NA |
| FP067424.2 | 0 NA | NA | NA | NA | NA | NA |
| CR352226.3 | 1.545569125 | 1.051525788 | 1.5511744 | 0.6778901 | 0.497841 | NA |
| CU993818.1 | 7.466702714 | -1.29655579 | 0.7090507 | -1.82858 | 0.067463 | NA |
| wdr46 | 577.0590895 | -0.10666255 | 0.0977464 | -1.091255 | 0.275161 | 0.839541 |
| FP325358.1 | 0 NA | NA | NA | NA | NA | NA |
| BX001026.1 | 0.31598276 | 0.005883445 | 3.3523626 | 0.001755 | 0.9986 | NA |
| si:ch211-57m13.9 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:ch211-158m24.12 | 0 NA | NA | NA | NA | NA | NA |
| BX248517.1 | 0.339758314 | 0.005883863 | 3.2682461 | 0.0018003 | 0.998564 | NA |
| znf236 | 320.3841742 | 0.021014669 | 0.1295655 | 0.1621934 | 0.871154 | 0.987754 |
| si:ch73-3019.1 | 2.66359034 | 1.122956291 | 1.1792584 | 0.9522564 | 0.340967 | NA |
| CR339054.1 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-85n7.7 | 2.068526896 | 0.533299241 | 1.346359 | 0.3961048 | 0.692028 | NA |
| BX511250.1 | 0.638219549 | -2.807461932 | 2.539214 | -1.105642 | 0.268881 | NA |
| BX571828.1 | 0.31598276 | 0.005883445 | 3.3523626 | 0.001755 | 0.9986 | NA |
| pou3f3b | 1360.891357 | -0.018315256 | 0.0827378 | -0.221365 | 0.824808 | 0.982196 |
| atp5fle | 1724.689364 | 0.105469559 | 0.1217555 | 0.8662405 | 0.386358 | 0.89551 |
| BX664742.1 | 0 NA | NA | NA | NA | NA | NA |
| BX088696.2 | 1.145453202 | -0.38209434 | 1.8398115 | -0.207681 | 0.835478 | NA |
| col18a1b | 299.1790176 | 0.340130715 | 0.1245509 | 2.7308574 | 0.006317 | 0.121156 |
| si:ch211-57m13.10 | 1.477191074 | 4.017654067 | 1.8024171 | 2.2290369 | 0.025811 | NA |
| prpf31 | 806.0850206 | 0.081560178 | 0.0883878 | 0.9227538 | 0.356136 | 0.883148 |
| BX927181.2 | 0.810062152 | 0.536965757 | 2.3785369 | 0.2257546 | 0.821392 | NA |
| CR848047.1 | 1270.908332 | -0.130828066 | 0.0848236 | -1.542355 | 0.122987 | 0.65095 |
| AL928685.2 | 36.55183388 | 0.113400162 | 0.3170366 | 0.357688 | 0.720577 | 0.969364 |
| sat1a.2 | 1655.139548 | 0.073251958 | 0.1115241 | 0.6568264 | 0.511293 | 0.936253 |
| BX539325.1 | 1.338594115 | 1.65163228 | 1.7855437 | 0.9250024 | 0.354965 | NA |
| si:ch211-149b19.4 | 48.50869174 | 0.080751221 | 0.2945566 | 0.274145 | 0.783973 | 0.97627 |
| si:dkey-229b18.3 | 397.339112 | 0.08209392 | 0.1116103 | 0.7355409 | 0.46201 | 0.922621 |
| si:ch1073-324l1.1 | 21.68001147 | -0.162407812 | 0.4096275 | -0.396477 | 0.691753 | 0.967305 |
| si:dkey-209n16.2 | 14.49249091 | 0.169237652 | 0.5434806 | 0.311396 | 0.7555 | 0.975318 |
| col6a3 | 10.29260504 | 0.538076874 | 0.6138624 | 0.8765431 | 0.380735 | NA |
| CR450738.1 | 0.317831496 | 1.808837541 | 3.5779923 | 0.5055454 | 0.613176 | NA |
| si:ch211-274k16.9 | 0 NA | NA | NA | NA | NA | NA |
| si:ch73-236e11.2 | 7.912713642 | -0.159561344 | 0.6986136 | -0.228397 | 0.819338 | NA |
| AL929171.1 | 0.356300316 | 0.005884122 | 3.214964 | 0.0018302 | 0.99854 | NA |
| si:ch1073-325m22.2 | 2845.670048 | -0.007972682 | 0.0808598 | -0.098599 | 0.921457 | 0.992138 |
| CR855300.1 | 108.7155776 | -0.032096705 | 0.1996571 | -0.160759 | 0.872283 | 0.987846 |

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| si:dkey-258f14.7 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:ch211-57m13.1 | 0.349228403 | 0.005884014 | 3.2372587 | 0.0018176 | 0.99855 | NA |
| BX664742.2 | 0.871557666 | 0.705131062 | 2.2070113 | 0.3194959 | 0.74935 | NA |
| myha | 389.448176 | 0.648962692 | 0.1584653 | 4.0952992 | 4.22E-05 | 0.002358 |
| CU856621.1 | 0.649418021 | -1.460710349 | 2.4263694 | -0.602015 | 0.547164 | NA |
| si:dkey-151m22.8 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| tmem265 | 102.6768835 | -0.194650864 | 0.1953519 | -0.996411 | 0.31905 | 0.867746 |
| si:ch73-226113.2 | 14.43575834 | -0.320411913 | 0.5223757 | -0.613374 | 0.539629 | 0.94408 |
| si:dkey-19a16.12 | 1.328773011 | -0.730366326 | 1.5986317 | -0.45687 | 0.647765 | NA |
| CT573247.1 | 2.023223612 | -0.941421312 | 1.4034182 | -0.670806 | 0.502344 | NA |
| BX324207.1 | 5.687724652 | 0.499790397 | 0.8256271 | 0.6053464 | 0.544949 | NA |
| si:ch73-103b2.1 | 1.767480521 | 0.240005077 | 1.5017509 | 0.1598168 | 0.873025 | NA |
| CR936359.1 | 0 | NA | NA | NA | NA | NA |
| si:ch73-341k19.1 | 44.32376033 | 0.265683925 | 0.3035669 | 0.8752072 | 0.381461 | 0.895192 |
| adkb | 641.7708089 | 0.228635979 | 0.1059065 | 2.1588483 | 0.030862 | 0.33998 |
| BX511100.5 | 1.779775612 | -0.289480223 | 1.45627 | -0.198782 | 0.842433 | NA |
| si:dkey-22i16.9 | 3.005554197 | -1.370733674 | 1.1560305 | -1.185725 | 0.235731 | NA |
| BX465868.1 | 0 | NA | NA | NA | NA | NA |
| BX890562.2 | 1.139989318 | 0.439423795 | 1.8430523 | 0.2384218 | 0.811554 | NA |
| CR352226.4 | 0 | NA | NA | NA | NA | NA |
| si:ch211-57m13.6 | 0 | NA | NA | NA | NA | NA |
| BX571828.2 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX927257.1 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CU467655.1 | 29.51288283 | 0.728269566 | 0.3724109 | 1.9555536 | 0.050518 | 0.440643 |
| fhdc5 | 2.923459989 | 0.534733584 | 1.1796534 | 0.4532972 | 0.650335 | NA |
| si:ch73-361h17.1 | 40.26668354 | 0.039051226 | 0.3179759 | 0.1228119 | 0.902256 | 0.990121 |
| BX005108.3 | 13.13454251 | -0.43441411 | 0.6293352 | -0.690275 | 0.490021 | 0.931926 |
| zgc:171699 | 0.341486697 | 1.892317624 | 3.2124068 | 0.5890654 | 0.555817 | NA |
| AL590145.1 | 0 | NA | NA | NA | NA | NA |
| erlin2 | 0 | NA | NA | NA | NA | NA |
| si:ch73-106g13.1 | 10.07504237 | -0.180639319 | 0.6145849 | -0.293921 | 0.768818 | NA |
| CU856621.2 | 5.922507671 | -0.978355302 | 0.8800029 | -1.111764 | 0.26624 | NA |
| BX511100.6 | 0.688945432 | -0.015421672 | 2.3988056 | -0.006429 | 0.994871 | NA |
| si:ch73-211113.2 | 377.8694057 | -0.018954367 | 0.1231727 | -0.153884 | 0.877701 | 0.987881 |
| si:ch73-261i21.2 | 1.710577264 | 0.023065194 | 1.4878009 | 0.0155029 | 0.987631 | NA |
| CU469420.3 | 2.143268195 | -0.241278784 | 1.3326509 | -0.181052 | 0.856327 | NA |
| si:ch211-161n3.5 | 4.81748333 | 0.340684153 | 0.9311622 | 0.3658698 | 0.714462 | NA |
| CR391978.1 | 0 | NA | NA | NA | NA | NA |
| AL807749.1 | 0 | NA | NA | NA | NA | NA |
| si:ch211-64i20.5_2 | 0 | NA | NA | NA | NA | NA |
| AL935166.1 | 102.3516636 | -0.272780745 | 0.2023896 | -1.3478 | 0.177723 | 0.738343 |
| BX469910.1 | 0 | NA | NA | NA | NA | NA |
| znf1073 | 8.694907088 | 0.597923794 | 0.6570651 | 0.9099917 | 0.362827 | NA |
| CR383662.4 | 1.681028097 | -1.234623942 | 1.5615249 | -0.790653 | 0.429147 | NA |
| BX323801.1 | 0.889079191 | 3.262746891 | 2.2913259 | 1.4239558 | 0.154459 | NA |
| znf1112 | 14.30250916 | -0.013723 | 0.5179249 | -0.026496 | 0.978862 | 0.996762 |
| CR388052.1 | 27.04932765 | 0.287397407 | 0.3935878 | 0.7301989 | 0.465269 | 0.923717 |
| si:dkey-29j8.2 | 5.957158246 | -0.177931236 | 0.8821441 | -0.201703 | 0.840149 | NA |
| si:dkey-240n22.8 | 7.923520214 | -0.858212597 | 0.682005 | -1.258367 | 0.208259 | NA |
| atp5md | 1069.322616 | -0.183078853 | 0.2498251 | -0.732828 | 0.463663 | 0.922875 |
| CT027801.1 | 2.762120739 | -0.512131646 | 1.1539238 | -0.443818 | 0.657174 | NA |
| BX901962.1 | 0 | NA | NA | NA | NA | NA |
| si:dkey-21h14.15 | 0 | NA | NA | NA | NA | NA |
| si:dkeyp-4f2.3 | 19.11052903 | -0.299129819 | 0.4546901 | -0.657876 | 0.510618 | 0.936253 |

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| znf1115 | 25.03062923 | -0.037135541 | 0.395675 | -0.093854 | 0.925225 | 0.992676 |
| znf1146 | 1.662947089 | 0.022927706 | 1.4800892 | 0.0154908 | 0.987641 | NA |
| BX649337.1 | 1.467249618 | 0.931888212 | 1.6630798 | 0.5603388 | 0.575248 | NA |
| BX005012.3 | 2.584185499 | 0.694490974 | 1.3012088 | 0.5337275 | 0.59353 | NA |
| si:ch211-178j18.4 | 0 | NA | NA | NA | NA | NA |
| si:dkey-4e4.1 | 13.86895493 | 0.141352505 | 0.5058626 | 0.2794287 | 0.779916 | 0.976146 |
| si:dkey-262g12.7 | 17.27581078 | -0.278642961 | 0.4517966 | -0.616744 | 0.537403 | 0.943336 |
| si:ch73-6k14.2 | 97.36174994 | 0.341099821 | 0.2169004 | 1.5726101 | 0.115809 | 0.637943 |
| si:ch73-289h5.5 | 0 | NA | NA | NA | NA | NA |
| si:ch211-214j24.14 | 234.4860067 | -0.068135479 | 0.1395856 | -0.488127 | 0.62546 | 0.957354 |
| BX784029.1 | 0 | NA | NA | NA | NA | NA |
| si:ch211-162i8.2 | 2.276132826 | -0.041240912 | 1.3267094 | -0.031085 | 0.975202 | NA |
| BX548032.2 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:ch73-263o4.4 | 75.216812 | 0.201013788 | 0.2288944 | 0.8781945 | 0.379838 | 0.895192 |
| BX649307.1 | 40.45117788 | -0.026401159 | 0.3212412 | -0.082185 | 0.9345 | 0.992702 |
| si:dkey-21h14.3 | 0.500282092 | 2.45023829 | 2.5970012 | 0.9434876 | 0.345432 | NA |
| CR788248.1 | 0 | NA | NA | NA | NA | NA |
| ccl39a.10 | 0 | NA | NA | NA | NA | NA |
| si:dkey-191j3.1 | 5.937816895 | -0.177563784 | 0.774843 | -0.229161 | 0.818744 | NA |
| si:dkeyp-100h4.4 | 0.507044276 | -2.459587493 | 2.7586536 | -0.89159 | 0.372613 | NA |
| si:dkey-156k2.7 | 0 | NA | NA | NA | NA | NA |
| BX957333.1 | 0 | NA | NA | NA | NA | NA |
| si:dkeyp-100h4.7 | 0 | NA | NA | NA | NA | NA |
| taar20i | 0.698456806 | 0.09172817 | 2.5265115 | 0.0363063 | 0.971038 | NA |
| BX927253.1 | 0 | NA | NA | NA | NA | NA |
| coll19a1 | 17.8601071 | -0.27334975 | 0.4578418 | -0.59704 | 0.550481 | 0.946549 |
| BX649516.2 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX649516.3 | 0.340386822 | -1.882368278 | 3.2159502 | -0.585323 | 0.558331 | NA |
| CR381686.3 | 0 | NA | NA | NA | NA | NA |
| LRRC56 | 16.49457978 | 0.248072504 | 0.4868443 | 0.5095521 | 0.610365 | 0.95688 |
| si:dkey-21h14.8 | 31.85878696 | 0.434049532 | 0.3434771 | 1.2636927 | 0.20634 | 0.774011 |
| si:dkey-256i11.6 | 0.547712847 | 2.559541715 | 2.9076406 | 0.8802813 | 0.378707 | NA |
| si:ch211-208g1.1 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| taar20j | 0 | NA | NA | NA | NA | NA |
| taar20a | 0.323844819 | -1.825095364 | 3.274639 | -0.557342 | 0.577293 | NA |
| BX927253.2 | 8.244327063 | -0.466961488 | 0.6693078 | -0.697678 | 0.485378 | NA |
| BX548032.3 | 69.28712785 | -0.054805517 | 0.2477234 | -0.221237 | 0.824908 | 0.982196 |
| buc | 2.152391767 | 0.263881274 | 1.2940365 | 0.203921 | 0.838415 | NA |
| si:dkeyp-98a7.4 | 0 | NA | NA | NA | NA | NA |
| BX649399.1 | 0 | NA | NA | NA | NA | NA |
| BX465862.2 | 2.23130091 | -0.00402286 | 1.3767331 | -0.002922 | 0.997669 | NA |
| BX000981.5 | 0.530029684 | -0.939524117 | 2.7937867 | -0.336291 | 0.736652 | NA |
| BX957333.2 | 0 | NA | NA | NA | NA | NA |
| CU326364.1 | 1.782724223 | 1.405699597 | 1.4922252 | 0.9420157 | 0.346185 | NA |
| BX942819.3 | 0.522329263 | 0.999930388 | 2.8066578 | 0.3562709 | 0.721638 | NA |
| BX649516.4 | 5.633634618 | -0.671646721 | 0.7939643 | -0.845941 | 0.397586 | NA |
| si:dkeyp-100h4.2 | 0 | NA | NA | NA | NA | NA |
| zgc:123278 | 2.615221348 | 0.33986507 | 1.1563676 | 0.2939075 | 0.768829 | NA |
| CU570689.1 | 0 | NA | NA | NA | NA | NA |
| BX784029.2 | 0 | NA | NA | NA | NA | NA |
| ost4 | 447.7131814 | -0.410506945 | 0.1495495 | -2.744957 | 0.006052 | 0.117821 |
| CR392001.2 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:ch73-266f23.3 | 131.2765409 | -0.250987949 | 0.1836191 | -1.366894 | 0.171658 | 0.730287 |
| CR381686.4 | 1.694543416 | -0.576433298 | 1.4371675 | -0.40109 | 0.688354 | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| BX469910.2 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| BX649349.2 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX119963.1 | 12.9939105 | -0.251093296 | 0.5284202 | -0.475177 | 0.634661 | 0.9578 |
| CR388190.1 | 0 NA | NA | NA | NA | NA | NA |
| zgc:173624 | 29.71046586 | -0.304802959 | 0.3649373 | -0.83522 | 0.403594 | 0.900979 |
| CR388378.1 | 0.665211163 | 0.04738924 | 2.3079847 | 0.0205327 | 0.983618 | NA |
| CR388052.2 | 0.514116189 | -2.475533565 | 2.7461255 | -0.901464 | 0.367342 | NA |
| BX465862.3 | 3.805476467 | -0.646204398 | 0.9647922 | -0.669786 | 0.502994 | NA |
| CU469420.4 | 5.975817603 | -0.190220759 | 0.8076251 | -0.235531 | 0.813797 | NA |
| si:dkey-21h14.9 | 3.492510346 | -0.139895615 | 1.0216297 | -0.136934 | 0.891083 | NA |
| CU695141.1 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-21h14.12 | 0.339758314 | 0.005883863 | 3.2682461 | 0.0018003 | 0.998564 | NA |
| BX469918.1 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX927135.1 | 0.365141898 | 1.973577737 | 3.3927314 | 0.5817076 | 0.560764 | NA |
| BX664605.1 | 0 NA | NA | NA | NA | NA | NA |
| taar20g | 0 NA | NA | NA | NA | NA | NA |
| taar20b | 0 NA | NA | NA | NA | NA | NA |
| FP015809.1 | 0 NA | NA | NA | NA | NA | NA |
| znf1113 | 2.356889534 | 0.084018267 | 1.2934489 | 0.0649568 | 0.948208 | NA |
| CU469524.1 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-21h14.12 | 0.679983498 | -1.527277543 | 2.5551009 | -0.597737 | 0.550016 | NA |
| si:dkey-247i3.5 | 6.236430567 | 0.583597076 | 0.7714155 | 0.7565276 | 0.449333 | NA |
| si:dkey-21h14.10 | 0 NA | NA | NA | NA | NA | NA |
| CT027801.2 | 2.860267333 | 1.309207479 | 1.19596 | 1.0946917 | 0.273652 | NA |
| si:dkey-54j5.2 | 3.622946803 | -0.803326313 | 0.9844146 | -0.816045 | 0.414475 | NA |
| CR381664.1 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-112b1.2 | 2.935021932 | 0.96305317 | 1.1805639 | 0.8157569 | 0.414639 | NA |
| CR381664.2 | 0 NA | NA | NA | NA | NA | NA |
| BX649518.1 | 0 NA | NA | NA | NA | NA | NA |
| si:ch73-263o4.3 | 0.339758314 | 0.005883863 | 3.2682461 | 0.0018003 | 0.998564 | NA |
| si:dkeyp-100h4.8 | 0 NA | NA | NA | NA | NA | NA |
| znf1050 | 16.49645733 | -0.197289767 | 0.4991575 | -0.395246 | 0.692662 | 0.96736 |
| si:ch211-197k17.3 | 297.6856411 | 0.019366601 | 0.1356611 | 0.1427572 | 0.886482 | 0.988936 |
| CR293502.1 | 1.014439566 | 0.061150899 | 1.9310049 | 0.0316679 | 0.974737 | NA |
| si:dkey-51d8.9 | 9.082260333 | -1.034600036 | 0.6379788 | -1.621684 | 0.104871 | NA |
| BX784029.3 | 0.317831496 | 1.808837541 | 3.5779923 | 0.5055454 | 0.613176 | NA |
| si:ch211-245n8.4 | 25.38632829 | -0.19635723 | 0.3965397 | -0.495177 | 0.620475 | 0.957354 |
| nr6ala | 0 NA | NA | NA | NA | NA | NA |
| znf1072 | 0.961274223 | -2.176123588 | 2.1499397 | -1.012179 | 0.311453 | NA |
| si:dkey-260c8.8 | 21.64500636 | -0.332157233 | 0.4165469 | -0.797407 | 0.425215 | 0.908835 |
| BX548046.1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:dkey-260c8.6 | 4.781996652 | -0.501132016 | 0.8541198 | -0.586723 | 0.55739 | NA |
| tac4 | 0 NA | NA | NA | NA | NA | NA |
| BX936397.1 | 3.299263622 | -0.558861362 | 1.0363901 | -0.539238 | 0.589722 | NA |
| pimr206 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-3d18.5 | 2.801139995 | 0.194813883 | 1.1550565 | 0.1686618 | 0.866063 | NA |
| FP017151.1 | 8.804028527 | -0.26553725 | 0.6311389 | -0.420727 | 0.673954 | NA |
| ighv7-1 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-76123.4 | 400.2766187 | 0.408637317 | 0.132027 | 3.0951033 | 0.001967 | 0.052931 |
| ighv1-3 | 0 NA | NA | NA | NA | NA | NA |
| ighv4-3 | 0 NA | NA | NA | NA | NA | NA |
| CU633478.1 | 0.982063136 | -1.030975913 | 1.9824747 | -0.520045 | 0.603032 | NA |
| ighd | 0 NA | NA | NA | NA | NA | NA |
| aplml | 1491.423058 | 0.072555476 | 0.0975001 | 0.7441579 | 0.456781 | 0.921215 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| CT573429.2 | 2.594552787 | -0.001580917 | 1.181351 | -0.001338 | 0.998932 | NA |
| artna | 0 | NA | NA | NA | NA | NA |
| ighv8-1 | 0 | NA | NA | NA | NA | NA |
| BX548060.1 | 3.288253285 | -0.03222391 | 1.045262 | -0.030829 | 0.975406 | NA |
| si:ch73-367p23.2 | 21310.93091 | 0.318054219 | 0.0812076 | 3.916559 | 8.98E-05 | 0.004474 |
| si:dkey-15f23.1 | 0.317831496 | 1.808837541 | 3.5779923 | 0.5055454 | 0.613176 | NA |
| ighv4-1 | 0 | NA | NA | NA | NA | NA |
| BX908803.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| CU862078.1 | 0.813556947 | -1.876896976 | 2.1385771 | -0.877638 | 0.38014 | NA |
| or124-4 | 0 | NA | NA | NA | NA | NA |
| BX247899.1 | 0 | NA | NA | NA | NA | NA |
| BX510989.1 | 9.879866371 | 1.210214521 | 0.6287828 | 1.924694 | 0.054268 | NA |
| ighv5-2 | 0 | NA | NA | NA | NA | NA |
| ighv4-7 | 0 | NA | NA | NA | NA | NA |
| CR388364.1 | 6.92428858 | -0.148505188 | 0.723408 | -0.205286 | 0.837349 | NA |
| BX548046.2 | 63.39029898 | -0.181643618 | 0.2496877 | -0.727483 | 0.46693 | 0.924328 |
| 7-Mar | 132.1409885 | -0.154576943 | 0.1762366 | -0.877099 | 0.380433 | 0.895192 |
| si:dkey-3n22.9 | 11.94484752 | 0.160194825 | 0.5465126 | 0.2931219 | 0.769429 | 0.975687 |
| si:ch211-251g8.5 | 0 | NA | NA | NA | NA | NA |
| ighv4-2 | 0 | NA | NA | NA | NA | NA |
| ighv6-1 | 0 | NA | NA | NA | NA | NA |
| CR786578.1 | 0 | NA | NA | NA | NA | NA |
| nkD3 | 0.476747244 | 2.393381959 | 3.0525537 | 0.7840589 | 0.433006 | NA |
| ighz | 0.987447952 | -2.180143481 | 2.1065994 | -1.034911 | 0.30071 | NA |
| CU695199.1 | 0.339758314 | 0.005883863 | 3.2682461 | 0.0018003 | 0.998564 | NA |
| BX005368.1 | 1.612179921 | -1.230089424 | 1.6172772 | -0.760593 | 0.4469 | NA |
| BX510989.2 | 0 | NA | NA | NA | NA | NA |
| BX323555.3 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| ighv4-8 | 0 | NA | NA | NA | NA | NA |
| AL929243.1 | 69.02452565 | 0.486716055 | 0.2431545 | 2.0016743 | 0.04532 | 0.418148 |
| ighj1-2 | 0 | NA | NA | NA | NA | NA |
| BX649612.1 | 0.967826695 | 2.172518087 | 2.1451904 | 1.012739 | 0.311185 | NA |
| CR936968.1 | 0.807543623 | 0.548915946 | 2.1288858 | 0.2578419 | 0.796529 | NA |
| CR954285.1 | 0 | NA | NA | NA | NA | NA |
| CR786578.2 | 0.524057646 | 2.503896172 | 2.7289583 | 0.9175282 | 0.358866 | NA |
| CR847785.1 | 3.480497245 | 0.159394757 | 1.0755009 | 0.1482051 | 0.882181 | NA |
| ighv1-4 | 0 | NA | NA | NA | NA | NA |
| ighv6-2 | 0 | NA | NA | NA | NA | NA |
| btr31 | 19.26308425 | -0.278594705 | 0.4481047 | -0.621718 | 0.534127 | 0.943276 |
| si:ch73-269m14.3 | 0 | NA | NA | NA | NA | NA |
| si:ch1073-342h5.2 | 61.31363475 | -0.042119762 | 0.268142 | -0.15708 | 0.875182 | 0.987881 |
| si:ch73-379f7.5 | 12.88992735 | -0.087106564 | 0.5357048 | -0.162602 | 0.870832 | 0.987683 |
| ighv5-4 | 0 | NA | NA | NA | NA | NA |
| AL627258.1 | 0 | NA | NA | NA | NA | NA |
| wu:fj64h06 | 109.1654421 | 0.324798512 | 0.2001339 | 1.6229063 | 0.104609 | 0.612567 |
| si:dkey-211g8.8 | 0.687845557 | -2.894878771 | 2.482332 | -1.166193 | 0.243536 | NA |
| BX957317.2 | 14.38009576 | -0.09430196 | 0.4933809 | -0.191134 | 0.84842 | 0.985174 |
| FP236454.1 | 0.497574187 | -2.437446738 | 2.6012773 | -0.937019 | 0.348749 | NA |
| ighv10-1 | 0 | NA | NA | NA | NA | NA |
| CU571254.1 | 4.015558471 | -0.974719357 | 0.9927193 | -0.981868 | 0.326165 | NA |
| ighv5-8 | 0 | NA | NA | NA | NA | NA |
| si:ch211-239j9.1 | 717.5989005 | -0.002196445 | 0.0934311 | -0.023509 | 0.981244 | 0.996944 |
| CR352253.1 | 0 | NA | NA | NA | NA | NA |
| ighj2-1 | 0 | NA | NA | NA | NA | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| si:ch73-379f7.4 | 1.679891435 | 0.058551884 | 1.5481587 | 0.0378203 | 0.969831 | NA |
| BX571681.4 | 1.35741394 | 1.61342852 | 1.8633764 | 0.8658629 | 0.386565 | NA |
| CU695077.1 | 0 NA | NA | NA | NA | NA | NA |
| ighv4-9 | 0 NA | NA | NA | NA | NA | NA |
| cd16412 | 112.6063265 | 0.076496592 | 0.2003255 | 0.3818615 | 0.702564 | 0.968134 |
| ighj2-5 | 0 NA | NA | NA | NA | NA | NA |
| si:ch73-248e21.7 | 13.46062677 | 0.108657648 | 0.5121791 | 0.2121478 | 0.831992 | 0.98349 |
| ighv4-6 | 0 NA | NA | NA | NA | NA | NA |
| BX323079.1 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| ighv5-1 | 0 NA | NA | NA | NA | NA | NA |
| CR792438.1 | 4.773025669 | 0.723510502 | 0.9318318 | 0.7764389 | 0.43749 | NA |
| ighv8-2 | 0 NA | NA | NA | NA | NA | NA |
| ighv5-5 | 0 NA | NA | NA | NA | NA | NA |
| ighv4-5 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-85n16.3 | 128.0150553 | 0.087420724 | 0.1827459 | 0.478373 | 0.632385 | 0.957356 |
| CR792426.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| ighv1-2 | 0 NA | NA | NA | NA | NA | NA |
| ighj1-1 | 0 NA | NA | NA | NA | NA | NA |
| BX957260.1 | 0.333314908 | -1.858695402 | 3.5126701 | -0.52914 | 0.596708 | NA |
| ighv1-4 | 0.954322662 | -2.166551746 | 2.1536321 | -1.005999 | 0.314416 | NA |
| FP236809.1 | 0 NA | NA | NA | NA | NA | NA |
| ighv3-2 | 0 NA | NA | NA | NA | NA | NA |
| BX957344.1 | 0.339758314 | 0.005883863 | 3.2682461 | 0.0018003 | 0.998564 | NA |
| eppkl | 75.46879131 | -0.438009757 | 0.2588404 | -1.6922 | 0.090608 | 0.576398 |
| si:ch211-229c8.14 | 0 NA | NA | NA | NA | NA | NA |
| BX927298.1 | 0.862554446 | -0.606014613 | 2.2108469 | -0.27411 | 0.784 | NA |
| si:ch211-195m9.3 | 54.62467203 | 0.112530017 | 0.2620891 | 0.4293579 | 0.667663 | 0.964736 |
| ighj2-3 | 0 NA | NA | NA | NA | NA | NA |
| fnbp1b | 1.463792852 | -0.354987176 | 1.5721664 | -0.225795 | 0.821361 | NA |
| neu3.5 | 5.165131442 | 0.694657888 | 0.8423384 | 0.824678 | 0.409554 | NA |
| CT573133.2 | 0 NA | NA | NA | NA | NA | NA |
| ighv13-2 | 0 NA | NA | NA | NA | NA | NA |
| BX936397.2 | 13.54055121 | -0.066043333 | 0.5277094 | -0.125151 | 0.900404 | 0.990121 |
| 7-Mar | 300.1539833 | 0.095683028 | 0.124914 | 0.7659912 | 0.443682 | 0.916631 |
| ighv2-3 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| BX890590.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| defb12 | 0 NA | NA | NA | NA | NA | NA |
| neu3.4 | 0.831947685 | -0.652557682 | 2.2169958 | -0.294343 | 0.768496 | NA |
| neu3.1 | 103.0882018 | -0.194598306 | 0.1937184 | -1.004542 | 0.315117 | 0.866156 |
| BX572622.1 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-162i14.1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| ighv9-3 | 0 NA | NA | NA | NA | NA | NA |
| ighv1-1 | 0 NA | NA | NA | NA | NA | NA |
| ighv5-3 | 0 NA | NA | NA | NA | NA | NA |
| sox4a | 0 NA | NA | NA | NA | NA | NA |
| ighv4-3 | 0 NA | NA | NA | NA | NA | NA |
| ighv11-1 | 0 NA | NA | NA | NA | NA | NA |
| BX511272.1 | 1.354036242 | 0.016210196 | 1.6287563 | 0.0099525 | 0.992059 | NA |
| si:ch211-276a17.5 | 89.71849477 | 0.48727667 | 0.2245047 | 2.170452 | 0.029973 | 0.335036 |
| AL935145.1 | 0 NA | NA | NA | NA | NA | NA |
| CU570787.1 | 2.040435407 | -1.51651584 | 1.4625685 | -1.036885 | 0.299789 | NA |
| CT027638.1 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| ighv2-1 | 0 NA | NA | NA | NA | NA | NA |
| ighv11-2 | 0 NA | NA | NA | NA | NA | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| CR792438.2 | 1.981998812 | 1.613635914 | 1.4278015 | 1.1301542 | 0.258411 | NA |
| si:dkey-261j15.2 | 180.5685963 | -0.132782706 | 0.1518485 | -0.874442 | 0.381878 | 0.895192 |
| si:ch211-15j1.7 | 4.506090743 | -0.535077398 | 0.8932246 | -0.59904 | 0.549146 | NA |
| CU074421.1 | 0 NA | NA | NA | NA | NA | NA |
| rafla | 72.26961864 | -0.063448253 | 0.2308529 | -0.274843 | 0.783437 | 0.97627 |
| BX470238.1 | 10.01279136 | 0.622815704 | 0.608414 | 1.023671 | 0.305991 | NA |
| ighv14-1 | 0 NA | NA | NA | NA | NA | NA |
| CU659670.1 | 325.190044 | 0.060368076 | 0.1226454 | 0.4922163 | 0.622566 | 0.957354 |
| CR936968.2 | 107.4686576 | 0.057116075 | 0.1889971 | 0.302206 | 0.762495 | 0.975374 |
| BX324146.1 | 240.7046482 | 0.044000054 | 0.138892 | 0.3167934 | 0.7514 | 0.97419 |
| pimr205 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| ighv2-2 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-217d24.6 | 285.5499913 | -0.311592294 | 0.127909 | -2.436047 | 0.014849 | 0.223115 |
| BX663606.1 | 3.557744617 | 0.458893979 | 1.038345 | 0.4419475 | 0.658527 | NA |
| ighv9-1 | 0 NA | NA | NA | NA | NA | NA |
| rock2b | 46.45566167 | 1.643239735 | 0.3155886 | 5.2069046 | 1.92E-07 | 2.47E-05 |
| BX901907.1 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| AL845295.1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX005275.1 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-26h11.1 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-214p16.3 | 34.89081531 | 0.586935319 | 0.3388393 | 1.7321937 | 0.083239 | 0.556259 |
| AL929009.1 | 0 NA | NA | NA | NA | NA | NA |
| BX005461.1 | 0.31759079 | 1.807926197 | 3.579045 | 0.5051421 | 0.613459 | NA |
| si:ch211-194e1.7 | 12.94675129 | 0.226454515 | 0.5255747 | 0.4308702 | 0.666563 | 0.964736 |
| CR391935.1 | 0.31759079 | 1.807926197 | 3.579045 | 0.5051421 | 0.613459 | NA |
| si:ch211-196f5.9 | 58.75562015 | -0.230170217 | 0.2559934 | -0.899126 | 0.368586 | 0.888057 |
| CR383672.2 | 1.705852197 | 2.016319027 | 1.6838861 | 1.1974201 | 0.231143 | NA |
| apl2 | 280.6348131 | -0.323003866 | 0.1307933 | -2.469575 | 0.013527 | 0.208651 |
| BX005275.2 | 1.306338038 | 0.741623717 | 1.7640738 | 0.420404 | 0.67419 | NA |
| si:dkey-118j18.2 | 543.9467649 | -0.027757279 | 0.1078315 | -0.257414 | 0.79686 | 0.978569 |
| si:dkey-26h11.2 | 0 NA | NA | NA | NA | NA | NA |
| CR450696.1 | 0 NA | NA | NA | NA | NA | NA |
| CR382294.1 | 0.847782112 | 0.655103352 | 2.1028616 | 0.3115295 | 0.755398 | NA |
| BX571664.1 | 0 NA | NA | NA | NA | NA | NA |
| si:dkeyp-82h4.1 | 1.665706323 | 0.021681786 | 1.5779834 | 0.0137402 | 0.989037 | NA |
| FP103106.1 | 1.842930485 | -1.373238437 | 1.4574523 | -0.942218 | 0.346081 | NA |
| si:ch211-246n15.2 | 0 NA | NA | NA | NA | NA | NA |
| BX571825.13 | 0 NA | NA | NA | NA | NA | NA |
| AL845295.2 | 0 NA | NA | NA | NA | NA | NA |
| mcat | 0 NA | NA | NA | NA | NA | NA |
| BX571825.14 | 0 NA | NA | NA | NA | NA | NA |
| BX901907.2 | 1.288455455 | -0.74775726 | 1.6799295 | -0.445112 | 0.656239 | NA |
| CU914550.1 | 1.80395351 | -0.214910589 | 1.5039205 | -0.1429 | 0.886369 | NA |
| si:dkey-16p19.8 | 0 NA | NA | NA | NA | NA | NA |
| BX571825.15 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-181p13.2 | 2.945557646 | -2.332905933 | 1.2703563 | -1.836419 | 0.066296 | NA |
| BX901907.3 | 0 NA | NA | NA | NA | NA | NA |
| BX248324.1 | 132.3321085 | 0.272028641 | 0.1902772 | 1.4296437 | 0.152819 | 0.701776 |
| si:ch211-73m21.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX901907.4 | 0.325452849 | 0.005883619 | 3.3177086 | 0.0017734 | 0.998585 | NA |
| BX571825.16 | 0 NA | NA | NA | NA | NA | NA |
| BX571705.1 | 3.044446312 | 1.847553833 | 1.2127755 | 1.5234096 | 0.127656 | NA |
| si:dkey-22h13.3 | 7.566820809 | -0.384262059 | 0.6828715 | -0.562715 | 0.573629 | NA |
| BX324003.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| BX088688.1 | 121.6778762 | -0.302845275 | 0.1876246 | -1.614103 | 0.106505 | 0.615567 |
| BX927068.1 | 0 NA | | NA | NA | NA | NA |
| BX890559.2 | 0 NA | | NA | NA | NA | NA |
| si:ch73-10311.2 | 53.58392094 | -0.552476935 | 0.2697197 | -2.048337 | 0.040527 | 0.393799 |
| si:dkey-58j15.11 | 2.487984498 | -0.158914286 | 1.2417172 | -0.127979 | 0.898165 | NA |
| si:ch211-1f22.8 | 1.967972083 | -0.443319144 | 1.3568954 | -0.326716 | 0.743883 | NA |
| BX322618.1 | 675.9060446 | -0.032043927 | 0.1032712 | -0.310289 | 0.756341 | 0.975374 |
| si:dkey-27j5.9 | 1.030981568 | 0.030822112 | 1.9223158 | 0.0160338 | 0.987207 | NA |
| BX842692.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| BX547930.2 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:ch211-286b5.2 | 4.8141847 | -0.084259839 | 0.8647521 | -0.097438 | 0.922378 | NA |
| si:dkey-58j15.10 | 1.005048545 | -0.006083169 | 1.9358873 | -0.003142 | 0.997493 | NA |
| CT033796.1 | 6.461493527 | -0.848805139 | 0.7868554 | -1.078731 | 0.280708 | NA |
| irbpl | 19.93614148 | 0.350177198 | 0.4238688 | 0.8261452 | 0.408722 | 0.90171 |
| AL929349.1 | 0 NA | | NA | NA | NA | NA |
| CR626889.1 | 1.291094336 | -0.753462392 | 1.8405577 | -0.409366 | 0.682271 | NA |
| si:ch211-176g6.1 | 0.471562095 | -2.373056629 | 3.0645586 | -0.774355 | 0.438721 | NA |
| si:ch73-94k4.5 | 0 NA | | NA | NA | NA | NA |
| AL928650.2 | 0 NA | | NA | NA | NA | NA |
| BX548015.2 | 3.67127677 | -0.271420755 | 1.020737 | -0.265907 | 0.790311 | NA |
| si:ch73-236c18.9 | 70.01947614 | -0.266047503 | 0.245104 | -1.085448 | 0.277723 | 0.841383 |
| AL929396.1 | 2.337748693 | 0.022497347 | 1.2351387 | 0.0182144 | 0.985468 | NA |
| si:dkey-202c14.3 | 5.279695442 | 0.735023563 | 0.9096143 | 0.8080607 | 0.419056 | NA |
| r1tgr | 495.7619458 | -0.545498494 | 0.1117644 | -4.88079 | 1.06E-06 | 0.000106 |
| si:dkey-27j5.10 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| CR854964.1 | 0 NA | | NA | NA | NA | NA |
| CU469541.1 | 0.330916733 | -1.849579229 | 3.2489867 | -0.569279 | 0.569167 | NA |
| BX088688.2 | 5.876191826 | 0.930866703 | 0.8158614 | 1.1409619 | 0.253886 | NA |
| BX901898.1 | 0.325452849 | 0.005883619 | 3.3177086 | 0.0017734 | 0.998585 | NA |
| BX901942.1 | 0.663603133 | -1.440371613 | 2.4108786 | -0.597447 | 0.550209 | NA |
| BX649533.1 | 0.349228403 | 0.005884014 | 3.2372587 | 0.0018176 | 0.99855 | NA |
| si:ch211-1f22.7 | 0 NA | | NA | NA | NA | NA |
| CR774189.1 | 2.347886315 | -0.386006999 | 1.2928486 | -0.298571 | 0.765267 | NA |
| si:ch211-191a16.5 | 7.930780261 | -0.509134972 | 0.6905842 | -0.737253 | 0.460969 | NA |
| nrp2a | 1515.56101 | 0.008083673 | 0.0785914 | 0.102857 | 0.918076 | 0.991623 |
| CR925879.1 | 1.132127259 | 1.350278378 | 2.0029569 | 0.6741425 | 0.500221 | NA |
| rac11 | 2.366988131 | -0.365285818 | 1.2345287 | -0.295891 | 0.767313 | NA |
| CR774192.1 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| BX681416.1 | 0 NA | | NA | NA | NA | NA |
| BX248126.1 | 0 NA | | NA | NA | NA | NA |
| si:dkey-25o16.4 | 342.9758172 | -0.009296681 | 0.1231498 | -0.075491 | 0.939824 | 0.992857 |
| CT573186.2 | 0 NA | | NA | NA | NA | NA |
| si:dkey-19f4.2 | 0 NA | | NA | NA | NA | NA |
| CR556696.1 | 8.183972462 | 0.193679434 | 0.7163822 | 0.2703577 | 0.786885 | NA |
| CU986306.1 | 0 NA | | NA | NA | NA | NA |
| BX649231.1 | 0.865423989 | 3.229020164 | 2.1645875 | 1.4917485 | 0.135765 | NA |
| wu:fj29h11 | 325.2324267 | -0.173540955 | 0.1312082 | -1.322638 | 0.185956 | 0.75038 |
| BX322603.1 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CU915827.1 | 4.962598513 | -0.571460603 | 0.8798152 | -0.649523 | 0.516 | NA |
| CR392024.1 | 1.03927371 | 2.26599918 | 2.0825649 | 1.088081 | 0.276559 | NA |
| zgc:165656 | 26.34219199 | -0.744829139 | 0.3789141 | -1.965694 | 0.049334 | 0.435504 |
| si:ch211-155o21.4 | 6.536895418 | -0.216701744 | 0.7657834 | -0.28298 | 0.777192 | NA |
| BX470128.1 | 0.473170125 | -0.833888596 | 2.9014002 | -0.287409 | 0.773799 | NA |
| BX248418.1 | 70.52376965 | 0.042191886 | 0.2313362 | 0.1823834 | 0.855282 | 0.985174 |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| si:dkey-27j5.7 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| CR382370.1 | 0 | NA | NA | NA | NA | NA |
| FP067451.1 | 1.206600957 | 0.476016095 | 1.9191448 | 0.2480355 | 0.804107 | NA |
| si:ch211-152f2.4 | 0.347458735 | -1.908042286 | 3.4571486 | -0.551912 | 0.581009 | NA |
| si:dkey-182i3.9 | 14.54116657 | -0.084884344 | 0.4982036 | -0.170381 | 0.864711 | 0.986052 |
| si:ch211-286b5.6 | 1.134337053 | 2.462221963 | 2.0582167 | 1.196289 | 0.231584 | NA |
| adgre9 | 1.778678993 | 0.758118305 | 1.6257845 | 0.4663092 | 0.640994 | NA |
| cul4a | 778.9768656 | 0.029883338 | 0.1006608 | 0.2968715 | 0.766565 | 0.97561 |
| si:dkey-9c18.3 | 0 | NA | NA | NA | NA | NA |
| BX323590.3 | 0.349228403 | 0.005884014 | 3.2372587 | 0.0018176 | 0.99855 | NA |
| AL928835.1 | 1.006226492 | -2.236625194 | 2.0993903 | -1.065369 | 0.286709 | NA |
| BX004779.1 | 0.476626891 | 2.395187592 | 2.815932 | 0.8505843 | 0.395 | NA |
| si:ch211-1f22.9 | 0 | NA | NA | NA | NA | NA |
| MFAP4 (1 of many) | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| itgam | 1.809646813 | 0.774154744 | 1.4887092 | 0.5200174 | 0.603051 | NA |
| adgre15 | 1.022611355 | 2.264378702 | 2.0087475 | 1.127259 | 0.259633 | NA |
| BX088594.1 | 0 | NA | NA | NA | NA | NA |
| BX908780.2 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| CR478288.1 | 0 | NA | NA | NA | NA | NA |
| lratb.1 | 86.22328933 | -0.174831101 | 0.2361743 | -0.740263 | 0.459141 | 0.921978 |
| BX296516.1 | 0 | NA | NA | NA | NA | NA |
| si:ch1073-228b5.2 | 96.20124849 | 0.129754826 | 0.2069446 | 0.6270027 | 0.530657 | 0.942209 |
| BX322618.2 | 0 | NA | NA | NA | NA | NA |
| AL928650.3 | 2.90638125 | -1.353498497 | 1.1917493 | -1.135724 | 0.256072 | NA |
| si:ch1073-357b18.4 | 66.84742742 | 0.180299188 | 0.2473815 | 0.7288304 | 0.466105 | 0.923865 |
| bmb | 38.9284883 | 0.371843776 | 0.323216 | 1.1504497 | 0.249959 | 0.819849 |
| si:ch73-94k4.4 | 0 | NA | NA | NA | NA | NA |
| CR626902.1 | 0.682732688 | 2.892275314 | 2.4663977 | 1.1726719 | 0.240927 | NA |
| BX649499.2 | 0 | NA | NA | NA | NA | NA |
| BX465225.1 | 0 | NA | NA | NA | NA | NA |
| CU929161.1 | 0 | NA | NA | NA | NA | NA |
| si:ch73-212j7.3 | 14.63914403 | -0.329892911 | 0.5113705 | -0.645115 | 0.518853 | 0.938919 |
| si:dkey-182i3.10 | 69.14745677 | -0.142777006 | 0.2353294 | -0.606711 | 0.544043 | 0.945438 |
| BX469930.2 | 0 | NA | NA | NA | NA | NA |
| si:ch211-255p10.3 | 1217.17886 | 0.06575682 | 0.1092161 | 0.6020797 | 0.547121 | 0.945526 |
| BX469908.1 | 2.451900306 | 1.412415922 | 1.3018513 | 1.0849288 | 0.277953 | NA |
| BX000534.1 | 0.476386185 | 2.392464142 | 3.0533824 | 0.7835455 | 0.433307 | NA |
| si:ch211-1f22.10 | 0 | NA | NA | NA | NA | NA |
| tubel | 0.805815241 | -0.598842605 | 2.1324592 | -0.280823 | 0.778847 | NA |
| si:dkey-27j5.6 | 0.316103113 | 0.005883447 | 3.3519121 | 0.0017553 | 0.9986 | NA |
| adgre16 | 1.306605487 | -0.046335721 | 1.6599707 | -0.027914 | 0.977731 | NA |
| si:ch211-1f22.13 | 0.323844819 | -1.825095364 | 3.274639 | -0.557342 | 0.577293 | NA |
| si:dkey-187i8.2 | 1.630680968 | 1.266303401 | 1.7120746 | 0.739631 | 0.459524 | NA |
| si:ch211-286b5.8 | 3.234958387 | 1.503826065 | 1.1225045 | 1.339706 | 0.180341 | NA |
| CU914144.1 | 33.55848671 | -0.031572878 | 0.339889 | -0.092892 | 0.92599 | 0.992702 |
| BX908780.3 | 0 | NA | NA | NA | NA | NA |
| buc21 | 2.005852438 | -0.474736504 | 1.3528245 | -0.350922 | 0.725647 | NA |
| BX908756.1 | 0 | NA | NA | NA | NA | NA |
| MED9 | 194.3074914 | 0.059135574 | 0.1525785 | 0.3875747 | 0.698331 | 0.967998 |
| CR382370.2 | 748.2862484 | 0.249900273 | 0.1017898 | 2.4550619 | 0.014086 | 0.214639 |
| si:ch73-94k4.1 | 0 | NA | NA | NA | NA | NA |
| si:ch211-122h15.4 | 4.709802615 | 1.330412252 | 0.9266945 | 1.4356535 | 0.151101 | NA |
| si:dkey-11c5.11 | 25.14130899 | 0.253241516 | 0.4177627 | 0.6061851 | 0.544392 | 0.945438 |
| BX510992.2 | 1.51134396 | -0.296330036 | 1.4961018 | -0.198068 | 0.842992 | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| BX276101.1 | 16.03562176 | 0.190134515 | 0.4984382 | 0.3814605 | 0.702862 | 0.968134 |
| BX649471.1 | 0 NA | NA | NA | NA | NA | NA |
| AL954187.1 | 0 NA | NA | NA | NA | NA | NA |
| BX908780.4 | 1.358520603 | -2.711649253 | 1.8448862 | -1.469819 | 0.141611 | NA |
| adgre18 | 0.831198824 | 0.593716313 | 2.0278563 | 0.2927803 | 0.76969 | NA |
| si:ch211-131k2.2 | 12.86258813 | -0.142393672 | 0.532858 | -0.267226 | 0.789295 | 0.977058 |
| BX296520.1 | 0 NA | NA | NA | NA | NA | NA |
| BX908780.5 | 0 NA | NA | NA | NA | NA | NA |
| adgre19 | 0.973452217 | 1.035664467 | 1.98712 | 0.5211887 | 0.602235 | NA |
| si:dkey-27j5.11 | 0 NA | NA | NA | NA | NA | NA |
| gpr108 | 1172.76354 | -0.03527904 | 0.0866319 | -0.407229 | 0.68384 | 0.965679 |
| si:dkey-119m7.8 | 132.9917948 | 0.661955694 | 0.1926376 | 3.4362749 | 0.00059 | 0.020129 |
| BX901920.1 | 675.8220591 | -0.088667449 | 0.1110174 | -0.798681 | 0.424476 | 0.908494 |
| si:ch211-1f22.6 | 0 NA | NA | NA | NA | NA | NA |
| BX547930.3 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:dkey-4p15.4 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:ch211-286b5.5 | 472.932033 | -0.030482206 | 0.1216901 | -0.25049 | 0.802208 | 0.979492 |
| abcc3 | 556.8210467 | -0.05914098 | 0.11817 | -0.500474 | 0.616742 | 0.956881 |
| si:dkey-249p7.4 | 2.941743078 | -1.370898796 | 1.1534601 | -1.18851 | 0.234633 | NA |
| cx134c | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:ch211-202n12.2 | 4.114456338 | 0.11405482 | 0.9583265 | 0.1190146 | 0.905264 | NA |
| si:ch211-1f22.2 | 0.490502273 | -2.421143305 | 2.7891168 | -0.868068 | 0.385357 | NA |
| hemgn | 220.9319447 | -0.071851238 | 0.1543799 | -0.465418 | 0.641632 | 0.959994 |
| MZT1 | 260.1893382 | 0.106439604 | 0.1526999 | 0.6970508 | 0.485771 | 0.930598 |
| si:ch73-301j1.1 | 4.320870622 | 0.868470345 | 1.0159595 | 0.8548277 | 0.392647 | NA |
| si:ch211-1f22.16 | 0.974991223 | -1.022830706 | 2.0964916 | -0.487877 | 0.625637 | NA |
| si:dkey-27j5.10 | 0 NA | NA | NA | NA | NA | NA |
| BX296562.1 | 0 NA | NA | NA | NA | NA | NA |
| AL845365.1 | 0 NA | NA | NA | NA | NA | NA |
| CR450698.1 | 0.317711143 | 1.810477155 | 3.2978238 | 0.5489915 | 0.583011 | NA |
| BX004780.1 | 0.659318192 | 2.852076546 | 2.5139723 | 1.1344901 | 0.256589 | NA |
| AL929237.3 | 3.356044113 | -0.534094346 | 1.0608196 | -0.503473 | 0.614632 | NA |
| BX927123.1 | 0.31598276 | 0.005883445 | 3.3523626 | 0.001755 | 0.9986 | NA |
| si:dkey-1f1.3 | 6.576427501 | -0.019938494 | 0.7451374 | -0.026758 | 0.978653 | NA |
| BX928755.1 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CR385078.2 | 0 NA | NA | NA | NA | NA | NA |
| BX927300.1 | 2.292325057 | -1.309420028 | 1.3233486 | -0.989475 | 0.322431 | NA |
| CU565528.1 | 0 NA | NA | NA | NA | NA | NA |
| CR382372.1 | 19.25422569 | 0.158087134 | 0.4273713 | 0.3699058 | 0.711453 | 0.969006 |
| CT573003.1 | 47.12493821 | 0.522929186 | 0.2995058 | 1.7459734 | 0.080816 | 0.550801 |
| rgs7b | 55.05686637 | -0.190536007 | 0.2673791 | -0.712606 | 0.476089 | 0.926338 |
| CU660013.1 | 4.918234308 | -0.069690157 | 0.8737117 | -0.079763 | 0.936425 | NA |
| si:dkey-66i24.9 | 60.02844452 | -0.379274762 | 0.2493964 | -1.520771 | 0.128317 | 0.658954 |
| CR376838.1 | 0 NA | NA | NA | NA | NA | NA |
| CU929359.1 | 0.31759079 | 1.807926197 | 3.579045 | 0.5051421 | 0.613459 | NA |
| CR388157.1 | 0.904013163 | 2.00662374 | 2.339454 | 0.8577316 | 0.391041 | NA |
| CU914156.1 | 0 NA | NA | NA | NA | NA | NA |
| AL928716.1 | 0 NA | NA | NA | NA | NA | NA |
| CR932360.1 | 0 NA | NA | NA | NA | NA | NA |
| BX072570.1 | 0.689615224 | -1.495598879 | 2.3854835 | -0.626958 | 0.530687 | NA |
| BX119915.1 | 0 NA | NA | NA | NA | NA | NA |
| AL928920.2 | 0 NA | NA | NA | NA | NA | NA |
| FP565451.1 | 2.963278591 | -1.417134629 | 1.2972411 | -1.092422 | 0.274648 | NA |
| si:dkey-21e13.3 | 102.8256196 | -0.003017853 | 0.2081491 | -0.014499 | 0.988432 | 0.997476 |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| CU550702.1 | 0.80047171 | 0.566096181 | 2.1350079 | 0.2651495 | 0.790894 | NA |
| si:dkey-1h6.8 | 13.33374311 | 0.530288725 | 0.5428993 | 0.9767717 | 0.328682 | 0.872945 |
| BX001014.1 | 0.967008811 | -0.023866834 | 1.9569279 | -0.012196 | 0.990269 | NA |
| CR847530.1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| CR388421.1 | 0.476386185 | 2.392464142 | 3.0533824 | 0.7835455 | 0.433307 | NA |
| BX469896.1 | 9.713576858 | 0.120012174 | 0.6444203 | 0.1862328 | 0.852262 | NA |
| si:dkeyp-104f11.8 | 7.792416224 | -0.430122351 | 0.7026513 | -0.612142 | 0.540444 | NA |
| BX255913.1 | 0 NA | NA | NA | NA | NA | NA |
| BX470246.1 | 0.792489298 | 1.851487174 | 2.2731551 | 0.814501 | 0.415358 | NA |
| si:ch211-194k22.8 | 503.505139 | -0.123079353 | 0.1090831 | -1.128309 | 0.25919 | 0.82755 |
| si:dkey-193p11.2 | 379.8228735 | 0.272789217 | 0.1394204 | 1.9565945 | 0.050395 | 0.439877 |
| CR388040.1 | 60.65574596 | 0.095155708 | 0.2701756 | 0.3521995 | 0.724689 | 0.970402 |
| si:dkey-66i24.7 | 58.48005867 | 0.129776018 | 0.2556341 | 0.5076631 | 0.61169 | 0.95688 |
| si:dkeyp-104f11.9 | 0 NA | NA | NA | NA | NA | NA |
| hmx3b | 8.83207182 | -0.342652619 | 0.7298524 | -0.469482 | 0.638725 | NA |
| AL732488.1 | 278.5449377 | 0.136021841 | 0.1341392 | 1.0140347 | 0.310566 | 0.86284 |
| BX323889.1 | 20.78874019 | 0.089850848 | 0.4335422 | 0.2072482 | 0.835816 | 0.984089 |
| CR352342.1 | 0 NA | NA | NA | NA | NA | NA |
| si:rp71-1c10.11 | 118.1328774 | 0.362153438 | 0.1996181 | 1.8142316 | 0.069642 | 0.514805 |
| si:dkey-16i5.8 | 15.89440675 | -0.053745638 | 0.5318722 | -0.10105 | 0.919511 | 0.991651 |
| CU660013.2 | 2.338378196 | 1.308032533 | 1.3486442 | 0.969887 | 0.332103 | NA |
| BX248238.1 | 0.325573202 | 0.005883621 | 3.3172783 | 0.0017736 | 0.998585 | NA |
| si:dkey-21c1.1 | 282.1025956 | 0.227027163 | 0.1321579 | 1.7178478 | 0.085824 | 0.56251 |
| si:ch211-250m6.2 | 0.341486697 | 1.892317624 | 3.2124068 | 0.5890654 | 0.555817 | NA |
| CT737227.1 | 10.24927676 | 0.396434626 | 0.6068067 | 0.6533128 | 0.513555 | NA |
| cpn1 | 0 NA | NA | NA | NA | NA | NA |
| CR385078.3 | 0 NA | NA | NA | NA | NA | NA |
| BX569783.1 | 1.513580497 | -0.354123196 | 1.5602609 | -0.226964 | 0.820452 | NA |
| CR847530.2 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX255897.1 | 0 NA | NA | NA | NA | NA | NA |
| BX855623.1 | 3.554421656 | 0.254472898 | 1.1018926 | 0.2309416 | 0.81736 | NA |
| BX255963.1 | 0.682853041 | 2.891318346 | 2.3286279 | 1.2416403 | 0.214369 | NA |
| BX248390.1 | 2.338497554 | -0.417012027 | 1.2361301 | -0.337353 | 0.735851 | NA |
| CR749163.2 | 2.769848899 | 0.119127006 | 1.2637627 | 0.0942637 | 0.9249 | NA |
| si:zfos-911d5.4 | 3.927184907 | 0.250728274 | 0.9773726 | 0.2565329 | 0.797539 | NA |
| si:dkey-219e21.2 | 31.19214741 | -1.100355254 | 0.4373075 | -2.516205 | 0.011863 | 0.191219 |
| CR405682.1 | 0.31598276 | 0.005883445 | 3.3523626 | 0.001755 | 0.9986 | NA |
| BX088644.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CU469493.1 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-2211.1 | 0 NA | NA | NA | NA | NA | NA |
| AL928824.2 | 0 NA | NA | NA | NA | NA | NA |
| CR385078.4 | 0 NA | NA | NA | NA | NA | NA |
| CR381684.1 | 0 NA | NA | NA | NA | NA | NA |
| BX296562.2 | 0 NA | NA | NA | NA | NA | NA |
| asb2a.1 | 5.305456784 | 1.359826017 | 0.8466096 | 1.6062019 | 0.10823 | NA |
| NDUF8 | 66.20921099 | -0.173855176 | 0.2462763 | -0.705936 | 0.480228 | 0.927347 |
| BX001014.2 | 24.01244137 | -0.167922898 | 0.4043409 | -0.4153 | 0.677922 | 0.965257 |
| BX842669.1 | 1.35144869 | -2.705106269 | 1.8223791 | -1.484382 | 0.137708 | NA |
| CU459210.1 | 0 NA | NA | NA | NA | NA | NA |
| AL928824.3 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |
| CU570682.1 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:ch211-202p1.5 | 1.665973772 | -0.602291113 | 1.6154293 | -0.372837 | 0.70927 | NA |
| si:ch211-196c10.13 | 62.4988744 | -0.616298279 | 0.2746954 | -2.24357 | 0.02486 | 0.303822 |
| si:ch73-205h11.1 | 4.973160271 | 2.30910207 | 1.0065379 | 2.2941034 | 0.021785 | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| BX901952.1 | | 0 NA | NA | NA | NA | NA |
| BX255913.2 | 1.047874586 | 3.504465839 | 2.1494511 | 1.6304003 | 0.103017 | NA |
| si:rp71-1c10.8 | 1.735091635 | 1.274647451 | 1.6049595 | 0.7941929 | 0.427083 | NA |
| CT573006.1 | 2.333742488 | -0.378236254 | 1.2239999 | -0.309017 | 0.757309 | NA |
| si:dkey-61p9.11 | 35.43856263 | 0.048262428 | 0.4298109 | 0.1122876 | 0.910595 | 0.990817 |
| CU694525.1 | | 0 NA | NA | NA | NA | NA |
| BX510919.1 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |
| pimr124 | 0.643043639 | 1.435364982 | 2.5984886 | 0.5523846 | 0.580685 | NA |
| BX510920.1 | | 0 NA | NA | NA | NA | NA |
| BX255897.2 | | 0 NA | NA | NA | NA | NA |
| CR932077.1 | 5.356351093 | 0.357352259 | 0.837478 | 0.4267005 | 0.669598 | NA |
| CU571074.1 | 975.794548 | -0.208746009 | 0.092494 | -2.25686 | 0.024017 | 0.299249 |
| BX510319.1 | 0.968977899 | 0.950295762 | 2.2382818 | 0.4245648 | 0.671154 | NA |
| pimr128 | 0.839689391 | -1.918726865 | 2.219847 | -0.864351 | 0.387395 | NA |
| BX088686.1 | 2.488331015 | -0.610996786 | 1.2334899 | -0.49534 | 0.62036 | NA |
| BX119992.1 | 0.641555962 | -0.014184532 | 2.3335058 | -0.006079 | 0.99515 | NA |
| CCDC189 | 2.289809784 | 0.430675828 | 1.2669057 | 0.3399431 | 0.733899 | NA |
| AL928920.3 | 0.341486697 | 1.892317624 | 3.2124068 | 0.5890654 | 0.555817 | NA |
| BX294177.1 | | 0 NA | NA | NA | NA | NA |
| CR932360.2 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CR932362.1 | 1.190997191 | 2.512992113 | 1.9069703 | 1.317793 | 0.187573 | NA |
| si:dkey-148d16.5 | | 0 NA | NA | NA | NA | NA |
| CU929359.2 | 15.48964421 | 0.442841692 | 0.515844 | 0.8584798 | 0.390628 | 0.897545 |
| CU660013.3 | 0.332524763 | 0.005883742 | 3.292841 | 0.0017868 | 0.998574 | NA |
| si:ch211-28p3.3 | 12.40542312 | -0.570978556 | 0.5554945 | -1.027874 | 0.304009 | 0.858414 |
| selp | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |
| CR352243.1 | | 0 NA | NA | NA | NA | NA |
| BX248238.2 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| BX569801.2 | 0.789273238 | -0.566394988 | 2.2706407 | -0.249443 | 0.803018 | NA |
| si:ch73-344o19.1 | 78.45845545 | 0.169273544 | 0.2206535 | 0.7671465 | 0.442994 | 0.916336 |
| BX004999.1 | 30.5251381 | 0.099111373 | 0.4075526 | 0.2431867 | 0.807861 | 0.980642 |
| BX842240.1 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX119915.2 | 3.135949369 | -2.43731969 | 1.2890138 | -1.890841 | 0.058646 | NA |
| CR848736.1 | 18.32122907 | 0.43175853 | 0.449655 | 0.9601996 | 0.336955 | 0.876088 |
| CR751608.1 | 0.325573202 | 0.005883621 | 3.3172783 | 0.0017736 | 0.998585 | NA |
| si:ch73-127m5.2 | 346.5930858 | 0.084405547 | 0.1188564 | 0.7101474 | 0.477613 | 0.926857 |
| BX322665.3 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX004803.1 | | 0 NA | NA | NA | NA | NA |
| si:ch211-277e21.1 | 2.411311893 | 0.040878467 | 1.3279644 | 0.0307828 | 0.975443 | NA |
| si:dkeyp-13d11.1 | | 0 NA | NA | NA | NA | NA |
| CU660013.4 | 286.9257613 | -0.028609632 | 0.1315863 | -0.217421 | 0.82788 | 0.982721 |
| si:dkey-219e21.4 | 19.61337959 | 0.43447446 | 0.4431049 | 0.9805228 | 0.326828 | 0.872658 |
| BX119915.3 | 0.481032184 | -2.398473301 | 2.80721 | -0.854398 | 0.392885 | NA |
| BX957286.1 | | 0 NA | NA | NA | NA | NA |
| si:dkey-287g12.6 | 86.25255447 | 0.02310727 | 0.2140652 | 0.107945 | 0.914039 | 0.991119 |
| si:ch211-168b3.2 | 62.07388616 | -1.038687186 | 0.2639108 | -3.93575 | 8.29E-05 | 0.004184 |
| BX279523.1 | 35.00713949 | -5.095868642 | 0.6570559 | -7.755609 | 8.79E-15 | 4.35E-12 |
| AL833789.1 | 0.971534457 | -3.409585359 | 2.1825892 | -1.562175 | 0.118247 | NA |
| AL928920.4 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| BX901968.1 | | 0 NA | NA | NA | NA | NA |
| si:dkeyp-106c3.2 | 1.315257692 | -1.612412619 | 1.7573009 | -0.917551 | 0.358854 | NA |
| CR854832.1 | 0.5046461 | -2.45370851 | 2.7629627 | -0.888072 | 0.374502 | NA |
| zgc:136683 | | 0 NA | NA | NA | NA | NA |
| CR396584.1 | 1.65689248 | 1.165419669 | 1.5944899 | 0.7309044 | 0.464838 | NA |

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| si:ch211-256e16.7 | 1.971696297 | -0.0155606 | 1.3945315 | -0.011158 | 0.991097 | NA |
| CR847898.1 | 3.877819438 | -1.193215828 | 0.9964981 | -1.197409 | 0.231147 | NA |
| BX571796.1 | 0.317831496 | 1.808837541 | 3.5779923 | 0.5055454 | 0.613176 | NA |
| CU914157.1 | 21.22097859 | 0.715003001 | 0.4754746 | 1.5037669 | 0.132641 | 0.667222 |
| BX323575.1 | 0 NA | NA | NA | NA | NA | NA |
| BX279523.2 | 0 NA | NA | NA | NA | NA | NA |
| si:ch73-144d13.7 | 27.81183625 | -0.260762046 | 0.3733915 | -0.698361 | 0.484951 | 0.93001 |
| blvrb | 258.0161173 | 0.095204844 | 0.1590493 | 0.5985871 | 0.549448 | 0.946312 |
| mhc1lja | 6.213028528 | 0.140244165 | 0.8069313 | 0.1737994 | 0.862023 | NA |
| CR774195.1 | 0 NA | NA | NA | NA | NA | NA |
| BX569793.1 | 22.31549445 | 0.016728118 | 0.4624009 | 0.0361767 | 0.971141 | 0.996315 |
| CR391963.1 | 62.45891502 | 0.394332134 | 0.2454985 | 1.6062508 | 0.108219 | 0.620087 |
| si:ch211-155k24.9 | 47.7992164 | -0.212311785 | 0.2898213 | -0.732561 | 0.463826 | 0.922875 |
| CR450814.1 | 0.341486697 | 1.892317624 | 3.2124068 | 0.5890654 | 0.555817 | NA |
| AL807792.1 | 2.168184909 | 0.735148348 | 1.3438971 | 0.5470273 | 0.58436 | NA |
| CU013548.1 | 3.347628116 | -1.254966004 | 1.0912412 | -1.150035 | 0.250129 | NA |
| CR848791.1 | 0 NA | NA | NA | NA | NA | NA |
| CU929322.1 | 0.946580956 | -0.97691498 | 2.2566655 | -0.432902 | 0.665086 | NA |
| CU929206.1 | 2.853033782 | 1.282631816 | 1.1830709 | 1.0841546 | 0.278296 | NA |
| CT573157.1 | 0 NA | NA | NA | NA | NA | NA |
| zgc:193593 | 265.8292488 | 0.610754611 | 0.1490277 | 4.0982637 | 4.16E-05 | 0.002345 |
| BX927351.1 | 0 NA | NA | NA | NA | NA | NA |
| BX649487.1 | 0 NA | NA | NA | NA | NA | NA |
| CU855854.1 | 0.489712128 | -0.887840729 | 2.693685 | -0.329601 | 0.741702 | NA |
| CR855311.2 | 1.852710304 | 0.290918308 | 1.3642227 | 0.2132484 | 0.831133 | NA |
| si:dkey-16p21.8 | 2026.288327 | 0.170832945 | 0.0903196 | 1.8914276 | 0.058567 | 0.473924 |
| BX957346.1 | 291.2800169 | -0.036478791 | 0.1318601 | -0.276648 | 0.782051 | 0.97627 |
| znf1143 | 67.06132607 | -0.370932795 | 0.2534864 | -1.463324 | 0.143379 | 0.686804 |
| BX572077.1 | 9.108503929 | -0.29234107 | 0.6558387 | -0.445751 | 0.655777 | NA |
| si:ch73-1f23.1 | 2.625372516 | -1.101237991 | 1.2518451 | -0.879692 | 0.379026 | NA |
| BX649324.1 | 5.398601198 | 0.625845094 | 0.9398732 | 0.6658825 | 0.505486 | NA |
| znf1012 | 11.59104769 | 0.041385845 | 0.6245322 | 0.066267 | 0.947165 | 0.99381 |
| CU469362.1 | 72.34435951 | 0.109364837 | 0.2257818 | 0.4843828 | 0.628114 | 0.957354 |
| BX927361.1 | 0.339758314 | 0.005883863 | 3.2682461 | 0.0018003 | 0.998564 | NA |
| si:ch211-286b4.4 | 15.61189716 | 0.622379934 | 0.5061638 | 1.2296019 | 0.218846 | 0.785734 |
| CU207301.1 | 0 NA | NA | NA | NA | NA | NA |
| CR936975.1 | 0.325452849 | 0.005883619 | 3.3177086 | 0.0017734 | 0.998585 | NA |
| si:ch73-38013.4 | 2.917528393 | 0.025233912 | 1.1832348 | 0.0213262 | 0.982985 | NA |
| CR790362.1 | 2.285885901 | 1.868135679 | 1.5016923 | 1.2440203 | 0.213492 | NA |
| CR457444.1 | 0 NA | NA | NA | NA | NA | NA |
| CR931780.1 | 4.025650279 | 0.503726018 | 0.931972 | 0.5404948 | 0.588856 | NA |
| c1mn | 43.18628597 | 0.27439179 | 0.3042469 | 0.9018721 | 0.367125 | 0.887458 |
| CR385026.1 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| CT583650.1 | 0.499972362 | -2.44370697 | 3.0013188 | -0.814211 | 0.415524 | NA |
| si:dkey-33c3.1 | 3.434871928 | -0.657588907 | 1.1476359 | -0.572994 | 0.566649 | NA |
| BX511245.1 | 0 NA | NA | NA | NA | NA | NA |
| CU467963.1 | 1.133906971 | -0.442920623 | 1.9523852 | -0.226861 | 0.820532 | NA |
| CR626887.1 | 1.353218358 | -1.510769436 | 1.7691256 | -0.853964 | 0.393125 | NA |
| tmem1761.3b | 420.5744342 | -0.160665006 | 0.1138748 | -1.410892 | 0.158277 | 0.709224 |
| BX294110.1 | 0.340386822 | -1.882368278 | 3.2159502 | -0.585323 | 0.558331 | NA |
| CR847984.1 | 8.536301195 | -0.869560073 | 0.6686732 | -1.300426 | 0.193455 | NA |
| CR759918.1 | 273.534345 | 0.030313116 | 0.1362661 | 0.2224553 | 0.823959 | 0.982196 |
| BX323807.1 | 0 NA | NA | NA | NA | NA | NA |
| CU462980.1 | 38.53546543 | 0.452212789 | 0.3235846 | 1.39751 | 0.16226 | 0.716781 |

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| pimr28 | 0.339758314 | 0.005883863 | 3.2682461 | 0.0018003 | 0.998564 | NA |
| BX322538.1 | 0.522329263 | 0.999930388 | 2.8066578 | 0.3562709 | 0.721638 | NA |
| CU638693.1 | 1.180306874 | 0.442800236 | 1.7391297 | 0.2546102 | 0.799024 | NA |
| AL953866.1 | 3.90803161 | 0.935925957 | 0.9828249 | 0.9522815 | 0.340954 | NA |
| CR388164.2 | 1.17819069 | 0.530495249 | 1.9330381 | 0.274436 | 0.78375 | NA |
| CR381618.1 | 583.5085303 | -0.006213597 | 0.0998782 | -0.062212 | 0.950394 | 0.99381 |
| serpinb114 | 22.78894717 | -0.805683097 | 0.4365892 | -1.845403 | 0.064979 | 0.497901 |
| CT033825.1 | 218.8336572 | -0.001548332 | 0.1442818 | -0.010731 | 0.991438 | 0.997679 |
| FP102794.1 | 0 | NA | NA | NA | NA | NA |
| CR774184.1 | 0 | NA | NA | NA | NA | NA |
| CR450848.1 | 0.332645115 | 0.005883744 | 3.2924249 | 0.0017871 | 0.998574 | NA |
| CU628002.1 | 0 | NA | NA | NA | NA | NA |
| BX004991.1 | 77.37770669 | -0.013157952 | 0.2383169 | -0.055212 | 0.95597 | 0.994543 |
| si:dkey-90a13.10 | 0 | NA | NA | NA | NA | NA |
| CR925728.1 | 0.846640952 | -1.930134747 | 2.2349699 | -0.863607 | 0.387804 | NA |
| CU929451.1 | 19.57212435 | -0.647447021 | 0.4381618 | -1.477644 | 0.139503 | 0.678238 |
| CT961047.1 | 0 | NA | NA | NA | NA | NA |
| si:dkey-7i4.10 | 24.93251286 | -0.101039007 | 0.3979621 | -0.253891 | 0.79958 | 0.979366 |
| si:ch211-180n24.3 | 1.538455926 | 1.005163047 | 1.5742941 | 0.6384849 | 0.523158 | NA |
| CU062633.1 | 8.884322669 | -0.967241571 | 0.6840403 | -1.414013 | 0.157358 | NA |
| si:dkeyp-100a5.4 | 5.109637965 | 0.843507798 | 0.904034 | 0.9330487 | 0.350795 | NA |
| si:ch73-23124.1 | 429.4701543 | -0.078654182 | 0.1475933 | -0.532912 | 0.594095 | 0.954434 |
| si:dkey-7i4.24 | 5.364680269 | -0.712258055 | 0.845431 | -0.842479 | 0.39952 | NA |
| si:ch73-185c24.2 | 136.9758822 | -0.445274077 | 0.1929594 | -2.307606 | 0.021021 | 0.273449 |
| BX005128.1 | 0.499302569 | -0.916836436 | 2.6772503 | -0.342455 | 0.732009 | NA |
| CR759878.1 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |
| vps50 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| BX005129.1 | 9.952064783 | -0.400757148 | 0.6281293 | -0.638017 | 0.523463 | NA |
| CR391963.2 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:ch211-107e6.6 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:ch211-227m13.1 | 74.43657743 | 0.218756068 | 0.2254383 | 0.9703591 | 0.331868 | 0.874653 |
| AL954322.1 | 0.482640214 | -0.866525639 | 2.7061322 | -0.320208 | 0.748811 | NA |
| CR790366.1 | 0 | NA | NA | NA | NA | NA |
| si:zfos-375h5.1 | 9.02063517 | 0.125863139 | 0.6793934 | 0.1852581 | 0.853027 | NA |
| CR790377.1 | 0 | NA | NA | NA | NA | NA |
| si:ch211-147k10.6 | 142.3603543 | 0.233733809 | 0.1822649 | 1.2823853 | 0.199708 | 0.765017 |
| CU638693.2 | 1.275610923 | 0.724314706 | 1.8883685 | 0.3835664 | 0.7013 | NA |
| BX927282.2 | 0.871516381 | 0.597595468 | 2.1830013 | 0.2737495 | 0.784277 | NA |
| BX005392.1 | 7.925238305 | 0.104776962 | 0.6873041 | 0.1524463 | 0.878835 | NA |
| si:ch211-210b2.3 | 2.839137449 | -1.254938875 | 1.1459382 | -1.095119 | 0.273464 | NA |
| CR388163.1 | 0 | NA | NA | NA | NA | NA |
| CU639412.1 | 0.332524763 | 0.005883742 | 3.292841 | 0.0017868 | 0.998574 | NA |
| CR385086.1 | 0 | NA | NA | NA | NA | NA |
| si:ch211-37e10.2 | 130.5439908 | 0.322707447 | 0.1812688 | 1.7802703 | 0.075032 | 0.533697 |
| si:ch211-135n15.2 | 10.95378566 | 0.54260119 | 0.5802745 | 0.9350767 | 0.349749 | NA |
| CR589875.1 | 0.317711143 | 1.810477155 | 3.2978238 | 0.5489915 | 0.583011 | NA |
| BX005461.2 | 3.275567136 | -0.597985638 | 1.0518396 | -0.568514 | 0.569686 | NA |
| BX323035.1 | 0 | NA | NA | NA | NA | NA |
| CU207354.1 | 0.476506538 | 2.394892832 | 2.8161716 | 0.8504073 | 0.395099 | NA |
| si:dkey-52p2.5 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:dkey-77f5.8 | 91.06747961 | -0.125744567 | 0.2089615 | -0.601759 | 0.547334 | 0.945526 |
| BX957258.1 | 18.11223504 | -0.291384211 | 0.4465229 | -0.652563 | 0.514038 | 0.936851 |
| CR759863.1 | 0 | NA | NA | NA | NA | NA |
| BX897682.1 | 8.362368874 | 0.485968416 | 0.680715 | 0.7139087 | 0.475284 | NA |

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| CR545469.1 | | 0 NA | NA | NA | NA | NA |
| im:7143333 | 41.28564518 | -0.039623617 | 0.3016024 | -0.131377 | 0.895477 | 0.989814 |
| si:dkey-197j19.5 | 12.22270144 | 0.406163182 | 0.5536842 | 0.7335646 | 0.463214 | 0.922698 |
| BX927244.1 | 5.38142845 | 0.047529847 | 0.8909903 | 0.053345 | 0.957457 | NA |
| CR848812.1 | 30.33842007 | 0.12406366 | 0.3527277 | 0.3517265 | 0.725043 | 0.970402 |
| si:dkeyp-67f1.1 | 31.03320065 | -0.224326189 | 0.3519231 | -0.63743 | 0.523845 | 0.939336 |
| CR848791.2 | 0.84841062 | -0.578696897 | 2.0997862 | -0.275598 | 0.782857 | NA |
| BX005254.2 | 4.298259818 | -0.009689555 | 0.9580036 | -0.010114 | 0.99193 | NA |
| BX005351.1 | | 0 NA | NA | NA | NA | NA |
| si:dkey-29h14.10 | 6.859561294 | -0.627705354 | 0.7288889 | -0.861181 | 0.389138 | NA |
| CLIP4 | 71.71416264 | 0.128066831 | 0.2298642 | 0.5571414 | 0.577431 | 0.950805 |
| CT025690.1 | 124.1798341 | -0.282750986 | 0.1799675 | -1.571123 | 0.116154 | 0.63841 |
| CU179699.1 | | 0 NA | NA | NA | NA | NA |
| AL844141.1 | 0.31598276 | 0.005883445 | 3.3523626 | 0.001755 | 0.9986 | NA |
| si:dkey-238d18.13 | | 0 NA | NA | NA | NA | NA |
| CR383662.5 | 1.816708682 | 3.220085527 | 1.6905176 | 1.9047927 | 0.056807 | NA |
| BX004812.1 | 5.072486762 | -1.262388368 | 0.8849996 | -1.426428 | 0.153745 | NA |
| CR759863.2 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX119902.2 | 3.949812512 | 1.600184179 | 1.0385976 | 1.5407162 | 0.123386 | NA |
| si:dkey-206p8.1 | 32.23763416 | 0.024216823 | 0.3514299 | 0.0689094 | 0.945062 | 0.993443 |
| CU633991.2 | 71.05137248 | -0.041391502 | 0.2386955 | -0.173407 | 0.862331 | 0.985841 |
| CR926463.1 | 18.05372587 | 0.68939171 | 0.4646619 | 1.4836415 | 0.137904 | 0.675313 |
| BX248113.1 | 2.820347622 | -0.179421044 | 1.1062596 | -0.162187 | 0.871159 | NA |
| si:dkeyp-93a5.3 | 0.498553709 | 0.926267934 | 2.6786929 | 0.345791 | 0.7295 | NA |
| mhc111a | 0.332524763 | 0.005883742 | 3.292841 | 0.0017868 | 0.998574 | NA |
| CU972512.1 | 9.048977656 | -0.166899369 | 0.6472469 | -0.25786 | 0.796515 | NA |
| NPC2 (1 of many) | 13.81595182 | 0.524685047 | 0.5373823 | 0.976372 | 0.32888 | 0.873157 |
| CR626962.1 | | 0 NA | NA | NA | NA | NA |
| BX957326.2 | 0.499182217 | -0.916838237 | 2.6774436 | -0.34243 | 0.732027 | NA |
| si:dkeyp-19h3.8 | | 0 NA | NA | NA | NA | NA |
| si:dkey-14d8.22 | 10.79376455 | -0.412657404 | 0.5840507 | -0.706544 | 0.47985 | NA |
| CU915818.1 | 1.759897197 | -1.409859507 | 1.6105821 | -0.875373 | 0.381371 | NA |
| CR589944.1 | 131.419419 | -0.135601814 | 0.1938905 | -0.699373 | 0.484319 | 0.929601 |
| fam110c | 106.4443819 | 0.446372383 | 0.1982811 | 2.2512103 | 0.024372 | 0.301776 |
| si:ch1073-340i21.2 | 195.7454131 | -0.537222477 | 0.1551726 | -3.462096 | 0.000536 | 0.018825 |
| CR847968.1 | 366.2841304 | -0.112165426 | 0.1194349 | -0.939134 | 0.347662 | 0.880195 |
| zgc:153405 | 3.695523692 | 0.556923836 | 1.0174217 | 0.5473874 | 0.584113 | NA |
| CR847923.1 | | 0 NA | NA | NA | NA | NA |
| AL929222.1 | 1.989269151 | -0.502873238 | 1.3290087 | -0.378382 | 0.705147 | NA |
| fbx122 | 27.95202263 | 0.206645084 | 0.3922165 | 0.5268648 | 0.598287 | 0.955488 |
| BX005392.2 | 11.94122149 | 0.27142109 | 0.5635784 | 0.481603 | 0.630088 | 0.957354 |
| CR589876.1 | 74.4681097 | 0.169326421 | 0.2548471 | 0.6644236 | 0.506419 | 0.935724 |
| CT737162.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| BX537308.1 | 33.13202074 | -0.502520362 | 0.3393119 | -1.480998 | 0.138607 | 0.676911 |
| BX890558.1 | 77.29958319 | -0.111794732 | 0.2311735 | -0.483597 | 0.628672 | 0.957354 |
| FP245462.1 | 20.16984427 | -0.205169637 | 0.4815573 | -0.426054 | 0.670068 | 0.965223 |
| CR855375.1 | 3.47645301 | 1.002615667 | 1.1738322 | 0.8541388 | 0.393028 | NA |
| CR854839.1 | 173.8087766 | 0.279624518 | 0.155022 | 1.8037729 | 0.071267 | 0.522712 |
| CU694256.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| opn1mw1 | 12004.99692 | 0.228011699 | 0.0950298 | 2.3993694 | 0.016423 | 0.236409 |
| FP102888.1 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| hbaa1 | 1.008426242 | 2.234978276 | 1.9960971 | 1.1196742 | 0.262853 | NA |
| BX649300.1 | | 0 NA | NA | NA | NA | NA |
| CU694202.1 | | 0 NA | NA | NA | NA | NA |

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| FP016018.2 | 1.149459407 | 0.422305922 | 1.838616 | 0.2296869 | 0.818335 | NA |
| BX004972.1 | 0.491320158 | 0.8528132 | 2.8656354 | 0.2976 | 0.766008 | NA |
| mical3a | 112.3961079 | -0.054633725 | 0.1910382 | -0.285983 | 0.774891 | 0.975687 |
| CR628341.1 | 21.22929277 | 0.026387092 | 0.4252194 | 0.0620552 | 0.950519 | 0.99381 |
| dhrrs13b.1 | 5.599049389 | -0.333747628 | 0.8209972 | -0.406515 | 0.684364 | NA |
| CU682780.1 | 0.365141898 | 1.973577737 | 3.3927314 | 0.5817076 | 0.560764 | NA |
| CU655829.1 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CR786571.3 | 1.470088166 | -1.757445669 | 1.7465606 | -1.006232 | 0.314304 | NA |
| ugt1b4 | 2.451199519 | -1.028780444 | 1.2504642 | -0.822719 | 0.410668 | NA |
| CR354383.1 | 6.177573934 | 0.561716721 | 0.7987615 | 0.7032346 | 0.48191 | NA |
| si:dkey-16m19.1 | 31.01688278 | 0.075173481 | 0.3727906 | 0.2016507 | 0.84019 | 0.985029 |
| CR352292.1 | 2.492145583 | -1.503971322 | 1.2858653 | -1.169618 | 0.242155 | NA |
| AL845435.1 | | 0 NA | NA | NA | NA | NA |
| si:ch73-38013.3 | 2.486722985 | -1.014424677 | 1.2215208 | -0.83046 | 0.406279 | NA |
| si:ch211-256a21.4 | 37.91167527 | -0.058134063 | 0.3377193 | -0.172137 | 0.86333 | 0.985841 |
| CU466278.1 | 9.830464494 | -0.542033727 | 0.6133944 | -0.883663 | 0.376878 | NA |
| CR450813.1 | 0.471562095 | -2.373056629 | 3.0645586 | -0.774355 | 0.438721 | NA |
| pimr42 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| CR759845.1 | 8.73613539 | 0.078130415 | 0.6780909 | 0.1152212 | 0.90827 | NA |
| CT025745.1 | 30.12364495 | -1.172749134 | 0.3575478 | -3.279979 | 0.001038 | 0.031976 |
| BX927349.1 | | 0 NA | NA | NA | NA | NA |
| CR759845.2 | 2.541535383 | 0.209225824 | 1.2009193 | 0.1742214 | 0.861691 | NA |
| CU468915.1 | 17.18289965 | -0.561178586 | 0.5011451 | -1.119793 | 0.262802 | 0.830166 |
| AL935145.2 | 1.16384394 | 0.399527086 | 1.7443472 | 0.229041 | 0.818837 | NA |
| CR936518.1 | 3.335753063 | 0.886769592 | 1.055752 | 0.8399412 | 0.400941 | NA |
| BX629346.1 | 40.15312957 | 0.502269882 | 0.3215232 | 1.5621576 | 0.118251 | 0.641526 |
| CU571318.1 | 604.3951911 | -0.16606743 | 0.0992817 | -1.672689 | 0.094389 | 0.584358 |
| CR759845.3 | 2.120406395 | 1.138056897 | 1.5038092 | 0.7567828 | 0.44918 | NA |
| CR855375.2 | 6.691416163 | -0.715232576 | 0.7519926 | -0.951116 | 0.341545 | NA |
| BX897714.1 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| FP236594.1 | | 0 NA | NA | NA | NA | NA |
| CU927934.1 | 10.09027277 | -0.071894812 | 0.6399725 | -0.11234 | 0.910553 | NA |
| si:ch211-284f22.3 | 462.0086692 | -0.076360376 | 0.1170195 | -0.652544 | 0.51405 | 0.936851 |
| fxyd61 | 1781.564869 | -0.065590128 | 0.0849468 | -0.772132 | 0.440036 | 0.916082 |
| CU929339.1 | 6.469156165 | -0.996297602 | 0.7536656 | -1.321936 | 0.18619 | NA |
| si:dkey-159n16.4 | | 0 NA | NA | NA | NA | NA |
| CR388369.1 | 5.213148577 | -0.187784275 | 0.8724411 | -0.21524 | 0.82958 | NA |
| BX547934.1 | 1.172255439 | -1.303351983 | 1.8073824 | -0.721127 | 0.470831 | NA |
| sparc12 | 21.29667261 | 0.254727265 | 0.4295928 | 0.5929505 | 0.553214 | 0.947265 |
| CR759845.4 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:ch73-223p23.2 | | 0 NA | NA | NA | NA | NA |
| BX322555.1 | 0.317831496 | 1.808837541 | 3.5779923 | 0.5055454 | 0.613176 | NA |
| CR626887.2 | | 0 NA | NA | NA | NA | NA |
| si:ch211-66i15.4 | 6.68485566 | -0.27932794 | 0.7399128 | -0.377515 | 0.705791 | NA |
| AL954322.2 | 73.00413637 | 0.055034934 | 0.2376092 | 0.2316195 | 0.816834 | 0.981594 |
| CU928073.1 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| BX322555.2 | | 0 NA | NA | NA | NA | NA |
| CU855801.1 | 0.347458735 | -1.908042286 | 3.4571486 | -0.551912 | 0.581009 | NA |
| CR318607.1 | 5.885483825 | -0.061807117 | 0.7993965 | -0.077317 | 0.938371 | NA |
| CR848665.1 | 3.195939131 | 0.788486769 | 1.0833462 | 0.7278253 | 0.466721 | NA |
| si:ch73-181m17.1 | 7.093730994 | -0.321487254 | 0.7328147 | -0.438702 | 0.660878 | NA |
| si:dkey-149i17.11 | | 0 NA | NA | NA | NA | NA |
| im:7152348 | 172.2968667 | 0.016688619 | 0.182377 | 0.0915061 | 0.92709 | 0.992702 |
| BX005462.2 | 0.332645115 | 0.005883744 | 3.2924249 | 0.0017871 | 0.998574 | NA |

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| si:zfos-1714f5.4 | 2.143027489 | -0.243471598 | 1.4351233 | -0.169652 | 0.865284 | NA |
| si:ch211-261a10.5 | 5.755639088 | 0.900577898 | 0.8189164 | 1.099719 | 0.271455 | NA |
| si:dkey-172k15.4 | 52.65720811 | 0.113894525 | 0.2658059 | 0.4284876 | 0.668296 | 0.964736 |
| CR812472.1 | 2.321045053 | -0.000352531 | 1.2231431 | -0.000288 | 0.99977 | NA |
| si:dkey-60d5.3 | 31.51786993 | 0.100614573 | 0.3446409 | 0.2919403 | 0.770332 | 0.975687 |
| BX120006.1 | 0 | NA | NA | NA | NA | NA |
| si:dkey-7j22.2 | 1.649390484 | -0.63991731 | 1.5880575 | -0.402956 | 0.686981 | NA |
| si:ch211-273k1.5 | 0.317711143 | 1.810477155 | 3.2978238 | 0.5489915 | 0.583011 | NA |
| CR293508.1 | 0.696687138 | -1.510024977 | 2.3787501 | -0.634798 | 0.52556 | NA |
| CU927934.2 | 0 | NA | NA | NA | NA | NA |
| AL954669.1 | 0.97432143 | -0.03661469 | 1.971898 | -0.018568 | 0.985186 | NA |
| CR394545.1 | 6.646346796 | -0.114671568 | 0.758717 | -0.151139 | 0.879866 | NA |
| znf1004 | 1.816829035 | 3.220170394 | 1.6788325 | 1.918101 | 0.055098 | NA |
| si:ch211-108d22.1 | 0.849630847 | 1.928522947 | 2.2126134 | 0.8716041 | 0.383424 | NA |
| BX511075.1 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:ch73-281n10.2 | 9979.413805 | -0.042619303 | 0.0644668 | -0.661104 | 0.508545 | 0.935788 |
| si:dkey-52d15.2 | 0.794578739 | 3.129658898 | 2.5486248 | 1.2279794 | 0.219455 | NA |
| CR790366.2 | 3.421005594 | -2.09644369 | 1.1566651 | -1.81249 | 0.069911 | NA |
| AL928927.1 | 0.672283077 | 0.02892376 | 2.3005571 | 0.0125725 | 0.989969 | NA |
| BX649442.2 | 8.109416289 | -0.190348631 | 0.6709362 | -0.283706 | 0.776636 | NA |
| si:dkey-56f14.4 | 387.9103044 | 0.297582735 | 0.1556001 | 1.9124847 | 0.055814 | 0.46256 |
| CR762407.2 | 1.114726087 | -0.412825569 | 1.8539615 | -0.222672 | 0.823791 | NA |
| BX571737.1 | 0 | NA | NA | NA | NA | NA |
| si:dkey-27115.1 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:dkey-33c14.3 | 500.7721437 | 1.144168025 | 0.1564197 | 7.3147296 | 2.58E-13 | 9.81E-11 |
| AL928657.1 | 37.63991506 | -0.00264273 | 0.3452788 | -0.007654 | 0.993893 | 0.998691 |
| AL935115.1 | 0 | NA | NA | NA | NA | NA |
| FP102921.1 | 0 | NA | NA | NA | NA | NA |
| AL772382.1 | 6.418700987 | -0.838255954 | 0.7512643 | -1.115794 | 0.26451 | NA |
| FP102170.1 | 10.70677989 | -0.761179789 | 0.5970684 | -1.274862 | 0.202358 | NA |
| FP015862.1 | 0 | NA | NA | NA | NA | NA |
| si:dkey-7i4.23 | 0 | NA | NA | NA | NA | NA |
| CR854927.3 | 0 | NA | NA | NA | NA | NA |
| BX957346.2 | 0 | NA | NA | NA | NA | NA |
| BX005242.1 | 0.698456806 | 0.09172817 | 2.5265115 | 0.0363063 | 0.971038 | NA |
| CU695222.1 | 0.323844819 | -1.825095364 | 3.274639 | -0.557342 | 0.577293 | NA |
| CR318658.1 | 0 | NA | NA | NA | NA | NA |
| si:dkey-77f5.11 | 63.61866519 | 0.082034029 | 0.3148825 | 0.2605227 | 0.794461 | 0.977937 |
| CR848683.1 | 0.347458735 | -1.908042286 | 3.4571486 | -0.551912 | 0.581009 | NA |
| CR545465.2 | 0 | NA | NA | NA | NA | NA |
| CR753876.1 | 138.908427 | 0.297528352 | 0.1761991 | 1.6885913 | 0.091298 | 0.578443 |
| si:ch211-191c10.3 | 0.805694888 | -0.600710451 | 2.2372785 | -0.268501 | 0.788314 | NA |
| BX465205.1 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| BX664705.1 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CR848742.1 | 0.325573202 | 0.005883621 | 3.3172783 | 0.0017736 | 0.998585 | NA |
| FP565432.1 | 1.000134101 | 0.001091541 | 2.0514706 | 0.0005321 | 0.999575 | NA |
| CU459174.1 | 0.698456806 | 0.09172817 | 2.5265115 | 0.0363063 | 0.971038 | NA |
| BX005254.3 | 4.377860824 | -0.679793102 | 0.9411061 | -0.722334 | 0.470089 | NA |
| BX324227.1 | 0.340386822 | -1.882368278 | 3.2159502 | -0.585323 | 0.558331 | NA |
| si:dkey-7i4.11 | 5.698455258 | 0.176792532 | 0.8303935 | 0.2129021 | 0.831403 | NA |
| CR954963.1 | 1.851060989 | -0.261701952 | 1.428439 | -0.183208 | 0.854635 | NA |
| GDPGP1 | 35.2514642 | 0.328844149 | 0.3356308 | 0.9797795 | 0.327195 | 0.872658 |
| CR944667.1 | 0 | NA | NA | NA | NA | NA |
| si:ch211-207n23.2 | 229.3278104 | 0.36190545 | 0.1670423 | 2.1665501 | 0.030269 | 0.33626 |

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| BX294100.1 | 61.2320691 | 0.281940941 | 0.2526217 | 1.11606 | 0.264396 | 0.830245 |
| BX664738.1 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-121j5.4 | 174.2113002 | 0.04959393 | 0.1649464 | 0.300667 | 0.763668 | 0.975374 |
| CU861891.1 | 7.215895018 | 0.380178559 | 0.7091973 | 0.5360688 | 0.591911 | NA |
| CR385035.1 | 8.332459644 | 0.716824527 | 0.6790222 | 1.0556717 | 0.291118 | NA |
| CR848746.1 | 4.088525574 | 0.104978333 | 0.9438483 | 0.1112237 | 0.911439 | NA |
| BX936386.1 | 0.491320158 | 0.8528132 | 2.8656354 | 0.2976 | 0.766008 | NA |
| BX005484.1 | 2.641945512 | 1.579544879 | 1.2360052 | 1.2779436 | 0.201269 | NA |
| CR749752.1 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:ch73-330k17.3 | 4.823170965 | -0.155586685 | 0.9537804 | -0.163126 | 0.870419 | NA |
| pcdh1a4 | 23.30715512 | -0.000398115 | 0.3983212 | -0.000999 | 0.999203 | 0.999704 |
| CR381579.1 | 0 NA | NA | NA | NA | NA | NA |
| CR388129.1 | 0 NA | NA | NA | NA | NA | NA |
| BX546459.1 | 0 NA | NA | NA | NA | NA | NA |
| CR383662.6 | 6.328471778 | -0.95993161 | 0.7831348 | -1.225755 | 0.220291 | NA |
| BX927308.2 | 29.15252855 | 0.151982884 | 0.3827584 | 0.3970727 | 0.691314 | 0.967305 |
| CR538726.1 | 12.85981435 | -0.228152727 | 0.5461806 | -0.417724 | 0.676149 | 0.965257 |
| si:dkey-7i4.21 | 0 NA | NA | NA | NA | NA | NA |
| defb13 | 10.7512387 | -0.523162426 | 0.6218625 | -0.841283 | 0.400189 | NA |
| CR848757.1 | 206.7360903 | 0.148221228 | 0.1422189 | 1.0422051 | 0.297317 | 0.853945 |
| CU570976.1 | 2.287652314 | 0.433314905 | 1.274729 | 0.3399271 | 0.733911 | NA |
| CU695073.1 | 0 NA | NA | NA | NA | NA | NA |
| CR847799.1 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-15316.6 | 170.5089672 | 0.00995478 | 0.1689983 | 0.0589046 | 0.953028 | 0.994154 |
| CU929037.2 | 0 NA | NA | NA | NA | NA | NA |
| FP101861.1 | 22.13867708 | 0.871756714 | 0.4113843 | 2.1190814 | 0.034084 | 0.359261 |
| BX640398.1 | 0.663603133 | -1.440371613 | 2.4108786 | -0.597447 | 0.550209 | NA |
| CU861453.1 | 90.28097114 | -0.055027115 | 0.2120834 | -0.25946 | 0.795281 | 0.978466 |
| si:dkey-28n18.9 | 145.8998216 | -1.005062101 | 0.1778371 | -5.651587 | 1.59E-08 | 2.62E-06 |
| FP236850.1 | 0 NA | NA | NA | NA | NA | NA |
| BX649398.1 | 0.992082665 | -2.218637874 | 2.2726308 | -0.976242 | 0.328945 | NA |
| CR847531.1 | 1678.300486 | 0.150663881 | 0.0925042 | 1.6287246 | 0.103371 | 0.609625 |
| CR392042.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX120006.2 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-176124.4 | 48.11927932 | 0.263051157 | 0.297465 | 0.8843095 | 0.376529 | 0.89493 |
| BX000524.1 | 0 NA | NA | NA | NA | NA | NA |
| ulk2 | 1098.966807 | 0.100671299 | 0.0865518 | 1.1631335 | 0.244775 | 0.814435 |
| BX324206.1 | 0 NA | NA | NA | NA | NA | NA |
| CR759882.1 | 0.522329263 | 0.999930388 | 2.8066578 | 0.3562709 | 0.721638 | NA |
| alkbh3 | 367.2624903 | -0.048002802 | 0.1511807 | -0.317519 | 0.750849 | 0.97419 |
| cox8b | 324.2567614 | -1.011557379 | 0.1397652 | -7.237546 | 4.57E-13 | 1.70E-10 |
| CR381647.1 | 127.3531743 | 0.101742699 | 0.1813625 | 0.5609909 | 0.574804 | 0.950037 |
| si:dkey-24p1.6 | 0 NA | NA | NA | NA | NA | NA |
| AL808121.1 | 0 NA | NA | NA | NA | NA | NA |
| CR388029.1 | 0.809151653 | 1.852283317 | 2.2398915 | 0.8269523 | 0.408264 | NA |
| si:dkey-172k15.3 | 71.38516062 | -0.062840495 | 0.2373583 | -0.264749 | 0.791202 | 0.977461 |
| BX957355.1 | 0.63196552 | 0.01215153 | 2.613686 | 0.0046492 | 0.99629 | NA |
| si:dkey-229e3.2 | 30.0947167 | -0.240998071 | 0.3495176 | -0.689516 | 0.490498 | 0.931926 |
| CT027582.1 | 0.847620474 | 0.550669627 | 2.2003584 | 0.2502636 | 0.802383 | NA |
| BX005079.1 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| AL954387.1 | 1.008546595 | 2.235815189 | 2.0974266 | 1.0659802 | 0.286433 | NA |
| CR854827.1 | 0 NA | NA | NA | NA | NA | NA |
| CR925728.2 | 0 NA | NA | NA | NA | NA | NA |
| prp33 | 979.2280034 | 0.25524596 | 0.1127607 | 2.2636072 | 0.023598 | 0.296275 |

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| si:dkey-79d12.6 | 4.671879979 | 0.428092421 | 0.8717764 | 0.4910576 | 0.623386 | NA |
| CR847887.1 | 10.22684392 | -0.519986371 | 0.6133072 | -0.84784 | 0.396527 | NA |
| CR854827.2 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-234i14.12 | 0.490502273 | -2.421143305 | 2.7891168 | -0.868068 | 0.385357 | NA |
| si:ch211-226h8.15 | 1.135704377 | 3.642164013 | 1.9627362 | 1.8556564 | 0.063503 | NA |
| ugt1b2 | 56.533812 | -0.406880855 | 0.2731481 | -1.489598 | 0.13633 | 0.673106 |
| AL929435.1 | 0 NA | NA | NA | NA | NA | NA |
| CT737162.2 | 29.55013545 | -0.532467984 | 0.372364 | -1.429966 | 0.152727 | 0.701776 |
| si:ch73-147o17.1 | 306.8790068 | 0.059432057 | 0.130589 | 0.4551076 | 0.649032 | 0.960708 |
| BX005012.4 | 0.674801605 | 0.02322667 | 2.4147609 | 0.0096186 | 0.992326 | NA |
| hbba1 | 0 NA | NA | NA | NA | NA | NA |
| si:ch73-31d8.2 | 48.88567644 | -0.095643941 | 0.2783608 | -0.343597 | 0.731149 | 0.971557 |
| BX323076.1 | 2.198752646 | 0.705381762 | 1.5165421 | 0.4651251 | 0.641842 | NA |
| BX120016.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CR457447.1 | 0 NA | NA | NA | NA | NA | NA |
| zgc:174263 | 382.0301075 | -0.159591978 | 0.1172092 | -1.3616 | 0.173324 | 0.732435 |
| soga3a | 0 NA | NA | NA | NA | NA | NA |
| BX322555.3 | 115.7573208 | 0.17167277 | 0.2036489 | 0.8429842 | 0.399237 | 0.900683 |
| si:dkey-117a8.2 | 0 NA | NA | NA | NA | NA | NA |
| BX537104.1 | 0.48983248 | -0.887840757 | 2.6934859 | -0.329625 | 0.741683 | NA |
| si:dkey-42123.9 | 0.855602886 | -0.591621869 | 2.0951335 | -0.282379 | 0.777653 | NA |
| CR354429.1 | 0 NA | NA | NA | NA | NA | NA |
| yeats2 | 121.4186558 | 0.023571357 | 0.1858863 | 0.1268052 | 0.899095 | 0.990121 |
| si:dkey-77f5.13 | 65.57354357 | -0.155449213 | 0.257007 | -0.604844 | 0.545282 | 0.945526 |
| si:ch211-270g19.5 | 66.3508935 | 0.201872892 | 0.2457055 | 0.8216052 | 0.411302 | 0.903475 |
| BX908753.1 | 6.174849227 | -0.091928317 | 0.7814145 | -0.117643 | 0.90635 | NA |
| si:dkey-4c15.16 | 47.8547376 | 0.459503638 | 0.2997926 | 1.5327383 | 0.12534 | 0.654648 |
| AL808129.1 | 270.2043669 | 0.203377523 | 0.1285345 | 1.5822802 | 0.113586 | 0.631853 |
| CR925802.1 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-40k21.5 | 211.495429 | -0.178396867 | 0.145199 | -1.228637 | 0.219208 | 0.785734 |
| CR847898.2 | 23.23554107 | 0.307403253 | 0.4001385 | 0.7682422 | 0.442343 | 0.916336 |
| AL954322.3 | 4.880236855 | 0.748213537 | 0.8935654 | 0.837335 | 0.402404 | NA |
| si:ch211-266k8.6 | 1.456841292 | -0.346576717 | 1.5569079 | -0.222606 | 0.823842 | NA |
| CU929145.2 | 26.44237416 | 0.151971181 | 0.380224 | 0.3996886 | 0.689386 | 0.966763 |
| si:ch211-222n22.1 | 1.870901621 | 0.845910272 | 1.4518162 | 0.5826566 | 0.560125 | NA |
| CR405687.1 | 1.35525647 | 1.617437907 | 1.7202882 | 0.9402134 | 0.347108 | NA |
| CU571382.2 | 0 NA | NA | NA | NA | NA | NA |
| CR848759.1 | 1.607627531 | 1.245488276 | 1.753893 | 0.7101278 | 0.477625 | NA |
| CU929145.3 | 0.476626891 | 2.395187592 | 2.815932 | 0.8505843 | 0.395 | NA |
| si:ch211-147g22.4 | 24.97718098 | -0.264286389 | 0.4137771 | -0.638717 | 0.523007 | 0.939336 |
| CR381689.1 | 1.551702801 | -0.222354593 | 1.6346833 | -0.136023 | 0.891803 | NA |
| CR352232.1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| CU856222.1 | 770.8434557 | 0.066600528 | 0.1016647 | 0.6550996 | 0.512404 | 0.936253 |
| zgc:174574 | 110.0867051 | -0.141616921 | 0.1927341 | -0.734779 | 0.462474 | 0.922698 |
| BX119902.3 | 0.63196552 | 0.01215153 | 2.613686 | 0.0046492 | 0.99629 | NA |
| si:ch211-261d7.3 | 498.0506785 | -0.078279751 | 0.115072 | -0.680268 | 0.496335 | 0.932415 |
| ANPEP | 183.7631319 | -0.730149974 | 0.1517108 | -4.812775 | 1.49E-06 | 0.000139 |
| FP102892.1 | 0 NA | NA | NA | NA | NA | NA |
| BX323076.2 | 11.40698677 | 0.898418085 | 0.574336 | 1.5642725 | 0.117754 | 0.641446 |
| BX629344.1 | 113.6882938 | 0.042919251 | 0.1878508 | 0.2284752 | 0.819277 | 0.981594 |
| CU855917.1 | 0.680773643 | -2.882718692 | 2.4687055 | -1.167705 | 0.242926 | NA |
| s1c26a6 | 16.83594978 | 0.335163754 | 0.4716124 | 0.7106763 | 0.477285 | 0.926857 |
| CU855758.1 | 0.513487682 | -0.887846295 | 2.6557956 | -0.334305 | 0.738149 | NA |
| BX571762.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|--|----|--|----|
| FP016018.3 | | 0 NA | | NA | | NA | | NA | | NA |
| CR792422.2 | 4.038546139 | -0.707933183 | 0.9582437 | -0.738782 | 0.460039 | NA | | | | |
| flrt2 | 244.4152706 | -0.019897686 | 0.1365865 | -0.145678 | 0.884175 | 0.988784 | | | | |
| BX530017.1 | | 0 NA | | NA | | NA | | NA | | NA |
| CR925755.1 | | 0 NA | | NA | | NA | | NA | | NA |
| tbpl2 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA | | | | |
| BX000358.1 | | 0 NA | | NA | | NA | | NA | | NA |
| si:dkey-238d18.10 | 0.325573202 | 0.005883621 | 3.3172783 | 0.0017736 | 0.998585 | NA | | | | |
| BX901883.1 | | 0 NA | | NA | | NA | | NA | | NA |
| zgc:193812 | 47.97401404 | -0.317130423 | 0.299112 | -1.06024 | 0.289036 | 0.845979 | | | | |
| CT573316.1 | | 0 NA | | NA | | NA | | NA | | NA |
| CR812470.2 | 2.136154996 | -0.279267899 | 1.4098922 | -0.198077 | 0.842984 | NA | | | | |
| si:zfos-1714f5.3 | 2.827899952 | -1.709122766 | 1.2214816 | -1.399221 | 0.161747 | NA | | | | |
| BX927078.1 | | 0 NA | | NA | | NA | | NA | | NA |
| CT027805.1 | 0.966459371 | 0.961723876 | 2.0054341 | 0.479559 | 0.631541 | NA | | | | |
| si:dkey-276j7.3 | 7.892235628 | 0.101739213 | 0.6834315 | 0.1488653 | 0.88166 | NA | | | | |
| BX649242.1 | 1.197089583 | 0.415558675 | 1.7998043 | 0.230891 | 0.817399 | NA | | | | |
| CR848791.3 | 0.339758314 | 0.005883863 | 3.2682461 | 0.0018003 | 0.998564 | NA | | | | |
| BX005183.1 | | 0 NA | | NA | | NA | | NA | | NA |
| si:dkey-81117.6 | 187.350222 | -0.23765477 | 0.1569426 | -1.514279 | 0.129955 | 0.662595 | | | | |
| si:ch211-14i3.2 | 19.12315223 | -0.302570172 | 0.4370063 | -0.69237 | 0.488705 | 0.931926 | | | | |
| BX546473.1 | | 0 NA | | NA | | NA | | NA | | NA |
| BX957270.1 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA | | | | |
| BX005060.1 | | 0 NA | | NA | | NA | | NA | | NA |
| CR759826.1 | | 0 NA | | NA | | NA | | NA | | NA |
| si:dkey-170g13.2 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA | | | | |
| CU571161.1 | | 0 NA | | NA | | NA | | NA | | NA |
| CT573342.1 | 5.519902796 | 0.46241121 | 0.8095749 | 0.5711778 | 0.567879 | NA | | | | |
| CT573316.2 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA | | | | |
| CR759841.1 | 3.041937827 | 0.664810714 | 1.0965847 | 0.6062557 | 0.544345 | NA | | | | |
| CT583687.1 | 0.340386822 | -1.882368278 | 3.2159502 | -0.585323 | 0.558331 | NA | | | | |
| BX000434.1 | | 0 NA | | NA | | NA | | NA | | NA |
| slc9alb | 48.88911376 | 0.505743746 | 0.3471873 | 1.4566886 | 0.145202 | 0.690034 | | | | |
| si:ch211-33e4.2 | 5.718702763 | -0.663820507 | 0.8233197 | -0.806273 | 0.420085 | NA | | | | |
| CR847994.1 | 16.5742137 | 0.014013269 | 0.4644058 | 0.0301746 | 0.975928 | 0.996762 | | | | |
| AL845550.1 | 0.638219549 | -2.807461932 | 2.539214 | -1.105642 | 0.268881 | NA | | | | |
| AL772300.1 | 10.98429696 | -1.420828401 | 0.6039759 | -2.352459 | 0.01865 | NA | | | | |
| CR387932.1 | 0.347458735 | -1.908042286 | 3.4571486 | -0.551912 | 0.581009 | NA | | | | |
| AL935186.2 | 0.341366344 | 1.891903201 | 3.2128156 | 0.5888614 | 0.555954 | NA | | | | |
| ten1 | 51.14878385 | 0.126483738 | 0.275052 | 0.459854 | 0.645621 | 0.96029 | | | | |
| CR854965.2 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA | | | | |
| BX649628.1 | | 0 NA | | NA | | NA | | NA | | NA |
| si:ch211-147g22.7 | 8.044396228 | -0.781054512 | 0.6792357 | -1.149902 | 0.250184 | NA | | | | |
| BX324164.3 | 43.20202888 | -0.167326545 | 0.3019965 | -0.554068 | 0.579532 | 0.951257 | | | | |
| CT027551.1 | | 0 NA | | NA | | NA | | NA | | NA |
| BX901883.2 | 121.5870552 | 0.069345145 | 0.1936111 | 0.3581671 | 0.720218 | 0.969318 | | | | |
| CU638693.3 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA | | | | |
| BX279523.3 | 1.960192347 | 2.322231426 | 1.5804913 | 1.4693098 | 0.141749 | NA | | | | |
| CR790363.1 | 0.690594747 | 1.536595024 | 2.3851901 | 0.6442233 | 0.519431 | NA | | | | |
| CU655820.1 | 6.572316727 | 0.049818768 | 0.8183131 | 0.0608798 | 0.951455 | NA | | | | |
| CU896541.1 | 16.29187582 | -0.192060946 | 0.483512 | -0.397221 | 0.691205 | 0.967295 | | | | |
| si:dkey-244a7.1 | 53.19323965 | 0.190392108 | 0.2635978 | 0.7222826 | 0.470121 | 0.924787 | | | | |
| FP017274.1 | 133.7321142 | 0.281295834 | 0.1792218 | 1.5695402 | 0.116522 | 0.639148 | | | | |
| mcf2b | 35.78604007 | 0.090673808 | 0.3336363 | 0.2717744 | 0.785795 | 0.97627 | | | | |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| si:ch211-139d20.3 | 27.77300961 | 0.05739004 | 0.3606299 | 0.1591383 | 0.87356 | 0.987858 |
| ftr90 | 16.63096384 | 0.114846659 | 0.5123931 | 0.2241378 | 0.82265 | 0.982189 |
| si:dkey-108k21.7 | 68.62442564 | 0.259281764 | 0.2443764 | 1.0609934 | 0.288693 | 0.845979 |
| BX248418.2 | 0 NA | NA | NA | NA | NA | NA |
| CR790366.3 | 0 NA | NA | NA | NA | NA | NA |
| CR387933.1 | 0.491320158 | 0.8528132 | 2.8656354 | 0.2976 | 0.766008 | NA |
| CR936416.1 | 0.648748228 | -0.034664259 | 2.4451882 | -0.014177 | 0.988689 | NA |
| CR812472.2 | 0 NA | NA | NA | NA | NA | NA |
| CR382363.1 | 1.217246733 | -1.273475927 | 1.9578775 | -0.650437 | 0.51541 | NA |
| BX005183.2 | 0.341486697 | 1.892317624 | 3.2124068 | 0.5890654 | 0.555817 | NA |
| BX465853.1 | 0 NA | NA | NA | NA | NA | NA |
| AL929182.1 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-15d5.12 | 107.0048005 | -0.204967644 | 0.2018565 | -1.015413 | 0.309909 | 0.861992 |
| CR854907.1 | 3.326134883 | 0.022489837 | 1.0222522 | 0.0220003 | 0.982448 | NA |
| FP101990.1 | 0 NA | NA | NA | NA | NA | NA |
| BX571853.1 | 4.39326942 | 0.68580426 | 0.9365575 | 0.7322607 | 0.464009 | NA |
| BX530407.4 | 5.104964052 | 1.76863102 | 0.9437094 | 1.8741268 | 0.060913 | NA |
| si:dkey-33c14.7 | 5.016822446 | 0.200051291 | 0.8525089 | 0.2346618 | 0.814471 | NA |
| BX465208.1 | 0 NA | NA | NA | NA | NA | NA |
| BX897720.1 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-77f5.6 | 52.5545694 | -0.074146764 | 0.2683928 | -0.276262 | 0.782347 | 0.97627 |
| BX005459.1 | 0 NA | NA | NA | NA | NA | NA |
| BX539313.1 | 4.686342584 | -0.419930032 | 0.8711711 | -0.482029 | 0.629785 | NA |
| ugt5a4 | 0.807663976 | 0.546685639 | 2.2534268 | 0.2426019 | 0.808314 | NA |
| si:ch73-288o11.4 | 1.151428495 | 1.30584825 | 1.8815101 | 0.6940426 | 0.487655 | NA |
| FP340271.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX470254.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX511308.1 | 1.686533266 | -1.934326135 | 1.6695123 | -1.158617 | 0.246612 | NA |
| si:dkey-273g18.1 | 5.796305574 | 0.741436564 | 0.8000319 | 0.9267587 | 0.354052 | NA |
| si:dkey-81e3.2 | 20.70724128 | 0.363199873 | 0.4292852 | 0.8460573 | 0.397521 | 0.899672 |
| BX547992.2 | 0 NA | NA | NA | NA | NA | NA |
| BX548045.1 | 0 NA | NA | NA | NA | NA | NA |
| CU571319.1 | 1.622870238 | 0.01605098 | 1.4877883 | 0.0107885 | 0.991392 | NA |
| AL928870.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:ch211-106e7.2 | 26.35385037 | -0.337552933 | 0.3951181 | -0.854309 | 0.392934 | 0.897836 |
| lrrc53 | 1.812471815 | 0.241486745 | 1.4258259 | 0.1693662 | 0.865509 | NA |
| si:ch73-306e8.2 | 10.98411511 | 0.562515779 | 0.5898357 | 0.9536821 | 0.340245 | NA |
| CR847793.1 | 1.340710299 | 1.573968029 | 1.8034464 | 0.8727556 | 0.382796 | NA |
| si:ch211-63b16.3 | 7.180081778 | 0.791589682 | 0.7564258 | 1.0464869 | 0.295336 | NA |
| CR786571.4 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |
| si:ch73-250a16.5 | 76.29955184 | -0.028251456 | 0.2315903 | -0.121989 | 0.902908 | 0.990121 |
| si:dkeyp-50b9.1 | 5.702888291 | 0.175323886 | 0.8963739 | 0.1955924 | 0.844929 | NA |
| CU929360.1 | 9.680643111 | 0.833305129 | 0.6353457 | 1.3115775 | 0.189663 | NA |
| CU638870.1 | 38.01053975 | -0.237476022 | 0.3073743 | -0.772596 | 0.439762 | 0.916082 |
| BX569790.2 | 0 NA | NA | NA | NA | NA | NA |
| BX470242.2 | 0 NA | NA | NA | NA | NA | NA |
| BX005461.3 | 2.675108832 | 0.038232043 | 1.152332 | 0.033178 | 0.973533 | NA |
| CR392003.1 | 4.685875714 | -0.181728785 | 0.8657474 | -0.20991 | 0.833738 | NA |
| CT027718.1 | 0.633934609 | 1.436045836 | 2.6103598 | 0.5501333 | 0.582228 | NA |
| BX649398.2 | 4.91104545 | 0.790386396 | 0.8756804 | 0.9025969 | 0.36674 | NA |
| CU928222.1 | 0 NA | NA | NA | NA | NA | NA |
| AL928908.1 | 0 NA | NA | NA | NA | NA | NA |
| BX510360.1 | 0 NA | NA | NA | NA | NA | NA |
| CR788230.2 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| CU855930.1 | 24.39740769 | 0.078879168 | 0.4280408 | 0.1842795 | 0.853794 | 0.985174 |
| si:dkey-77f5.15 | 6.289842561 | -0.774742143 | 0.7514455 | -1.031002 | 0.30254 | NA |
| si:dkey-195m11.8 | 268.149357 | 0.091491249 | 0.1324561 | 0.6907287 | 0.489736 | 0.931926 |
| si:ch211-66i15.5 | 0 | NA | NA | NA | NA | NA |
| BX890600.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| CR925728.3 | 1.18140675 | 2.512918391 | 1.9105304 | 1.3152988 | 0.188409 | NA |
| CR381647.2 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| chmp6a | 9.394222941 | -0.434401994 | 0.6673994 | -0.650888 | 0.515119 | NA |
| CU929070.1 | 92.21993194 | 0.123469067 | 0.2055253 | 0.6007487 | 0.548007 | 0.945768 |
| si:ch211-225b7.5 | 34.06108377 | -0.235810461 | 0.3281564 | -0.718592 | 0.472393 | 0.924838 |
| BX539313.2 | 3.643811529 | -1.80152991 | 1.1058623 | -1.629073 | 0.103298 | NA |
| CR931782.1 | 0 | NA | NA | NA | NA | NA |
| coa3b | 86.30464274 | 0.04249941 | 0.2457703 | 0.1729233 | 0.862712 | 0.985841 |
| BX119963.2 | 3.955911939 | -1.876942077 | 1.0796772 | -1.738429 | 0.082135 | NA |
| si:dkey-208m12.3 | 0 | NA | NA | NA | NA | NA |
| si:dkey-125e8.3 | 12.56134134 | -0.4941014 | 0.5768 | -0.856625 | 0.391652 | 0.897688 |
| CU929339.2 | 0 | NA | NA | NA | NA | NA |
| BX957326.3 | 1.973785738 | 0.45896702 | 1.3297967 | 0.3451407 | 0.729989 | NA |
| CR788249.2 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |
| trmt61b | 150.2828484 | -0.085547126 | 0.1734383 | -0.493242 | 0.621841 | 0.957354 |
| CU207343.2 | 0.474778155 | 0.852397662 | 2.898154 | 0.2941175 | 0.768668 | NA |
| CU693502.1 | 221.3101446 | -0.102204529 | 0.1427623 | -0.715907 | 0.474049 | 0.924993 |
| si:ch73-1f23.1 | 2.144686848 | -1.208846332 | 1.3383997 | -0.903203 | 0.366418 | NA |
| BX927362.1 | 2.141422715 | 1.160869486 | 1.3025367 | 0.8912375 | 0.372802 | NA |
| FP015862.2 | 0.831827332 | -0.648936467 | 2.1146571 | -0.306876 | 0.758938 | NA |
| BX004999.2 | 0 | NA | NA | NA | NA | NA |
| zgc:113340 | 69.95923107 | 0.119198891 | 0.2375988 | 0.5016814 | 0.615892 | 0.95688 |
| CR396585.1 | 0.323844819 | -1.825095364 | 3.274639 | -0.557342 | 0.577293 | NA |
| si:dkey-4c2.11 | 9.977864257 | -0.571357388 | 0.6132901 | -0.931627 | 0.351529 | NA |
| qkia | 2881.289586 | -0.03699402 | 0.070206 | -0.526935 | 0.598238 | 0.955488 |
| si:dkey-263j23.1 | 4.469711363 | -0.11796696 | 0.9177674 | -0.128537 | 0.897724 | NA |
| si:dkey-77f5.11 | 31.34882788 | 0.51313601 | 0.3710536 | 1.382916 | 0.166691 | 0.723339 |
| si:ch211-213d14.2 | 152.9345436 | -0.08004157 | 0.1698433 | -0.471267 | 0.63745 | 0.958872 |
| cfap99 | 13.52303194 | -0.207871856 | 0.5165143 | -0.402451 | 0.687352 | 0.966376 |
| si:ch211-175f11.5 | 0.822518881 | -0.527767586 | 2.1171028 | -0.249288 | 0.803138 | NA |
| si:ch73-390p7.2 | 118.448011 | 0.104316082 | 0.1941628 | 0.5372609 | 0.591087 | 0.954193 |
| AL928908.2 | 0 | NA | NA | NA | NA | NA |
| ugt1b1 | 227.950371 | 0.110168217 | 0.1568173 | 0.7025261 | 0.482351 | 0.928726 |
| AL772314.1 | 424.2219685 | 0.040637168 | 0.148904 | 0.2729085 | 0.784924 | 0.97627 |
| si:dkey-148h10.5 | 17.52369308 | -0.575696083 | 0.4741307 | -1.214214 | 0.224666 | 0.791954 |
| CR382327.2 | 24.8271213 | 0.278309056 | 0.3917065 | 0.7105041 | 0.477392 | 0.926857 |
| CU467639.1 | 0.682973393 | 2.892694129 | 2.4661364 | 1.172966 | 0.240809 | NA |
| si:dkey-6e2.2 | 309.3147879 | -0.047234418 | 0.1319895 | -0.357865 | 0.720444 | 0.969318 |
| BX511253.1 | 0.500282092 | 2.45023829 | 2.5970012 | 0.9434876 | 0.345432 | NA |
| CR450813.2 | 0 | NA | NA | NA | NA | NA |
| BX511311.1 | 0 | NA | NA | NA | NA | NA |
| si:dkey-111k8.3 | 166.2946529 | -0.190983902 | 0.1581818 | -1.207369 | 0.22729 | 0.794617 |
| CU694807.1 | 0 | NA | NA | NA | NA | NA |
| si:ch73-288o11.5 | 126.2594875 | -0.057901207 | 0.1859325 | -0.31141 | 0.755489 | 0.975318 |
| CR626907.3 | 234.4595434 | 0.161769066 | 0.3884104 | 0.41649 | 0.677051 | 0.965257 |
| DNAL1 (1 of many) | 0 | NA | NA | NA | NA | NA |
| BX571780.1 | 1.11645447 | 0.405375708 | 1.833693 | 0.2210707 | 0.825037 | NA |
| BX324164.4 | 30.16960328 | -0.611569131 | 0.3634936 | -1.682476 | 0.092477 | 0.579378 |
| CR848836.1 | 0 | NA | NA | NA | NA | NA |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| si:dkey-245f22.3 | 19.12723936 | 0.766112449 | 0.4418851 | 1.7337367 | 0.082965 | 0.555552 |
| BX890629.1 | 2.233132691 | -0.235299971 | 1.4332413 | -0.164173 | 0.869595 | NA |
| BX649529.1 | 84.25139889 | 0.01649667 | 0.2221376 | 0.0742633 | 0.940801 | 0.992857 |
| CT573383.1 | 62.19163897 | 0.215808073 | 0.264438 | 0.8161007 | 0.414443 | 0.906237 |
| CR854989.1 | 3.658151491 | 0.292741938 | 0.9784745 | 0.299182 | 0.764801 | NA |
| CR751227.1 | 1.626327003 | 1.212512227 | 1.5424246 | 0.7861079 | 0.431804 | NA |
| BX323016.1 | 2.83873836 | 0.138056734 | 1.1655859 | 0.1184441 | 0.905716 | NA |
| BX537110.1 | 24.72615587 | 0.611474063 | 0.3997772 | 1.5295369 | 0.126131 | 0.654806 |
| AL935300.2 | 0.960634429 | 2.169987751 | 2.2906136 | 0.9473391 | 0.343466 | NA |
| si:dkey-111k8.5 | 53.22991432 | 0.173154407 | 0.2659985 | 0.6509602 | 0.515072 | 0.937646 |
| si:ch73-364h19.1 | 51.48557676 | 0.108049174 | 0.2779881 | 0.3886827 | 0.697511 | 0.9679 |
| BX005129.2 | 3.284247079 | -0.313094724 | 1.0504113 | -0.298069 | 0.765651 | NA |
| AL928724.1 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |
| CU466287.2 | 13.11159212 | -0.215265505 | 0.5445696 | -0.395295 | 0.692625 | 0.96736 |
| ms4a17a.5 | 6.111320098 | -0.073296755 | 0.7543206 | -0.097169 | 0.922592 | NA |
| si:dkey-7j14.5 | 1239.217744 | 0.042076589 | 0.0895978 | 0.4696161 | 0.638629 | 0.959628 |
| CR847983.1 | 0 NA | NA | NA | NA | NA | NA |
| xkr5b | 93.70253278 | 0.070833517 | 0.2069149 | 0.3423316 | 0.732101 | 0.971665 |
| pimr26 | 0 NA | NA | NA | NA | NA | NA |
| si:ch73-93k15.5 | 0 NA | NA | NA | NA | NA | NA |
| BX571880.1 | 229.9505776 | 0.149697633 | 0.1852455 | 0.808104 | 0.419031 | 0.906406 |
| si:ch211-252f13.5 | 40.82664262 | 0.474739684 | 0.3277137 | 1.4486418 | 0.147438 | 0.694625 |
| CR848844.1 | 28.81556003 | 0.251471617 | 0.36599 | 0.6870996 | 0.49202 | 0.931926 |
| wwpl | 1204.204945 | -0.032005617 | 0.0854015 | -0.374766 | 0.707834 | 0.968664 |
| CR627496.1 | 0.981942784 | -1.029083186 | 1.9080416 | -0.53934 | 0.589652 | NA |
| si:ch211-39f2.3 | 10.42746954 | -0.880917124 | 0.5993614 | -1.469759 | 0.141627 | NA |
| pimr62 | 0 NA | NA | NA | NA | NA | NA |
| CU137680.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| CU633855.1 | 0 NA | NA | NA | NA | NA | NA |
| cbx6b | 34.23560852 | 0.058896199 | 0.3338099 | 0.1764363 | 0.859951 | 0.985773 |
| si:ch211-40k21.9 | 61.33725214 | -0.554340549 | 0.2547479 | -2.176036 | 0.029553 | 0.332786 |
| AL954861.1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| CR450727.1 | 82.74240847 | 0.241046591 | 0.2340864 | 1.0297336 | 0.303135 | 0.85729 |
| CT573103.1 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-7i4.15 | 44.26999235 | 0.389340673 | 0.2994472 | 1.300198 | 0.193533 | 0.757219 |
| AL772362.1 | 0.81823394 | 3.165585784 | 2.3439761 | 1.3505196 | 0.176849 | NA |
| BX908750.1 | 41.17425501 | 0.246213923 | 0.3027558 | 0.8132427 | 0.416079 | 0.906237 |
| cyp8b2 | 5.987299308 | 0.019910089 | 0.7638936 | 0.026064 | 0.979206 | NA |
| BX511311.2 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| cyp8b3 | 15.60974665 | -0.065063711 | 0.4763226 | -0.136596 | 0.89135 | 0.989291 |
| BX511311.3 | 117.3057233 | 0.178817055 | 0.2158699 | 0.8283558 | 0.407469 | 0.901305 |
| CR847503.2 | 0 NA | NA | NA | NA | NA | NA |
| BX005083.1 | 0.330916733 | -1.849579229 | 3.2489867 | -0.569279 | 0.569167 | NA |
| si:ch211-151m7.6 | 0.682853041 | 2.891318346 | 2.3286279 | 1.2416403 | 0.214369 | NA |
| si:ch73-190f9.4 | 0.340386822 | -1.882368278 | 3.2159502 | -0.585323 | 0.558331 | NA |
| BX072576.3 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-256e16.10 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-208c12.2 | 18.78687471 | 0.715100547 | 0.4464967 | 1.6015807 | 0.109248 | 0.623132 |
| CR391977.1 | 0 NA | NA | NA | NA | NA | NA |
| FP102921.2 | 0.847620474 | 0.550669627 | 2.2003584 | 0.2502636 | 0.802383 | NA |
| si:dkey-114124.2 | 11.82398567 | 1.674951796 | 0.5839487 | 2.8683203 | 0.004127 | 0.089082 |
| ptprt | 23.70192028 | 0.124673582 | 0.4038711 | 0.3086965 | 0.757552 | 0.975374 |
| si:ch211-107e6.5 | 4.471949143 | -0.081400179 | 0.8874605 | -0.091723 | 0.926918 | NA |
| CR847898.3 | 5.051188451 | -1.291838366 | 0.8871025 | -1.456245 | 0.145325 | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| CU914602.1 | 17.08399337 | 0.473699881 | 0.4631911 | 1.0226879 | 0.306455 | 0.860027 |
| zgc:92912 | 86.41794598 | 0.399373115 | 0.2350906 | 1.6988049 | 0.089356 | 0.572876 |
| BX294100.2 | 0.476506538 | 2.394892832 | 2.8161716 | 0.8504073 | 0.395099 | NA |
| CT573048.1 | 0.647019846 | -1.455099716 | 2.4289208 | -0.599073 | 0.549125 | NA |
| BX663519.1 | 6.591603422 | -0.126700525 | 0.7352199 | -0.17233 | 0.863178 | NA |
| CR376740.2 | 0.863344592 | -1.91853867 | 2.2027225 | -0.870985 | 0.383762 | NA |
| arfgap3 | 236.2125636 | -0.209036898 | 0.1445967 | -1.445654 | 0.148274 | 0.696298 |
| si:dkey-238d18.6 | 0 NA | NA | NA | NA | NA | NA |
| CR548634.2 | 1.951268442 | -0.471982518 | 1.416302 | -0.33325 | 0.738946 | NA |
| BX664750.3 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-175d9.1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| proser3 | 80.45932118 | -0.402543955 | 0.2179145 | -1.847256 | 0.06471 | 0.497355 |
| si:dkey-40c23.1 | 5.101474207 | -0.853404779 | 0.8763694 | -0.973796 | 0.330158 | NA |
| BX548024.1 | 0.514116189 | -2.475533565 | 2.7461255 | -0.901464 | 0.367342 | NA |
| FP236741.1 | 5.306123322 | 0.375251937 | 0.8149602 | 0.4604543 | 0.64519 | NA |
| BX682556.1 | 2.982881774 | 0.648103983 | 1.1218246 | 0.5777231 | 0.563451 | NA |
| tac3b | 60.05258724 | 0.07257642 | 0.2482995 | 0.2922938 | 0.770062 | 0.975687 |
| BX088688.3 | 0.705528719 | 0.06743937 | 2.3808454 | 0.0283258 | 0.977402 | NA |
| CR925804.1 | 1.667503729 | 3.073229702 | 1.7154383 | 1.7915128 | 0.073211 | NA |
| si:ch211-66h3.4 | 0.316103113 | 0.005883447 | 3.3519121 | 0.0017553 | 0.9986 | NA |
| CT868708.1 | 0.831198824 | 0.593716313 | 2.0278563 | 0.2927803 | 0.76969 | NA |
| BX072559.1 | 1.164005578 | 0.473149093 | 1.8147078 | 0.2607302 | 0.794301 | NA |
| CU571382.3 | 0 NA | NA | NA | NA | NA | NA |
| BX465205.2 | 0 NA | NA | NA | NA | NA | NA |
| CU137681.1 | 7.045272643 | 0.337401201 | 0.7266857 | 0.4643014 | 0.642432 | NA |
| tmem82 | 71.79713447 | -0.169528191 | 0.2358122 | -0.718912 | 0.472195 | 0.924838 |
| BX324166.1 | 0 NA | NA | NA | NA | NA | NA |
| CU929312.1 | 1.519085666 | -0.960820623 | 1.561202 | -0.615436 | 0.538267 | NA |
| BX005183.3 | 106.2204441 | -0.029756887 | 0.2132781 | -0.139522 | 0.889038 | 0.989291 |
| CU896691.2 | 0.955930692 | -0.991824331 | 2.0140721 | -0.492447 | 0.622403 | NA |
| si:dkey-24111.2 | 0 NA | NA | NA | NA | NA | NA |
| igfn1.3 | 1849.118466 | 0.684935461 | 0.0861049 | 7.9546665 | 1.80E-15 | 9.60E-13 |
| si:ch211-108d22.2 | 117.0079712 | 0.318981691 | 0.229949 | 1.3871848 | 0.165385 | 0.721223 |
| BX908796.1 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-178n15.1 | 124.8612983 | -0.059397147 | 0.2064856 | -0.287658 | 0.773609 | 0.975687 |
| FP102073.1 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX571794.1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:ch211-210b2.1 | 170.3112529 | -0.178401773 | 0.1805636 | -0.988027 | 0.323139 | 0.870607 |
| BX936342.1 | 0.341366344 | 1.891903201 | 3.2128156 | 0.5888614 | 0.555954 | NA |
| si:dkey-42p14.6 | 0 NA | NA | NA | NA | NA | NA |
| CU137681.2 | 0 NA | NA | NA | NA | NA | NA |
| BX323450.1 | 0 NA | NA | NA | NA | NA | NA |
| CR762400.1 | 0.837170863 | -1.914744291 | 2.2413088 | -0.854297 | 0.39294 | NA |
| si:dkey-7i4.14 | 4.661580719 | 0.621544004 | 0.8764442 | 0.7091655 | 0.478222 | NA |
| FP102794.2 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:ch211-282b22.1 | 166.6205777 | 0.197977429 | 0.177783 | 1.1135901 | 0.265455 | 0.831302 |
| BX005101.1 | 0 NA | NA | NA | NA | NA | NA |
| CU306817.1 | 4.140681396 | -0.580134982 | 0.9250477 | -0.627141 | 0.530567 | NA |
| wu:fb18f06 | 516.0257822 | -0.123252684 | 0.3886999 | -0.31709 | 0.751176 | 0.97419 |
| AL928908.3 | 8.127267753 | 1.080969928 | 0.7364091 | 1.4678932 | 0.142133 | NA |
| si:ch211-246i5.5 | 253.2077275 | -0.120891522 | 0.1344496 | -0.899159 | 0.368568 | 0.888057 |
| CR848661.1 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:ch73-265h17.4 | 6.621521321 | 0.903554781 | 0.8599918 | 1.0506551 | 0.293417 | NA |
| BX120006.3 | 0.325573202 | 0.005883621 | 3.3172783 | 0.0017736 | 0.998585 | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| CR589941.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CU469568.3 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| CU138509.1 | 2.08755984 | -0.687114731 | 1.4598757 | -0.470667 | 0.637879 | NA |
| CU571091.1 | 0 | NA | NA | NA | NA | NA |
| BX936393.1 | 2.456158504 | 0.590997614 | 1.296749 | 0.4557533 | 0.648567 | NA |
| BX511021.2 | 6.006776622 | 0.357849769 | 0.8333441 | 0.4294142 | 0.667622 | NA |
| si:dkey-35i13.1 | 1043.012251 | 0.057803802 | 0.0960238 | 0.6019734 | 0.547192 | 0.945526 |
| FP243382.1 | 0 | NA | NA | NA | NA | NA |
| atg2b | 1.956333238 | 0.979788459 | 1.397679 | 0.7010111 | 0.483296 | NA |
| tgm8 | 0.339758314 | 0.005883863 | 3.2682461 | 0.0018003 | 0.998564 | NA |
| si:dkey-234i14.2 | 161.5812134 | -0.203754263 | 0.1732602 | -1.176001 | 0.239594 | 0.808091 |
| si:dkey-23k10.3 | 13.59131788 | -0.50396505 | 0.5597502 | -0.900339 | 0.36794 | 0.887482 |
| CR556709.1 | 0.332524763 | 0.005883742 | 3.292841 | 0.0017868 | 0.998574 | NA |
| CR381579.2 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |
| si:dkey-7i4.16 | 15.52073907 | 0.059145308 | 0.5073256 | 0.1165825 | 0.907191 | 0.990702 |
| BX001030.2 | 0 | NA | NA | NA | NA | NA |
| BX936406.2 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| trappc2 | 717.5011266 | -0.054309982 | 0.1102939 | -0.492412 | 0.622428 | 0.957354 |
| BX511124.1 | 0 | NA | NA | NA | NA | NA |
| tesmin | 0.497574187 | -2.437446738 | 2.6012773 | -0.937019 | 0.348749 | NA |
| BX324206.2 | 251.2353742 | -0.016693373 | 0.1474868 | -0.113186 | 0.909883 | 0.990702 |
| si:ch211-235m3.10 | 97.61100882 | 0.139975718 | 0.2047979 | 0.6834823 | 0.494302 | 0.931926 |
| CU076099.1 | 6.786828283 | -0.807092876 | 0.7399194 | -1.090785 | 0.275368 | NA |
| BX569785.1 | 3.331127399 | -1.220879481 | 1.059262 | -1.152576 | 0.249085 | NA |
| si:ch211-13912.1 | 0.871516381 | 0.597595468 | 2.1830013 | 0.2737495 | 0.784277 | NA |
| BX005048.1 | 2.825303351 | -0.153247859 | 1.0990189 | -0.139441 | 0.889102 | NA |
| CR381579.3 | 0 | NA | NA | NA | NA | NA |
| FP016235.1 | 1.371798472 | 1.585251294 | 1.7681373 | 0.8965657 | 0.369951 | NA |
| CU633978.1 | 0.489712128 | -0.887840729 | 2.693685 | -0.329601 | 0.741702 | NA |
| CU207301.2 | 0.476747244 | 2.393381959 | 3.0525537 | 0.7840589 | 0.433006 | NA |
| CR450824.1 | 0.957659075 | -0.005829811 | 1.9622935 | -0.002971 | 0.99763 | NA |
| ftr90 | 2.537720814 | 1.029316458 | 1.2979922 | 0.7930066 | 0.427774 | NA |
| si:ch211-241f5.3 | 13.84922759 | -0.348914221 | 0.5666871 | -0.615709 | 0.538087 | 0.943336 |
| si:ch211-244k5.1 | 0.678375468 | -2.878459328 | 2.4926399 | -1.154783 | 0.248179 | NA |
| CR383683.1 | 0 | NA | NA | NA | NA | NA |
| sptbn5 | 301.4082733 | -0.133044559 | 0.128733 | -1.033492 | 0.301374 | 0.856944 |
| si:ch211-235i11.3 | 56.22873339 | 0.194131864 | 0.2708137 | 0.7168465 | 0.473469 | 0.924993 |
| FP325112.1 | 1.213552517 | 0.460811839 | 1.8129902 | 0.2541723 | 0.799362 | NA |
| CT573316.3 | 0 | NA | NA | NA | NA | NA |
| si:ch73-265h17.5 | 0.31598276 | 0.005883445 | 3.3523626 | 0.001755 | 0.9986 | NA |
| CT867948.1 | 0.666939546 | 1.487980453 | 2.2924711 | 0.6490727 | 0.516291 | NA |
| BX629346.2 | 0 | NA | NA | NA | NA | NA |
| pclaf | 94.8660572 | -0.087538199 | 0.209761 | -0.417323 | 0.676442 | 0.965257 |
| si:ch211-116o3.5 | 345.9632217 | 0.01337926 | 0.1190701 | 0.1123646 | 0.910534 | 0.990805 |
| si:ch211-248a14.8 | 412.9098232 | -0.810080242 | 0.1135077 | -7.136784 | 9.55E-13 | 3.37E-10 |
| CU137681.3 | 0.365141898 | 1.973577737 | 3.3927314 | 0.5817076 | 0.560764 | NA |
| si:ch73-71c20.5 | 189.641317 | -0.057835776 | 0.1598409 | -0.361833 | 0.717477 | 0.96909 |
| si:dkey-117a8.4 | 0.31598276 | 0.005883445 | 3.3523626 | 0.001755 | 0.9986 | NA |
| si:dkey-23k10.2 | 5.820720922 | 0.08913485 | 0.7749794 | 0.1150158 | 0.908433 | NA |
| AL954831.1 | 11.63417131 | -2.156752745 | 0.6607951 | -3.263875 | 0.001099 | 0.033254 |
| si:ch1073-66123.1 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| ccdc36 | 0.325573202 | 0.005883621 | 3.3172783 | 0.0017736 | 0.998585 | NA |
| birc6-as2 | 277.3386825 | 0.065289253 | 0.1307809 | 0.4992264 | 0.61762 | 0.957354 |
| BX323807.2 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| CR786576.1 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX957311.1 | 0.657349104 | 1.487939685 | 2.418178 | 0.6153144 | 0.538347 | NA |
| CR848667.1 | 64.87118854 | -0.238473278 | 0.2582381 | -0.923463 | 0.355766 | 0.882675 |
| BX927318.1 | 0 NA | NA | NA | NA | NA | NA |
| FP017215.1 | 61.0240387 | 0.093037795 | 0.2626269 | 0.3542584 | 0.723145 | 0.970402 |
| BX571794.2 | 0 NA | NA | NA | NA | NA | NA |
| stard10 | 407.0578637 | -0.111008579 | 0.1216448 | -0.912563 | 0.361472 | 0.885719 |
| CU469514.1 | 9.633229107 | -0.217189841 | 0.6519728 | -0.333127 | 0.739038 | NA |
| BX005129.3 | 1.307705362 | 1.570322523 | 1.7311786 | 0.9070829 | 0.364363 | NA |
| CU207301.3 | 55.05136116 | -0.196518874 | 0.2690863 | -0.730319 | 0.465195 | 0.923671 |
| BX927282.3 | 0.323844819 | -1.825095364 | 3.274639 | -0.557342 | 0.577293 | NA |
| BX936342.2 | 7.119768586 | -0.51306066 | 0.7780991 | -0.659377 | 0.509654 | NA |
| si:dkey-96g2.1 | 81.11515261 | 0.224024542 | 0.239657 | 0.9347716 | 0.349906 | 0.880195 |
| si:ch211-149e23.4 | 6.830865503 | 0.964924105 | 0.7301415 | 1.3215577 | 0.186315 | NA |
| CR388132.1 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CR352243.2 | 1.345005284 | -3.868052513 | 1.8793794 | -2.058154 | 0.039575 | NA |
| CR936482.1 | 50.86453932 | -0.054686354 | 0.2721382 | -0.200951 | 0.840737 | 0.985092 |
| CR932000.1 | 2.419057007 | 1.447667353 | 1.3204404 | 1.0963519 | 0.272925 | NA |
| BX957346.3 | 0.650476611 | 1.436325931 | 2.5890223 | 0.5547754 | 0.579048 | NA |
| CR628365.1 | 5.646950269 | 0.164583181 | 0.7969749 | 0.2065099 | 0.836393 | NA |
| si:dkey-188h10.3 | 29.72911578 | -0.105150101 | 0.3739276 | -0.281204 | 0.778554 | 0.975942 |
| AL929222.2 | 232.3066419 | 0.004785965 | 0.1459721 | 0.0327869 | 0.973845 | 0.996316 |
| si:dkey-238d18.9 | 0 NA | NA | NA | NA | NA | NA |
| e1ob | 69.67235698 | 0.039713676 | 0.2552904 | 0.1555627 | 0.876378 | 0.987881 |
| CT954240.1 | 11.69215885 | 0.509933207 | 0.5805413 | 0.8783754 | 0.37974 | 0.895192 |
| si:dkey-276j7.2 | 6.240876056 | 0.146482846 | 0.7465726 | 0.1962071 | 0.844448 | NA |
| CU861501.1 | 0 NA | NA | NA | NA | NA | NA |
| BX323987.1 | 0 NA | NA | NA | NA | NA | NA |
| si:rp71-7711.1 | 194.8013077 | -0.062351452 | 0.160018 | -0.389653 | 0.696793 | 0.96736 |
| CU464118.1 | 16.84385782 | -0.343728319 | 0.46631 | -0.737124 | 0.461047 | 0.922038 |
| CR381621.1 | 0.496945679 | -0.834564081 | 2.8549631 | -0.29232 | 0.770042 | NA |
| BX511195.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| CR854827.3 | 6.167897666 | -0.089508803 | 0.7668564 | -0.116722 | 0.907081 | NA |
| si:rp71-7711.2 | 5.839687843 | -0.092318545 | 0.8058766 | -0.114557 | 0.908797 | NA |
| slirp | 464.7855245 | 0.057915276 | 0.1187364 | 0.4877635 | 0.625717 | 0.957354 |
| CR749763.5 | 0 NA | NA | NA | NA | NA | NA |
| CR626882.3 | 2.3196264 | 0.865094859 | 1.3065791 | 0.6621067 | 0.507903 | NA |
| BX511010.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CU929206.2 | 2.096119431 | -0.243119099 | 1.3460585 | -0.180616 | 0.856669 | NA |
| CR628327.1 | 2.658446477 | 0.052794587 | 1.2320497 | 0.042851 | 0.96582 | NA |
| BX005234.1 | 12.91137592 | 0.444713445 | 0.5303063 | 0.8385973 | 0.401695 | 0.90084 |
| CU693494.2 | 7.571844566 | -0.500165671 | 0.7311573 | -0.684074 | 0.493928 | NA |
| CT573392.1 | 7.193105622 | -0.345332504 | 0.7160026 | -0.482306 | 0.629588 | NA |
| BX936364.1 | 1.824409104 | 2.133966183 | 1.6102851 | 1.3252101 | 0.185101 | NA |
| BX537342.1 | 66.33248613 | 0.069146889 | 0.2473129 | 0.2795928 | 0.77979 | 0.976146 |
| mhc11ia | 4.867857203 | -0.695495728 | 0.9608646 | -0.723823 | 0.469174 | NA |
| BX000438.1 | 13.92085297 | 0.925284113 | 0.513457 | 1.8020674 | 0.071535 | 0.522931 |
| BX649397.1 | 0.339758314 | 0.005883863 | 3.2682461 | 0.0018003 | 0.998564 | NA |
| si:ch211-167j9.4 | 163.9225224 | 0.016326865 | 0.1714781 | 0.0952125 | 0.924146 | 0.992676 |
| BX571786.1 | 0.498674062 | 0.926637565 | 2.6784892 | 0.3459553 | 0.729376 | NA |
| si:ch211-185a18.2 | 120.4820836 | 0.002172586 | 0.1949908 | 0.011142 | 0.99111 | 0.997679 |
| CR391910.3 | 31.26832741 | -0.168322895 | 0.3476509 | -0.484172 | 0.628264 | 0.957354 |
| CR387996.1 | 8.146601351 | 0.072717656 | 0.6561651 | 0.1108222 | 0.911757 | NA |
| BX465205.3 | 0 NA | NA | NA | NA | NA | NA |

| | | | | | | |
|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| si:ch1073-80i24.3 | 1.03821512 | 0.108887395 | 2.0296353 | 0.0536487 | 0.957215 | NA |
| BX005183.4 | 0 | NA | NA | NA | NA | NA |
| CR385053.2 | 0 | NA | NA | NA | NA | NA |
| BX649559.1 | 2.956467339 | 0.638032639 | 1.0953084 | 0.5825141 | 0.56022 | NA |
| CU683879.2 | 1.817897916 | -0.178150001 | 1.5333529 | -0.116183 | 0.907507 | NA |
| si:dkey-42123.4 | 0.365141898 | 1.973577737 | 3.3927314 | 0.5817076 | 0.560764 | NA |
| ccdc162 | 0.82223689 | -0.634107248 | 2.2243871 | -0.285071 | 0.77559 | NA |
| CU467862.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| BX572077.2 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| pon3.2 | 128.4781951 | 0.097044816 | 0.1810421 | 0.5360346 | 0.591935 | 0.954434 |
| si:dkey-234i14.6 | 56.70970534 | -0.332815008 | 0.2749378 | -1.21051 | 0.226083 | 0.793638 |
| FP325112.2 | 0.65919784 | 2.852228985 | 2.3514193 | 1.2129819 | 0.225137 | NA |
| si:ch211-33e4.3 | 0.341486697 | 1.892317624 | 3.2124068 | 0.5890654 | 0.555817 | NA |
| CR626944.1 | 26.42144536 | -0.379804236 | 0.3714747 | -1.022423 | 0.306581 | 0.860027 |
| zgc:162952 | 101.0213417 | -0.333126545 | 0.197469 | -1.686982 | 0.091607 | 0.57849 |
| AL845357.1 | 0 | NA | NA | NA | NA | NA |
| tomm6 | 454.3891173 | -0.096069955 | 0.1074166 | -0.894368 | 0.371125 | 0.891368 |
| CU929037.3 | 0.990234925 | 0.997648457 | 1.9937656 | 0.500384 | 0.616805 | NA |
| zgc:194207 | 21.93246185 | -0.329975865 | 0.4139957 | -0.797051 | 0.425421 | 0.908944 |
| CR788235.1 | 9.7309971 | -0.269219972 | 0.6451779 | -0.41728 | 0.676473 | NA |
| BX470154.1 | 0.658957134 | 2.851427774 | 2.5143902 | 1.1340434 | 0.256776 | NA |
| si:dkey-238d18.12 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:ch211-275j6.5 | 149.6087404 | -0.175761561 | 0.1686202 | -1.042352 | 0.297249 | 0.853945 |
| lypc | 249.8912572 | -0.325457356 | 0.1459595 | -2.229778 | 0.025762 | 0.310555 |
| CR376747.1 | 0.347458735 | -1.908042286 | 3.4571486 | -0.551912 | 0.581009 | NA |
| BX530017.2 | 0.649418021 | -1.460710349 | 2.4263694 | -0.602015 | 0.547164 | NA |
| si:dkey-77f5.4 | 87.18585644 | -0.215387036 | 0.2146738 | -1.003322 | 0.315705 | 0.866931 |
| si:ch211-256e16.8 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CR925777.1 | 1.84053231 | -1.37010149 | 1.4806889 | -0.925314 | 0.354803 | NA |
| BX324126.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:ch73-144d13.5 | 37.44085726 | 0.227053115 | 0.3242909 | 0.7001526 | 0.483832 | 0.929461 |
| BX927323.1 | 3.447718472 | -0.16613126 | 1.0336897 | -0.160717 | 0.872316 | NA |
| CU928129.1 | 18.65434265 | 0.139546779 | 0.4738975 | 0.2944662 | 0.768402 | 0.975687 |
| si:dkey-117a8.1 | 11.00960235 | 0.470630309 | 0.6157065 | 0.7643744 | 0.444644 | NA |
| CT027582.2 | 0 | NA | NA | NA | NA | NA |
| zfn576.1 | 445.6729692 | 0.080945564 | 0.1110559 | 0.7288719 | 0.46608 | 0.923865 |
| BX005129.4 | 2.43077492 | 0.191228689 | 1.3198632 | 0.1448852 | 0.884801 | NA |
| CR933839.1 | 0 | NA | NA | NA | NA | NA |
| CU464125.1 | 0 | NA | NA | NA | NA | NA |
| smco4 | 174.7682576 | 0.059958828 | 0.1605675 | 0.3734181 | 0.708837 | 0.968664 |
| BX465227.1 | 107.1683688 | -0.006803363 | 0.2049323 | -0.033198 | 0.973517 | 0.996315 |
| si:dkey-239b22.2 | 827.8343215 | 0.07292412 | 0.095995 | 0.7596659 | 0.447454 | 0.917154 |
| lrplaa | 2439.892972 | 0.078945423 | 0.0799365 | 0.987602 | 0.323348 | 0.870761 |
| CR848825.1 | 0 | NA | NA | NA | NA | NA |
| CU463231.1 | 1.81137194 | -0.850924164 | 1.44611 | -0.588423 | 0.556249 | NA |
| CR382327.3 | 36.86108574 | 0.061235614 | 0.3480782 | 0.1759249 | 0.860353 | 0.985773 |
| BX571712.1 | 0.69605863 | 0.094390757 | 2.3912825 | 0.0394729 | 0.968513 | NA |
| CR388050.1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| pimr40 | 0 | NA | NA | NA | NA | NA |
| si:dkey-42123.1 | 1.005718337 | -0.979164561 | 1.8926618 | -0.517348 | 0.604913 | NA |
| si:ch211-235i11.6 | 24.12032578 | -0.614508688 | 0.4040379 | -1.520918 | 0.12828 | 0.658954 |
| si:dkey-42123.6 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| CR933730.1 | 8.095741417 | 0.139573932 | 0.679507 | 0.2054047 | 0.837256 | NA |
| zfn1134 | 106.9072146 | -0.00841241 | 0.1926622 | -0.043664 | 0.965172 | 0.996154 |

| | | | | | | |
|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| BX088540.1 | 1.383275679 | -0.656799705 | 1.8044095 | -0.363997 | 0.71586 | NA |
| si:ch211-105j21.9 | 98.47180405 | -0.139140114 | 0.2292979 | -0.606809 | 0.543977 | 0.945438 |
| si:dkey-74h17.3 | 0.323844819 | -1.825095364 | 3.274639 | -0.557342 | 0.577293 | NA |
| si:ch211-269k10.4 | 3.014007976 | -0.610927598 | 1.0969643 | -0.556926 | 0.577578 | NA |
| BX927395.1 | 0 | NA | NA | NA | NA | NA |
| CT583687.2 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CR792439.1 | 1.721188513 | 1.296357207 | 1.608938 | 0.8057223 | 0.420403 | NA |
| BX323586.3 | 165.451494 | 0.058072462 | 0.1729969 | 0.335685 | 0.737108 | 0.972535 |
| CR377210.1 | 4.38081309 | 0.128634759 | 0.9796286 | 0.1313097 | 0.89553 | NA |
| BX255963.2 | 1.345943521 | -1.646286758 | 1.8089979 | -0.910055 | 0.362794 | NA |
| CT025854.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX324134.1 | 0 | NA | NA | NA | NA | NA |
| CR376776.1 | 0.641435609 | -0.01573847 | 2.4541227 | -0.006413 | 0.994883 | NA |
| CU041346.1 | 0 | NA | NA | NA | NA | NA |
| si:dkeyp-84f3.9 | 361.4847919 | -0.038771604 | 0.1154981 | -0.33569 | 0.737104 | 0.972535 |
| CR847983.2 | 0 | NA | NA | NA | NA | NA |
| CR381579.4 | 0.317711143 | 1.810477155 | 3.2978238 | 0.5489915 | 0.583011 | NA |
| BX294160.1 | 26.88149346 | -0.169685455 | 0.3637669 | -0.466468 | 0.640881 | 0.959994 |
| si:dkey-1m11.6 | 9.44411535 | 0.650130297 | 0.6391851 | 1.0171237 | 0.309095 | NA |
| pimr13 | 0 | NA | NA | NA | NA | NA |
| si:ch1073-145m9.1 | 38.32885917 | -0.011612691 | 0.318611 | -0.036448 | 0.970925 | 0.996315 |
| si:ch211-137j23.6 | 2.169603562 | -0.184549162 | 1.2705658 | -0.14525 | 0.884514 | NA |
| BX530721.1 | 1.479637323 | -1.831571174 | 1.7087478 | -1.071879 | 0.283774 | NA |
| BX548170.1 | 0 | NA | NA | NA | NA | NA |
| CR786577.1 | 103.5934394 | -0.030313038 | 0.1988818 | -0.152417 | 0.878858 | 0.987881 |
| si:dkey-40g16.5 | 1.821862836 | 0.277118821 | 1.3683718 | 0.2025172 | 0.839512 | NA |
| si:ch211-167b20.8 | 311.7006891 | 0.150778341 | 0.1245838 | 1.2102562 | 0.226181 | 0.793699 |
| CU694532.1 | 19.19541012 | -0.227887683 | 0.4908593 | -0.464263 | 0.64246 | 0.959994 |
| BX323824.1 | 10.70795982 | -0.21578648 | 0.5841125 | -0.369426 | 0.71181 | NA |
| CR936518.2 | 1.649579861 | 1.177080862 | 1.5643645 | 0.7524339 | 0.45179 | NA |
| CR759927.2 | 13.58033287 | -0.196388789 | 0.5152725 | -0.381136 | 0.703103 | 0.968134 |
| CU928013.1 | 126.7394458 | -0.118007886 | 0.178447 | -0.661305 | 0.508417 | 0.93575 |
| CU104777.1 | 30.61815223 | -0.78046587 | 0.3689007 | -2.115653 | 0.034374 | 0.360397 |
| BX293559.1 | 0 | NA | NA | NA | NA | NA |
| si:ch73-265h17.2 | 1.664675471 | 0.590386896 | 1.4423769 | 0.4093153 | 0.682308 | NA |
| si:ch1073-100f3.2 | 35.07456725 | 0.09260592 | 0.3370951 | 0.2747175 | 0.783533 | 0.97627 |
| CR751227.2 | 4.442074287 | -0.662365379 | 0.9584808 | -0.691058 | 0.489529 | NA |
| BX470264.1 | 246.3363215 | 0.070730094 | 0.1374265 | 0.5146758 | 0.60678 | 0.956718 |
| CR352228.1 | 1.332030356 | 0.764519523 | 1.7290471 | 0.4421623 | 0.658372 | NA |
| BX000451.1 | 0.998646424 | -0.967051882 | 1.9878844 | -0.486473 | 0.626632 | NA |
| sgipla | 1125.270141 | 0.191988865 | 0.0874445 | 2.1955504 | 0.028124 | 0.325071 |
| BX649266.2 | 0 | NA | NA | NA | NA | NA |
| si:ch73-90p23.1 | 4.934307356 | -0.614482725 | 0.8761549 | -0.70134 | 0.483091 | NA |
| si:ch73-204p21.2 | 388.4779185 | -0.170628114 | 0.1233484 | -1.383302 | 0.166572 | 0.723276 |
| BX927184.1 | 193.5061304 | 0.024448382 | 0.1610901 | 0.1517684 | 0.87937 | 0.987881 |
| CR387921.1 | 0.513487682 | -0.887846295 | 2.6557956 | -0.334305 | 0.738149 | NA |
| CU928083.1 | 2.308396687 | -0.898297445 | 1.409892 | -0.637139 | 0.524034 | NA |
| BX322555.4 | 3.399928744 | 0.950587486 | 1.0958152 | 0.8674706 | 0.385684 | NA |
| si:dkey-195m11.11 | 28.72459228 | -0.33776229 | 0.3641779 | -0.927465 | 0.353685 | 0.881976 |
| BX293567.1 | 4.783024248 | -1.644244418 | 0.9096227 | -1.807611 | 0.070667 | NA |
| CU179756.1 | 1.702446761 | -1.140108979 | 1.5927163 | -0.715827 | 0.474098 | NA |
| BX649356.1 | 0 | NA | NA | NA | NA | NA |
| CT574587.1 | 1.643418446 | 0.563086621 | 1.5874073 | 0.354721 | 0.722799 | NA |
| AL929309.1 | 0.31759079 | 1.807926197 | 3.579045 | 0.5051421 | 0.613459 | NA |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| si:ch211-137j23.7 | 0 | NA | NA | NA | NA | NA |
| AL954666.1 | 4.809334783 | -0.331918441 | 0.9043803 | -0.367012 | 0.71361 | NA |
| tex36 | 1.456092431 | 0.343959518 | 1.5906412 | 0.2162395 | 0.828801 | NA |
| BX465857.1 | 0.665169878 | -0.08121369 | 2.4261845 | -0.033474 | 0.973297 | NA |
| CR385026.2 | 0 | NA | NA | NA | NA | NA |
| BX663528.1 | 0 | NA | NA | NA | NA | NA |
| CU464134.1 | 0.474778155 | 0.852397662 | 2.898154 | 0.2941175 | 0.768668 | NA |
| si:ch73-40a17.4 | 32.29036248 | -0.520445309 | 0.3677643 | -1.41516 | 0.157022 | 0.707677 |
| BX005392.3 | 5.466176727 | 0.792517542 | 0.8459409 | 0.9368474 | 0.348837 | NA |
| BX323557.1 | 12.77086786 | 0.595985107 | 0.5635802 | 1.0574983 | 0.290284 | 0.846262 |
| BX510649.1 | 3.103483828 | -1.476946765 | 1.190938 | -1.240154 | 0.214918 | NA |
| CR762392.1 | 0 | NA | NA | NA | NA | NA |
| si:dkey-22114.10 | 29.8871531 | 0.295386378 | 0.3563554 | 0.8289094 | 0.407156 | 0.901305 |
| FP102895.1 | 0 | NA | NA | NA | NA | NA |
| CT955996.1 | 0 | NA | NA | NA | NA | NA |
| asb5a | 66.3211357 | -0.285809649 | 0.2452683 | -1.165294 | 0.2439 | 0.813336 |
| CU467879.1 | 0 | NA | NA | NA | NA | NA |
| pimr175 | 0.317711143 | 1.810477155 | 3.2978238 | 0.5489915 | 0.583011 | NA |
| si:ch211-207d10.2 | 0 | NA | NA | NA | NA | NA |
| CR926464.1 | 0.838899245 | -0.667458734 | 2.2321093 | -0.299026 | 0.76492 | NA |
| BX664614.1 | 15.55092889 | -0.091148896 | 0.4914172 | -0.185482 | 0.852851 | 0.985174 |
| CU137681.4 | 0 | NA | NA | NA | NA | NA |
| CR354430.3 | 1.797777553 | -1.440446692 | 1.5706073 | -0.917127 | 0.359076 | NA |
| mespbb | 1.030002046 | -2.236497097 | 2.086282 | -1.072001 | 0.283719 | NA |
| BX901883.3 | 0.791121974 | 0.591938164 | 2.3987483 | 0.2467696 | 0.805087 | NA |
| BX663520.1 | 4.208877474 | 1.074534053 | 0.9885303 | 1.0870016 | 0.277036 | NA |
| CU469568.4 | 1.320910952 | -0.001675893 | 1.6383744 | -0.001023 | 0.999184 | NA |
| si:ch211-284e13.14 | 18.85396831 | -0.474657591 | 0.4492145 | -1.056639 | 0.290676 | 0.84639 |
| BX469902.1 | 62.85561173 | 0.38259446 | 0.2547833 | 1.5016468 | 0.133188 | 0.667628 |
| CT956066.1 | 1.98262732 | 0.994786605 | 1.343037 | 0.7406993 | 0.458876 | NA |
| CR391915.1 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CU137680.2 | 0 | NA | NA | NA | NA | NA |
| si:dkey-248g15.3 | 191.121003 | 0.002817772 | 0.1772154 | 0.0159003 | 0.987314 | 0.997136 |
| BX511132.1 | 0 | NA | NA | NA | NA | NA |
| BX571762.2 | 130.1716261 | 0.083799569 | 0.1766581 | 0.4743603 | 0.635243 | 0.957927 |
| CR589875.2 | 16.32207788 | 0.45625932 | 0.5049516 | 0.9035704 | 0.366223 | 0.887239 |
| arhgef33 | 48.64014882 | -0.300311793 | 0.2833073 | -1.060021 | 0.289135 | 0.845979 |
| BX936420.1 | 0.648627875 | -0.032651702 | 2.3257531 | -0.014039 | 0.988799 | NA |
| BX950217.1 | 1.323549833 | -0.005077815 | 1.6547343 | -0.003069 | 0.997552 | NA |
| BX942813.1 | 11.67413946 | -0.127086185 | 0.5580985 | -0.227713 | 0.81987 | 0.981594 |
| FP089511.1 | 1.972456444 | -2.287264619 | 1.5585685 | -1.467542 | 0.142229 | NA |
| BX004769.1 | 0.499302569 | -0.916836436 | 2.6772503 | -0.342455 | 0.732009 | NA |
| BX957251.1 | 0.515216064 | 0.926382026 | 2.6525479 | 0.3492423 | 0.726907 | NA |
| CT033842.1 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:ch1073-190k2.1 | 358.9433959 | -0.091089292 | 0.1497559 | -0.608252 | 0.543021 | 0.944974 |
| CU855685.1 | 10.72470475 | -0.202537037 | 0.5923279 | -0.341934 | 0.732401 | NA |
| CR812464.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| BX000364.1 | 0 | NA | NA | NA | NA | NA |
| CR387984.1 | 0 | NA | NA | NA | NA | NA |
| ugt1b3 | 3.13451943 | -0.517093665 | 1.149453 | -0.449861 | 0.652811 | NA |
| BX005375.1 | 25.37001786 | -0.055226379 | 0.3811113 | -0.144909 | 0.884783 | 0.988838 |
| BX957228.1 | 0 | NA | NA | NA | NA | NA |
| BX323067.1 | 4.541776841 | 0.344891935 | 0.9083119 | 0.3797065 | 0.704163 | NA |
| BX571712.2 | 14.86318731 | -0.534655767 | 0.5435277 | -0.983677 | 0.325274 | 0.871659 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| EIF3J (1 of many) | 0.333314908 | -1.858695402 | 3.5126701 | -0.52914 | 0.596708 | NA |
| CR293498.1 | 0 | NA | NA | NA | NA | NA |
| BX005450.1 | 5.653478658 | 0.426888659 | 0.8909377 | 0.4791453 | 0.631835 | NA |
| si:ch211-191c10.1 | 1.514490996 | -1.013920941 | 1.6627523 | -0.609785 | 0.542004 | NA |
| FP102071.1 | 0 | NA | NA | NA | NA | NA |
| BX571774.1 | 0.48448895 | 0.85344211 | 2.878836 | 0.2964539 | 0.766883 | NA |
| CR848784.1 | 0.967129164 | -0.023635743 | 1.9568585 | -0.012078 | 0.990363 | NA |
| si:ch211-272b8.7 | 1.008426242 | 2.234978276 | 1.9960971 | 1.1196742 | 0.262853 | NA |
| CR376785.1 | 0 | NA | NA | NA | NA | NA |
| BX640549.1 | 1.176929177 | -1.307615778 | 1.8713043 | -0.698772 | 0.484694 | NA |
| ftr91 | 7.979834853 | -0.731789211 | 0.7242042 | -1.010474 | 0.312268 | NA |
| BX004996.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| AL929523.1 | 1.682365422 | -3.065563608 | 1.7200617 | -1.78224 | 0.07471 | NA |
| CU633486.1 | 1.862139108 | 0.2356309 | 1.4264702 | 0.1651846 | 0.868799 | NA |
| BX000438.2 | 132.4173 | -0.005910491 | 0.1943937 | -0.030405 | 0.975744 | 0.996762 |
| itgae.1 | 4.974666197 | -0.592366691 | 0.8515414 | -0.69564 | 0.486654 | NA |
| si:ch211-130m23.5 | 233.3268214 | 0.04817647 | 0.1399716 | 0.3441875 | 0.730705 | 0.97149 |
| CU571179.1 | 0 | NA | NA | NA | NA | NA |
| CT573139.2 | 0.646899493 | -1.455098895 | 2.4290529 | -0.59904 | 0.549146 | NA |
| BX539313.3 | 3.381035397 | -1.21552056 | 1.0793432 | -1.126167 | 0.260095 | NA |
| pet100 | 186.1489145 | 0.061533679 | 0.189009 | 0.3255595 | 0.744758 | 0.974094 |
| BX005129.5 | 1.659762023 | 4.182023077 | 1.7410023 | 2.4020779 | 0.016302 | NA |
| si:dkey-111k8.2 | 48.78551658 | 0.168201866 | 0.2738274 | 0.6142624 | 0.539042 | 0.943733 |
| CR936378.1 | 30.88982164 | -0.14780929 | 0.3396145 | -0.435227 | 0.663398 | 0.964736 |
| AL928707.1 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:dkey-262k9.2 | 995.1567206 | 0.154634414 | 0.0915283 | 1.6894708 | 0.091129 | 0.578217 |
| CR548622.1 | 3.790102121 | 0.575435662 | 1.0798266 | 0.5328963 | 0.594105 | NA |
| si:dkey-238d18.8 | 0 | NA | NA | NA | NA | NA |
| si:dkey-77f5.14 | 70.73560484 | -0.024680714 | 0.2450442 | -0.100719 | 0.919773 | 0.991852 |
| BX890602.1 | 1.551033009 | 0.394774418 | 1.6365296 | 0.2412266 | 0.80938 | NA |
| si:ch211-129o18.4 | 7.720834242 | -0.215556094 | 0.7229517 | -0.298161 | 0.76558 | NA |
| BX571794.3 | 1.498097085 | 0.945410071 | 1.6553522 | 0.5711232 | 0.567916 | NA |
| si:ch73-144d13.8 | 37.72280437 | -0.250449251 | 0.3235075 | -0.774168 | 0.438831 | 0.916019 |
| si:dkey-7i4.8 | 39.18859393 | -0.16454278 | 0.3245404 | -0.507002 | 0.612153 | 0.95688 |
| CR848840.1 | 0.999464308 | 0.976746318 | 1.8950081 | 0.5154312 | 0.606252 | NA |
| si:ch211-69110.4 | 32.85859801 | 0.432747138 | 0.3642163 | 1.1881596 | 0.234771 | 0.803509 |
| CU927934.3 | 22.89521562 | 0.098826346 | 0.4008947 | 0.2465144 | 0.805284 | 0.979883 |
| FP015862.3 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| AL928707.2 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CR391995.1 | 0.476386185 | 2.392464142 | 3.0533824 | 0.7835455 | 0.433307 | NA |
| BX005332.1 | 0 | NA | NA | NA | NA | NA |
| BX663503.2 | 172.9168667 | 0.153815179 | 0.1668246 | 0.9220173 | 0.35652 | 0.883422 |
| CR751602.2 | 45.35494351 | -0.295769686 | 0.2911593 | -1.015835 | 0.309708 | 0.86172 |
| FP017161.1 | 50.72267992 | 0.133122001 | 0.2701291 | 0.4928088 | 0.622148 | 0.957354 |
| CU855758.2 | 0 | NA | NA | NA | NA | NA |
| CT025912.1 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX248121.1 | 645.428053 | 0.188712365 | 0.1013034 | 1.8628442 | 0.062484 | 0.487868 |
| BX571712.3 | 0.838899245 | -0.667458734 | 2.2321093 | -0.299026 | 0.76492 | NA |
| opn6b | 126.8556012 | 0.17658931 | 0.179001 | 0.9865269 | 0.323875 | 0.870928 |
| BX548024.2 | 1.796479253 | -0.257679604 | 1.3864521 | -0.185855 | 0.852558 | NA |
| CT009746.1 | 0 | NA | NA | NA | NA | NA |
| dscaml1 | 126.2938883 | -0.001463809 | 0.1874491 | -0.007809 | 0.993769 | 0.998672 |
| fkbp3 | 519.7262997 | -0.24586739 | 0.1296047 | -1.897057 | 0.05782 | 0.471676 |
| alp3 | 9.113249852 | 0.898005973 | 0.7091082 | 1.2663878 | 0.205374 | NA |

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| si:ch1073-205c8.5 | 1.634147777 | 0.520279905 | 1.6026912 | 0.3246289 | 0.745462 | NA |
| dre-mir-365-1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| CU302323.1 | 1.329401519 | -1.62552701 | 1.7303732 | -0.939408 | 0.347521 | NA |
| AL929457.2 | 3.031292051 | 1.40883543 | 1.1840831 | 1.1898113 | 0.234121 | NA |
| CU207354.2 | 0 NA | NA | NA | NA | NA | NA |
| CABZ01085140.1 | 61.22997612 | -0.033605812 | 0.2631849 | -0.127689 | 0.898395 | 0.990121 |
| znf1049 | 1.169857263 | -1.300491357 | 1.7916478 | -0.725863 | 0.467923 | NA |
| trip4 | 125.2639069 | 0.213317418 | 0.1884146 | 1.1321701 | 0.257563 | 0.825314 |
| sh3bgr13 | 1685.31789 | -0.010650689 | 0.0778537 | -0.136804 | 0.891186 | 0.989291 |
| kcnql.2 | 9.097185257 | -0.354565764 | 0.6353434 | -0.558069 | 0.576797 | NA |
| si:dkey-238o14.3 | 3.641807913 | -0.787910966 | 1.0211598 | -0.771584 | 0.440361 | NA |
| dre-mir-18a | 0 NA | NA | NA | NA | NA | NA |
| rab3gap1 | 698.012494 | -0.023124938 | 0.1091781 | -0.211809 | 0.832256 | 0.983557 |
| gnl2 | 869.2445345 | -0.095510841 | 0.0924737 | -1.032844 | 0.301677 | 0.856944 |
| GABRR1 (1 of many) | 120.8644967 | -0.106837044 | 0.1879576 | -0.56841 | 0.569756 | 0.948983 |
| CU459093.1 | 40.92957672 | 0.009907416 | 0.3087323 | 0.0320906 | 0.9744 | 0.996523 |
| RF00001 | 0.356300316 | 0.005884122 | 3.214964 | 0.0018302 | 0.99854 | NA |
| si:dkey-30f3.2 | 5.673008144 | 0.919904837 | 0.8608273 | 1.0686288 | 0.285237 | NA |
| CU929178.1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX000463.1 | 0.663561848 | -1.490280258 | 2.4116568 | -0.617949 | 0.536609 | NA |
| si:dkey-146c18.5 | 3.833970299 | 0.396630376 | 0.9903035 | 0.4005139 | 0.688778 | NA |
| CT027696.1 | 1.891927985 | -0.775950481 | 1.4470384 | -0.536234 | 0.591797 | NA |
| slc12a1 | 87.18982559 | 0.040763002 | 0.2455623 | 0.1659986 | 0.868158 | 0.987245 |
| jac3 | 0.506415768 | -0.866825728 | 2.6674086 | -0.324969 | 0.745204 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| zgc:64065 | 10.91911913 | 0.343226364 | 0.5695862 | 0.602589 | 0.546782 | NA |
| BX248243.1 | 0.317831496 | 1.808837541 | 3.5779923 | 0.5055454 | 0.613176 | NA |
| tefb | 581.9970588 | 0.24389815 | 0.105039 | 2.3219765 | 0.020234 | 0.267275 |
| tmem106c | 277.4826543 | -0.014984047 | 0.1400603 | -0.106983 | 0.914803 | 0.991119 |
| si:ch211-215e19.8 | 0.365141898 | 1.973577737 | 3.3927314 | 0.5817076 | 0.560764 | NA |
| dusp2 | 233.5278498 | 0.138904846 | 0.1417618 | 0.9798468 | 0.327162 | 0.872658 |
| CABZ01079550.1 | 0.496945679 | -0.834564081 | 2.8549631 | -0.29232 | 0.770042 | NA |
| btc | 99.43588229 | -0.023568585 | 0.2050375 | -0.114948 | 0.908487 | 0.990702 |
| WSCD1 | 83.90017707 | -0.288260233 | 0.2130744 | -1.352862 | 0.1761 | 0.736505 |
| ctsa | 623.0650258 | -0.001529535 | 0.1034028 | -0.014792 | 0.988198 | 0.997369 |
| si:dkey-178j11.5 | 15.55266447 | -0.686098184 | 0.4871106 | -1.408506 | 0.158981 | 0.709638 |
| trappc10 | 1009.167556 | -0.130090753 | 0.088053 | -1.477415 | 0.139565 | 0.678238 |
| CABZ01012959.1 | 0.657159727 | -2.841717825 | 2.5166161 | -1.129182 | 0.258821 | NA |
| RF00001 | 0.317711143 | 1.810477155 | 3.2978238 | 0.5489915 | 0.583011 | NA |
| FP101882.1 | 65.1021981 | 0.353084185 | 0.2465107 | 1.4323279 | 0.15205 | 0.700984 |
| BX005085.2 | 10.74016116 | -0.235684483 | 0.6424558 | -0.366849 | 0.713731 | NA |
| si:dkey-44g17.6 | 14.17468941 | 0.303781361 | 0.5653158 | 0.5373657 | 0.591015 | 0.954193 |
| BX324212.1 | 0 NA | NA | NA | NA | NA | NA |
| si:dkeyp-97a10.2 | 44.41811919 | -0.091673951 | 0.2913454 | -0.314657 | 0.753022 | 0.97481 |
| bola3 | 124.6823516 | -0.127192919 | 0.1873884 | -0.678766 | 0.497286 | 0.93322 |
| BX511136.1 | 2.456546305 | 0.172107456 | 1.1977978 | 0.1436866 | 0.885748 | NA |
| si:ch211-281k19.2 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| stk40 | 399.235394 | 0.173594676 | 0.1283085 | 1.3529479 | 0.176072 | 0.736505 |
| ankrd13d | 420.713693 | 0.035182978 | 0.1121833 | 0.3136205 | 0.753809 | 0.975056 |
| supt3h | 178.5429782 | -0.435238978 | 0.178916 | -2.432644 | 0.014989 | 0.224348 |
| CR391944.1 | 7.295004671 | 0.275591555 | 0.6887728 | 0.4001197 | 0.689068 | NA |
| si:dkey-57l19.1 | 0.507044276 | -2.459587493 | 2.7586536 | -0.89159 | 0.372613 | NA |
| si:dkey-285e18.6 | 0 NA | NA | NA | NA | NA | NA |
| BX572628.1 | 0.983791519 | -0.057426352 | 2.0613195 | -0.027859 | 0.977775 | NA |

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| uts2d | 7.419932704 | -0.448196698 | 0.6978264 | -0.642275 | 0.520694 | NA |
| BX255896.1 | 9.719213419 | 0.118752603 | 0.6225485 | 0.1907524 | 0.84872 | NA |
| CR925797.1 | 0.820749213 | -1.887809118 | 2.2327507 | -0.845508 | 0.397827 | NA |
| lhfp12b | 243.1483451 | 0.102392157 | 0.1429995 | 0.7160317 | 0.473972 | 0.924993 |
| CT583728.1 | 0 | NA | NA | NA | NA | NA |
| CR792416.1 | 1.45775179 | -1.018923527 | 1.7692292 | -0.575914 | 0.564673 | NA |
| cpxmlb | 197.037273 | 0.135533174 | 0.1530873 | 0.8853325 | 0.375977 | 0.894587 |
| cntn4 | 152.8218179 | -0.128483877 | 0.1769948 | -0.725919 | 0.467888 | 0.924328 |
| zgc:77748 | 737.7895863 | -1.232063517 | 0.1093474 | -11.26742 | 1.90E-29 | 3.76E-26 |
| traj56 | 0 | NA | NA | NA | NA | NA |
| aipl2 | 46.9954613 | -0.089833452 | 0.3035798 | -0.295914 | 0.767296 | 0.975687 |
| si:dkey-176f19.4 | 3.443952973 | -0.435106774 | 1.0297039 | -0.422555 | 0.67262 | NA |
| zgc:162193 | 551.2710146 | 0.081312951 | 0.1083249 | 0.7506394 | 0.45287 | 0.919598 |
| tradv19.0 | 0 | NA | NA | NA | NA | NA |
| BX537115.1 | 0.332524763 | 0.005883742 | 3.292841 | 0.0017868 | 0.998574 | NA |
| dgkab | 77.26768522 | -0.205764954 | 0.2372628 | -0.867245 | 0.385808 | 0.89551 |
| si:rp71-1h20.5 | 78.60608787 | -0.22159652 | 0.2241161 | -0.988758 | 0.322782 | 0.870524 |
| si:dkey-28i19.3 | 5.292017277 | 0.34933705 | 0.8128001 | 0.4297945 | 0.667345 | NA |
| or109-4 | 0 | NA | NA | NA | NA | NA |
| si:dkeyp-86c4.1 | 2.124970071 | -2.419204104 | 1.5265325 | -1.584771 | 0.113018 | NA |
| zgc:113184 | 160.6485615 | -0.243550155 | 0.171379 | -1.42112 | 0.155282 | 0.705118 |
| si:dkey-27n6.1 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX663612.1 | 0.996206963 | -1.055667267 | 2.0852244 | -0.506261 | 0.612674 | NA |
| si:dkey-16p6.1 | 5.381435391 | -1.208118264 | 0.8739192 | -1.382414 | 0.166845 | NA |
| si:dkey-16l2.20 | 178.5246919 | -0.018050191 | 0.1578101 | -0.114379 | 0.908937 | 0.990702 |
| znf998 | 2.128375508 | 0.245522961 | 1.3038686 | 0.1883034 | 0.850639 | NA |
| SLC39A11 | 129.5207874 | -0.215158188 | 0.184571 | -1.165721 | 0.243727 | 0.813138 |
| znf1077 | 21.17379652 | -0.12051169 | 0.4381171 | -0.275067 | 0.783265 | 0.97627 |
| CU633999.1 | 1.439509144 | 0.307590293 | 1.6554512 | 0.1858045 | 0.852598 | NA |
| RF00001 | 1.189776963 | 0.42714694 | 1.8029205 | 0.2369195 | 0.812719 | NA |
| BX928743.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| mtmr3 | 301.6206996 | 0.006200062 | 0.1250889 | 0.0495652 | 0.960469 | 0.995421 |
| AL954698.1 | 0 | NA | NA | NA | NA | NA |
| APCDD1 | 1.320721575 | -2.698764302 | 1.8311672 | -1.473795 | 0.140537 | NA |
| CU984600.2 | 10.99311694 | -0.013814254 | 0.6650156 | -0.020773 | 0.983427 | NA |
| ptrhl | 89.69912902 | 0.218102872 | 0.2182961 | 0.9991148 | 0.317739 | 0.867607 |
| fn3krp | 24.16548739 | -0.122945396 | 0.4019684 | -0.305858 | 0.759713 | 0.975374 |
| si:ch211-199b20.3 | 56.977667 | -0.301495134 | 0.2583697 | -1.166914 | 0.243245 | 0.812077 |
| wrn | 61.05396364 | 0.081517238 | 0.2495839 | 0.3266125 | 0.743961 | 0.974094 |
| BX465836.1 | 2.022123736 | -2.267580007 | 1.552276 | -1.46081 | 0.144068 | NA |
| BICD2 | 56.94804649 | 0.259110568 | 0.2589587 | 1.0005866 | 0.317027 | 0.867335 |
| si:ch211-215e19.3 | 0 | NA | NA | NA | NA | NA |
| si:dkey-261j11.1 | 3.942076599 | -1.013670318 | 0.9702486 | -1.044753 | 0.296137 | NA |
| si:ch211-209j12.6 | 2.096668871 | -0.692607419 | 1.3431709 | -0.515651 | 0.606098 | NA |
| st8sial | 844.5070591 | 0.094174903 | 0.1008553 | 0.9337624 | 0.350426 | 0.880195 |
| AL773558.1 | 5.708872458 | -0.02773411 | 0.9247313 | -0.029992 | 0.976074 | NA |
| tmem56b | 971.4030849 | -0.038999982 | 0.0922145 | -0.422927 | 0.672349 | 0.965257 |
| olfcg7 | 0.889079191 | 3.262746891 | 2.2913259 | 1.4239558 | 0.154459 | NA |
| smpd3 | 73.32021555 | -0.027859836 | 0.22991 | -0.121177 | 0.903551 | 0.990235 |
| BX649608.1 | 0 | NA | NA | NA | NA | NA |
| thrap3b | 2261.342623 | -0.010481351 | 0.0711223 | -0.147371 | 0.882839 | 0.98852 |
| BX649416.1 | 53.60538342 | -0.045770553 | 0.2630893 | -0.173973 | 0.861886 | 0.985841 |
| hhex | 14.68993115 | 0.198707968 | 0.4963793 | 0.4003148 | 0.688925 | 0.966672 |
| tiam2b | 79.67744755 | -0.38814013 | 0.2218065 | -1.749904 | 0.080135 | 0.549631 |

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| actr5 | 132.861162 | -0.161729619 | 0.1790676 | -0.903176 | 0.366432 | 0.887239 |
| zgc:174698 | 3.239563102 | 0.480334624 | 1.1068762 | 0.4339552 | 0.664321 | NA |
| fbn2b | 1021.795639 | 0.160805832 | 0.0858477 | 1.8731526 | 0.061047 | 0.482482 |
| CR626866.1 | 0 NA | NA | NA | NA | NA | NA |
| zgc:85932 | 529.4942398 | -0.111501416 | 0.1052089 | -1.05981 | 0.289231 | 0.845979 |
| meis2a | 5087.14443 | -0.102321621 | 0.066546 | -1.537608 | 0.124145 | 0.652708 |
| brcc3 | 324.9271196 | -0.074545509 | 0.1323179 | -0.563382 | 0.573175 | 0.949762 |
| CR762475.1 | 0.339758314 | 0.005883863 | 3.2682461 | 0.0018003 | 0.998564 | NA |
| CR388206.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| cidea | 10.02439555 | -0.377589963 | 0.6165179 | -0.612456 | 0.540236 | NA |
| CU928222.2 | 0 NA | NA | NA | NA | NA | NA |
| det1 | 92.33115289 | -0.13038842 | 0.2054192 | -0.634743 | 0.525596 | 0.94013 |
| asmt | 128.7957324 | 0.002635005 | 0.1785362 | 0.0147589 | 0.988224 | 0.997369 |
| cpne9 | 15.53176486 | 0.057385526 | 0.5156125 | 0.1112958 | 0.911382 | 0.991066 |
| si:ch73-329n5.6 | 140.6374343 | 0.060574453 | 0.4426821 | 0.1368351 | 0.891161 | 0.989291 |
| pcdh15a | 127.9704139 | 0.221233902 | 0.1949085 | 1.1350656 | 0.256348 | 0.824633 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| si:dkeyp-85h7.1 | 0.333314908 | -1.858695402 | 3.5126701 | -0.52914 | 0.596708 | NA |
| CU929294.1 | 132.1715623 | 0.167528511 | 0.1917934 | 0.8734843 | 0.382399 | 0.895192 |
| RF00001 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| znf1053 | 5.449655059 | -0.995702829 | 0.8513733 | -1.169526 | 0.242192 | NA |
| nipbla | 1398.330357 | -0.100100533 | 0.0865972 | -1.155933 | 0.247708 | 0.81711 |
| zbtb14 | 406.6613573 | 0.01674086 | 0.120984 | 0.1383726 | 0.889946 | 0.989291 |
| si:dkeyp-13d12.16 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| CR550307.1 | 0.647689638 | -2.824814845 | 2.5064236 | -1.12703 | 0.25973 | NA |
| si:zfos-451d2.2 | 1.506000429 | 0.335521124 | 1.4976273 | 0.2240351 | 0.82273 | NA |
| rbm5 | 3141.230551 | -0.098481924 | 0.0764768 | -1.287736 | 0.197838 | 0.763028 |
| si:dkey-237m9.1 | 0.50625413 | -0.940106488 | 2.8357787 | -0.331516 | 0.740255 | NA |
| ctxn1 | 6.844777673 | -0.067128461 | 0.7284496 | -0.092153 | 0.926577 | NA |
| CU695232.1 | 165.3790571 | 0.057137067 | 0.1745061 | 0.3274216 | 0.743349 | 0.973765 |
| tax1bp1a | 328.7278018 | 0.082760432 | 0.1230541 | 0.672553 | 0.501232 | 0.934613 |
| vstm21 | 57.60034064 | -0.005907236 | 0.264838 | -0.022305 | 0.982205 | 0.996944 |
| unc80 | 50.13093578 | 0.102834168 | 0.2996973 | 0.3431267 | 0.731503 | 0.971557 |
| trpc3 | 9.872380037 | -0.137263378 | 0.6033258 | -0.227511 | 0.820026 | NA |
| si:dkey-27i16.2 | 47.3472299 | 0.291764818 | 0.2884229 | 1.0115867 | 0.311736 | 0.864257 |
| col5a3a | 76.08549615 | 0.074463662 | 0.2366238 | 0.3146922 | 0.752995 | 0.97481 |
| efna3b | 79.04919804 | -0.249548263 | 0.2209693 | -1.129335 | 0.258757 | 0.826867 |
| gnsb | 110.6922712 | -0.343687121 | 0.189131 | -1.81719 | 0.069188 | 0.514556 |
| CU928205.1 | 0 NA | NA | NA | NA | NA | NA |
| taok1b | 972.58687 | -0.061656748 | 0.0900883 | -0.684403 | 0.49372 | 0.931926 |
| si:ch211-76m11.8 | 0.815164977 | -0.617697568 | 2.1259573 | -0.29055 | 0.771395 | NA |
| CR936540.1 | 75.77942509 | 0.159731854 | 0.2244938 | 0.7115203 | 0.476762 | 0.926808 |
| si:zfos-932h1.3 | 105.4930857 | -0.05162169 | 0.2022021 | -0.255297 | 0.798493 | 0.978884 |
| scarb2a | 1635.346699 | 0.086034055 | 0.087224 | 0.986358 | 0.323957 | 0.870928 |
| nadka | 14.55978462 | 0.185689948 | 0.5337484 | 0.3478979 | 0.727917 | 0.970402 |
| cypla | 1437.064878 | -0.065502 | 0.1068789 | -0.612862 | 0.539968 | 0.944206 |
| BX908386.1 | 0.849390142 | 1.928131185 | 2.2127708 | 0.8713651 | 0.383555 | NA |
| dync11i1 | 1966.442083 | 0.001884222 | 0.0826091 | 0.0228089 | 0.981803 | 0.996944 |
| BX005396.1 | 0 NA | NA | NA | NA | NA | NA |
| dre-mir-193a-1 | 0 NA | NA | NA | NA | NA | NA |
| grmlb | 6.732479047 | 0.754966059 | 0.7843974 | 0.962479 | 0.335809 | NA |
| si:cabz01054394.6 | 47.54974681 | -0.39470585 | 0.2838393 | -1.390596 | 0.164348 | 0.720101 |
| CU280645.1 | 0.98968449 | -2.214754691 | 2.0224815 | -1.095068 | 0.273487 | NA |
| RF00001 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| spef2 | 43.97129581 | 0.111935603 | 0.2965955 | 0.3774016 | 0.705875 | 0.968412 |
| exosc3 | 208.0118658 | -0.346123413 | 0.1789949 | -1.933705 | 0.053149 | 0.452412 |
| BX537137.2 | 0.317711143 | 1.810477155 | 3.2978238 | 0.5489915 | 0.583011 | NA |
| CR381673.1 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:ch73-340n8.4 | 90.28430206 | -0.122035329 | 0.2132988 | -0.572133 | 0.567232 | 0.948739 |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| RF00003 | | 0 NA | NA | NA | NA | NA |
| CABZ01065679.1 | 37.3949236 | 0.271830897 | 0.3219752 | 0.8442603 | 0.398524 | 0.900359 |
| rab18b | 751.0368971 | 0.088888791 | 0.0920187 | 0.9659863 | 0.334051 | 0.875256 |
| mamdc2a | 159.0175397 | -0.202175341 | 0.167191 | -1.209248 | 0.226568 | 0.794071 |
| si:ch1073-181h11.4 | | 0 NA | NA | NA | NA | NA |
| znf326 | 23.0799193 | 0.186773162 | 0.4094505 | 0.4561557 | 0.648278 | 0.960708 |
| hdac4 | 60.76873116 | 0.057808833 | 0.2548845 | 0.226804 | 0.820576 | 0.981594 |
| mxl3 | 401.4056701 | -0.087814767 | 0.115698 | -0.759 | 0.447853 | 0.917154 |
| si:ch211-66c13.1 | 1.132247612 | 1.34783488 | 1.8934551 | 0.7118388 | 0.476565 | NA |
| BX322574.1 | 4.611023263 | -1.317200024 | 0.9017012 | -1.460794 | 0.144072 | NA |
| atp5pd | 2396.246574 | -0.043796388 | 0.0798598 | -0.548416 | 0.583406 | 0.952214 |
| si:ch211-229110.4 | 11.05634901 | 0.137494197 | 0.5671683 | 0.2424222 | 0.808453 | NA |
| il17rd | 310.4100375 | -0.138642847 | 0.1482044 | -0.935484 | 0.349539 | 0.880195 |
| cyp19a1b | 20.56430223 | 0.465977237 | 0.4340648 | 1.0735199 | 0.283038 | 0.84466 |
| nudcd3 | 710.6150048 | -0.022124961 | 0.1089887 | -0.203002 | 0.839133 | 0.984979 |
| BX901957.1 | 33.83258878 | -0.073733795 | 0.3328361 | -0.221532 | 0.824678 | 0.982196 |
| lrrc74b | 15.98998287 | 0.890832543 | 0.4948909 | 1.8000584 | 0.071851 | 0.524277 |
| srp54 | 1643.1918 | -0.050960338 | 0.077205 | -0.660065 | 0.509212 | 0.936123 |
| apl1 | 5761.396008 | 0.027493911 | 0.0727656 | 0.3778419 | 0.705548 | 0.968412 |
| si:dkey-165o8.1 | 2.83080852 | -0.460814609 | 1.1456242 | -0.402239 | 0.687508 | NA |
| BX276102.1 | 9.587787396 | 0.480088934 | 0.6252589 | 0.7678242 | 0.442592 | NA |
| FLNB | 798.4427961 | -0.228644484 | 0.1307586 | -1.7486 | 0.08036 | 0.549728 |
| polr1a | 558.3874288 | -0.16633736 | 0.1024196 | -1.624078 | 0.104359 | 0.612162 |
| si:ch211-207114.1 | 353.838779 | 0.312516183 | 0.127991 | 2.4417044 | 0.014618 | 0.220655 |
| tnfrsf11b | 88.63379949 | -0.029799262 | 0.2264694 | -0.131582 | 0.895315 | 0.989814 |
| CU694197.1 | 273.7062234 | -0.048817193 | 0.1577634 | -0.309433 | 0.756992 | 0.975374 |
| si:dkey-38122.2 | 17.01912224 | 0.577863385 | 0.4825279 | 1.1975751 | 0.231082 | 0.79927 |
| si:dkey-14o6.1 | 6.3247798 | 0.027106836 | 0.7544923 | 0.0359273 | 0.97134 | NA |
| ctps1b | 382.7903906 | -0.029496158 | 0.1206516 | -0.244474 | 0.806864 | 0.980254 |
| tmem176l.3a | 120.9409546 | 0.034402466 | 0.1845699 | 0.1863926 | 0.852137 | 0.985174 |
| znf1015 | 58.0352584 | -0.248946989 | 0.2572061 | -0.967889 | 0.3331 | 0.874926 |
| si:ch211-76m11.8 | 12.36151027 | 0.360300723 | 0.5945433 | 0.6060126 | 0.544506 | 0.945438 |
| psmg3 | 241.5202147 | -0.021519443 | 0.1507331 | -0.142765 | 0.886476 | 0.988936 |
| ly6pge | 1474.030971 | 0.198224772 | 0.0958237 | 2.0686397 | 0.03858 | 0.385234 |
| tradv24.0.2 | | 0 NA | NA | NA | NA | NA |
| CU929451.2 | 69.21514171 | -0.197263506 | 0.2433581 | -0.810589 | 0.417602 | 0.906237 |
| FP016106.1 | 12.90937069 | -1.151361144 | 0.5722714 | -2.011915 | 0.044229 | 0.413497 |
| CABZ01079480.1 | 98.9598207 | -0.174143427 | 0.2169581 | -0.802659 | 0.422172 | 0.90651 |
| fam136a | 321.8858667 | -0.179950224 | 0.1364088 | -1.319198 | 0.187103 | 0.751002 |
| LO017877.1 | 5.671247677 | -0.426798239 | 0.855794 | -0.498716 | 0.617979 | NA |
| CR925723.1 | 16.98308779 | -0.026130274 | 0.4578471 | -0.057072 | 0.954488 | 0.994533 |
| map3kl | 243.1405284 | -0.181804782 | 0.1485835 | -1.223586 | 0.221108 | 0.787641 |
| si:dkey-22a18.2 | 6.177570678 | -0.065425124 | 0.7481135 | -0.087453 | 0.930311 | NA |
| BX936393.2 | 0.531799352 | 0.999478841 | 2.790358 | 0.3581902 | 0.720201 | NA |
| stbd1 | 26.71734673 | 0.11154504 | 0.3843605 | 0.2902094 | 0.771656 | 0.975687 |
| BX005376.1 | 10.90989328 | -0.63593865 | 0.5958944 | -1.0672 | 0.285881 | NA |
| si:dkey-19b23.10 | 2.267882965 | 0.837931821 | 1.3107878 | 0.6392582 | 0.522655 | NA |
| ninl | 219.8682276 | 0.288538393 | 0.1604242 | 1.7985968 | 0.072082 | 0.525083 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| CT956093.1 | | 0 NA | NA | NA | NA | NA |
| RF00067 | | 0 NA | NA | NA | NA | NA |
| SNTA1 | 3.455571483 | 1.681513788 | 1.1001295 | 1.5284689 | 0.126396 | NA |
| trgv2 | | 0 NA | NA | NA | NA | NA |
| CABZ01079241.1 | 192.8212833 | -0.228189563 | 0.1537424 | -1.484233 | 0.137747 | 0.675209 |
| si:dkey-56m15.8 | 1.16439338 | -0.410527374 | 1.7446119 | -0.235312 | 0.813967 | NA |
| RF00003 | | 0 NA | NA | NA | NA | NA |
| asiclc | 5.624435233 | -0.159965696 | 0.7980323 | -0.20045 | 0.841129 | NA |
| RF00026 | | 0 NA | NA | NA | NA | NA |
| znf1078 | 5.839499462 | 0.068800878 | 0.7882975 | 0.0872778 | 0.930451 | NA |
| comp | 835.3434762 | 0.142818298 | 0.0930737 | 1.5344643 | 0.124915 | 0.654531 |
| paf1 | 496.9300857 | 0.010702796 | 0.1092339 | 0.0979805 | 0.921948 | 0.992224 |
| utp6 | 400.0694503 | 0.055248128 | 0.1103641 | 0.5005988 | 0.616653 | 0.95688 |
| BX005003.1 | 663.7988188 | 0.010365567 | 0.108021 | 0.0959588 | 0.923553 | 0.992588 |
| BX537156.1 | 0.340386822 | -1.882368278 | 3.2159502 | -0.585323 | 0.558331 | NA |
| si:ch211-9d9.8 | 0.49144051 | 0.855669345 | 2.6923358 | 0.3178167 | 0.750624 | NA |
| slc6a6b | 84.57474916 | 0.2109597 | 0.2321302 | 0.908799 | 0.363456 | 0.886042 |
| nr1h3 | 642.8861513 | 0.063849665 | 0.0997894 | 0.6398444 | 0.522274 | 0.939056 |
| si:ch211-62a1.4 | 7.552956713 | -0.370037951 | 0.7098191 | -0.521313 | 0.602149 | NA |
| nars2 | 75.11066598 | -0.162736279 | 0.2377069 | -0.684609 | 0.493591 | 0.931926 |
| zfang6 | 423.964232 | 0.033299338 | 0.1153548 | 0.2886688 | 0.772835 | 0.975687 |
| si:dkey-3h2.4 | 6.606781356 | 0.306746111 | 0.7918925 | 0.3873583 | 0.698491 | NA |
| si:ch211-1o7.2 | 6.035469875 | 1.036586853 | 0.8262829 | 1.2545181 | 0.209654 | NA |
| tmem56a | 243.6600524 | 0.077831759 | 0.1435111 | 0.5423395 | 0.587585 | 0.953319 |
| si:dkey-151g22.1 | 1.142466561 | 0.35959156 | 1.8215264 | 0.1974122 | 0.843505 | NA |
| pank4 | 406.5982538 | -0.107324429 | 0.1122231 | -0.956349 | 0.338896 | 0.87745 |
| BX957236.1 | | 0 NA | NA | NA | NA | NA |
| ccl39.5 | | 0 NA | NA | NA | NA | NA |
| si:dkey-11f4.14 | 11.93137573 | 0.428904507 | 0.5863508 | 0.731481 | 0.464485 | 0.92346 |
| CU570782.1 | 1.169857263 | -1.300491357 | 1.7916478 | -0.725863 | 0.467923 | NA |
| gig2g | 0.489712128 | -0.887840729 | 2.693685 | -0.329601 | 0.741702 | NA |
| si:ch73-36611.5 | 1882.411743 | 0.309883419 | 0.1020133 | 3.037678 | 0.002384 | 0.06083 |
| ube2a | 1617.287571 | 0.037746261 | 0.0783489 | 0.4817712 | 0.629969 | 0.957354 |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| arr3b | 4137.706069 | 0.280057317 | 0.0930103 | 3.0110347 | 0.002604 | 0.064922 |
| tec | 13.74754857 | -0.536332414 | 0.527064 | -1.017585 | 0.308875 | 0.861088 |
| F0704758.1 | 6.500106906 | 1.160543244 | 0.7832065 | 1.4817844 | 0.138398 | NA |
| anxald | 158.61189 | -0.22358518 | 0.1608581 | -1.389953 | 0.164543 | 0.720706 |
| CR792424.1 | 0.982922306 | 1.012515237 | 1.9057885 | 0.5312842 | 0.595222 | NA |
| RF00017 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CU929365.1 | | 0 NA | NA | NA | NA | NA |
| tollip | 463.9657819 | -0.013816074 | 0.1074165 | -0.128622 | 0.897657 | 0.990121 |
| traj32 | | 0 NA | NA | NA | NA | NA |
| BX682557.1 | 0.316103113 | 0.005883447 | 3.3519121 | 0.0017553 | 0.9986 | NA |
| olfcd2 | 0.340386822 | -1.882368278 | 3.2159502 | -0.585323 | 0.558331 | NA |
| si:ch211-145h19.3 | | 0 NA | NA | NA | NA | NA |
| tradv25.0.1 | | 0 NA | NA | NA | NA | NA |
| hrasa | 401.8865128 | -0.140262998 | 0.1149185 | -1.220543 | 0.222259 | 0.788551 |
| si:dkey-161111.79 | | 0 NA | NA | NA | NA | NA |
| CT583728.2 | 0.332524763 | 0.005883742 | 3.292841 | 0.0017868 | 0.998574 | NA |
| lyar | 226.8703708 | -0.03817917 | 0.1434715 | -0.26611 | 0.790155 | 0.977338 |
| BX005286.1 | 8.159675302 | 0.174331196 | 0.6584333 | 0.2647667 | 0.791189 | NA |
| zgc:174650 | 3.134842705 | -0.458897072 | 1.042204 | -0.440314 | 0.65971 | NA |
| ntrk2b | 32.20720299 | 0.184625119 | 0.3622896 | 0.5096065 | 0.610327 | 0.95688 |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| si:ch73-215f7.1 | 23.47302916 | 0.36876377 | 0.4068 | 0.9064988 | 0.364672 | 0.886637 |
| CU855694.1 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-59d8.3 | 10.16378166 | -0.622580834 | 0.6191497 | -1.005542 | 0.314636 | NA |
| si:dkey-16p6.1 | 25.49221013 | 0.091270184 | 0.3940013 | 0.2316494 | 0.81681 | 0.981594 |
| RF00001 | 0.498553709 | 0.926267934 | 2.6786929 | 0.345791 | 0.7295 | NA |
| BX321870.1 | 0 NA | NA | NA | NA | NA | NA |
| BX649431.1 | 0 NA | NA | NA | NA | NA | NA |
| CU856358.1 | 0 NA | NA | NA | NA | NA | NA |
| gpr75 | 350.978494 | 0.002199647 | 0.1298472 | 0.0169403 | 0.986484 | 0.996965 |
| rtn4r11b | 213.2651203 | -0.176573653 | 0.1516734 | -1.16417 | 0.244355 | 0.813858 |
| ccne2 | 282.197018 | -0.031733823 | 0.1254604 | -0.252939 | 0.800315 | 0.979377 |
| si:dkey-106c17.2 | 0.476506538 | 2.394892832 | 2.8161716 | 0.8504073 | 0.395099 | NA |
| RF00067 | 3.381660525 | 2.057543943 | 1.2163753 | 1.691537 | 0.090734 | NA |
| BX004823.1 | 42.57074357 | -0.081369024 | 0.315278 | -0.258087 | 0.79634 | 0.978498 |
| si:dkey-25i10.1 | 1.32448807 | 1.535255761 | 1.8059615 | 0.8501044 | 0.395267 | NA |
| spata22 | 403.9047556 | 0.124028259 | 0.1169171 | 1.060822 | 0.288771 | 0.845979 |
| zc3h7ba | 137.5255511 | -0.278508799 | 0.1872075 | -1.487701 | 0.13683 | 0.673303 |
| CR388378.2 | 0.846012444 | -0.57358332 | 2.1013569 | -0.272959 | 0.784885 | NA |
| ncdn | 261.2419366 | 0.012182987 | 0.1313551 | 0.0927485 | 0.926103 | 0.992702 |
| olfcg6 | 2.424519895 | -0.607345615 | 1.3474589 | -0.450734 | 0.652181 | NA |
| CABZ01085700.1 | 35.38934176 | 0.417671442 | 0.3392108 | 1.2313033 | 0.218209 | 0.785379 |
| BX323564.1 | 5.605289719 | -0.246905315 | 0.8349939 | -0.295697 | 0.767461 | NA |
| BX005082.1 | 0 NA | NA | NA | NA | NA | NA |
| zgc:194202 | 3.420847211 | -0.730704325 | 1.0710489 | -0.682232 | 0.495092 | NA |
| CR381534.1 | 0.998364433 | -1.059644339 | 2.0638714 | -0.513426 | 0.607654 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| si:ch73-233f7.4 | 2.109664749 | 1.71033585 | 1.3929894 | 1.2278168 | 0.219516 | NA |
| si:ch1073-286c18.5 | 0 NA | NA | NA | NA | NA | NA |
| BX927336.1 | 8.943187208 | 0.014314188 | 0.6479758 | 0.0220906 | 0.982376 | NA |
| si:ch211-8c17.2 | 7.050766526 | 0.605744517 | 0.7194384 | 0.8419685 | 0.399806 | NA |
| FP016142.2 | 0 NA | NA | NA | NA | NA | NA |
| sgcd | 189.4169618 | 0.212240123 | 0.1574495 | 1.3479882 | 0.177662 | 0.738343 |
| srsf11 | 3572.780912 | -0.033364544 | 0.0696688 | -0.478902 | 0.632008 | 0.957356 |
| BX511079.1 | 0 NA | NA | NA | NA | NA | NA |
| CU914631.1 | 0 NA | NA | NA | NA | NA | NA |
| BX908763.1 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| pdgfab | 178.5086261 | 0.087124546 | 0.1582262 | 0.5506327 | 0.581885 | 0.951949 |
| CR457444.2 | 0.688945432 | -0.015421672 | 2.3988056 | -0.006429 | 0.994871 | NA |
| wbp1 | 434.1992781 | -0.173028911 | 0.1170679 | -1.478021 | 0.139402 | 0.678238 |
| si:ch211-237a4.2 | 0.317831496 | 1.808837541 | 3.5779923 | 0.5055454 | 0.613176 | NA |
| zgc:194887 | 12.93792003 | -1.268981203 | 0.5619265 | -2.258269 | 0.023929 | 0.298907 |
| CR318595.1 | 0.538871265 | 0.999144257 | 2.7784799 | 0.359601 | 0.719146 | NA |
| gchfr | 120.7497264 | 0.014457965 | 0.1841064 | 0.0785305 | 0.937406 | 0.99279 |
| cyb5a | 902.4326026 | -0.165390553 | 0.1077369 | -1.535134 | 0.124751 | 0.654423 |
| tubb2b | 0 NA | NA | NA | NA | NA | NA |
| zgc:92140 | 559.6069731 | -0.158698921 | 0.1057089 | -1.501282 | 0.133283 | 0.667628 |
| FP102843.1 | 0 NA | NA | NA | NA | NA | NA |
| hist1h2a11 | 2.67954512 | 1.611931768 | 1.2115434 | 1.330478 | 0.183361 | NA |
| CU570791.1 | 17.46894406 | 0.053398912 | 0.4549276 | 0.1173789 | 0.90656 | 0.990702 |
| RF00001 | 0.473290478 | -0.833892061 | 2.901156 | -0.287434 | 0.77378 | NA |
| pithd1 | 37.66697394 | 0.230622263 | 0.330215 | 0.6984004 | 0.484927 | 0.93001 |
| oral | 2.31240739 | 1.381217865 | 1.4121345 | 0.9781065 | 0.328022 | NA |
| BX914220.1 | 0.698456806 | 0.09172817 | 2.5265115 | 0.0363063 | 0.971038 | NA |
| si:dkey-14o6.4 | 5.109475157 | 0.828136354 | 0.924321 | 0.8959402 | 0.370285 | NA |

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| slx1b | 59.42422703 | -0.15385172 | 0.2500971 | -0.615168 | 0.538444 | 0.943336 |
| AL840638.1 | 300.2030541 | -0.089096099 | 0.128295 | -0.694463 | 0.487392 | 0.931584 |
| si:dkey-4c15.8 | 11.21791393 | -0.405563501 | 0.5939797 | -0.68279 | 0.494739 | 0.931926 |
| si:ch211-207e19.2 | 3.886328202 | -1.242679728 | 1.1175577 | -1.11196 | 0.266155 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| chrn2a | 7.636445584 | -0.154084639 | 0.7088569 | -0.217371 | 0.82792 | NA |
| si:dkey-15h8.16 | 49.30612151 | -0.283192345 | 0.2942314 | -0.962482 | 0.335808 | 0.876088 |
| BX901954.1 | 0 | NA | NA | NA | NA | NA |
| ly6m4 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| erap2 | 57.74011064 | -0.294076039 | 0.2819816 | -1.042891 | 0.296999 | 0.853798 |
| si:ch211-188p14.2 | 47.99709062 | 0.110240614 | 0.3068129 | 0.3593089 | 0.719364 | 0.969183 |
| CR759843.1 | 11.07293909 | -0.472807103 | 0.5629643 | -0.839853 | 0.400991 | 0.90084 |
| ccnel | 98.55878726 | 0.141208615 | 0.2050041 | 0.6888088 | 0.490944 | 0.931926 |
| si:dkey-23f9.4 | 85.51865506 | -0.233666216 | 0.2132648 | -1.095663 | 0.273226 | 0.83816 |
| traj54 | 0 | NA | NA | NA | NA | NA |
| efna5b | 6.414523943 | 0.02818101 | 0.7575298 | 0.0372012 | 0.970325 | NA |
| nitrl2 | 0 | NA | NA | NA | NA | NA |
| gspt11 | 3757.40464 | -0.025701234 | 0.0754832 | -0.34049 | 0.733488 | 0.971993 |
| BX914214.1 | 0.317711143 | 1.810477155 | 3.2978238 | 0.5489915 | 0.583011 | NA |
| tradv6.0.1 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.654133044 | -1.416854166 | 2.5841447 | -0.548287 | 0.583495 | NA |
| CABZ01044277.1 | 60.10679619 | 0.304305239 | 0.2827951 | 1.0760625 | 0.281899 | 0.843666 |
| AL929586.1 | 0.650115553 | 1.435486287 | 2.5894636 | 0.5543566 | 0.579335 | NA |
| irf2bp2b | 1194.815269 | -0.064521664 | 0.0866774 | -0.744389 | 0.456641 | 0.921215 |
| pycrlb | 881.5958153 | -0.279129124 | 0.0980881 | -2.845697 | 0.004431 | 0.094528 |
| CU984600.3 | 42.92788039 | 0.180510593 | 0.2968063 | 0.6081764 | 0.54307 | 0.944974 |
| nbeal2 | 78.71985441 | 0.108937449 | 0.220452 | 0.4941549 | 0.621197 | 0.957354 |
| si:ch211-126j24.1 | 1756.782478 | -0.071035668 | 0.0806322 | -0.880984 | 0.378326 | 0.895192 |
| rgn | 237.1130003 | -0.40390148 | 0.1366833 | -2.955017 | 0.003127 | 0.073687 |
| mthfd2 | 834.4704244 | 0.266219566 | 0.0887038 | 3.0012191 | 0.002689 | 0.066466 |
| ankddl1a | 114.3633169 | 0.125375789 | 0.1886694 | 0.6645264 | 0.506353 | 0.935724 |
| iqgap3 | 374.5298937 | -0.02728181 | 0.1132035 | -0.240998 | 0.809557 | 0.980642 |
| si:dkey-21e2.7 | 0.811320409 | -1.830272858 | 2.4089013 | -0.759796 | 0.447377 | NA |
| pcdh11 | 459.8545392 | 0.212423101 | 0.1150529 | 1.8463077 | 0.064848 | 0.497901 |
| BX957252.1 | 0.650235905 | 1.438231835 | 2.4251649 | 0.593045 | 0.553151 | NA |
| FQ976914.1 | 5.936982178 | 1.210905628 | 0.8743087 | 1.3849863 | 0.166057 | NA |
| KIF1C | 15.91399746 | -0.211098881 | 0.48486 | -0.435381 | 0.663286 | 0.964736 |
| CR788237.1 | 0 | NA | NA | NA | NA | NA |
| CU469526.1 | 123.88158 | 0.075406108 | 0.1908861 | 0.3950319 | 0.692819 | 0.96736 |
| AL935300.3 | 19.71919619 | 0.087739814 | 0.4388179 | 0.1999459 | 0.841523 | 0.985174 |
| si:ch73-359m17.9 | 97.16854799 | -0.263087172 | 0.2376107 | -1.10722 | 0.268199 | 0.833475 |
| fgf19 | 6.839045498 | -0.288191774 | 0.7605834 | -0.378909 | 0.704756 | NA |
| si:dkeyp-53d3.3 | 27.06831652 | -0.214658371 | 0.3990952 | -0.537863 | 0.590672 | 0.954193 |
| CT583690.1 | 0.809151653 | 1.852283317 | 2.2398915 | 0.8269523 | 0.408264 | NA |
| si:dkey-93h22.8 | 164.456329 | 0.127097933 | 0.1665638 | 0.7630586 | 0.445428 | 0.917117 |
| grin3bb | 51.00932363 | -0.039549605 | 0.2866548 | -0.137969 | 0.890265 | 0.989291 |
| BX323031.1 | 3.941983985 | -0.271453339 | 0.9760577 | -0.278112 | 0.780926 | NA |
| exd1 | 6.237168294 | 0.920795852 | 0.7829033 | 1.1761297 | 0.239543 | NA |
| map4k4 | 2852.563222 | -0.005372783 | 0.0883414 | -0.060818 | 0.951504 | 0.99381 |
| prelid1a | 1249.57148 | -0.189079338 | 0.0888524 | -2.128017 | 0.033336 | 0.355558 |
| BX001023.1 | 57.23910727 | 0.144741234 | 0.2661439 | 0.5438457 | 0.586548 | 0.953319 |
| ppfial | 387.4889802 | -0.122699004 | 0.1270198 | -0.965983 | 0.334052 | 0.875256 |
| traj55 | 0 | NA | NA | NA | NA | NA |
| CU467043.1 | 0 | NA | NA | NA | NA | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| zgc:174180 | 0.475018861 | 0.853207185 | 2.8976509 | 0.2944479 | 0.768416 | NA |
| nup85 | 284.8671963 | -0.024016366 | 0.1298668 | -0.184931 | 0.853283 | 0.985174 |
| si:zfos-2326c3.2 | 282.0618722 | 0.138523626 | 0.1359205 | 1.0191517 | 0.308131 | 0.861088 |
| CU207221.1 | 448.3428586 | 0.10850416 | 0.1172489 | 0.9254177 | 0.354749 | 0.882105 |
| RF00017 | 0 | NA | NA | NA | NA | NA |
| zmiz2 | 149.5622231 | -0.22635365 | 0.17605 | -1.285735 | 0.198536 | 0.763597 |
| CU855895.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| tmprss2 | 216.6618321 | -0.294022008 | 0.1687168 | -1.742696 | 0.081387 | 0.552279 |
| pygol | 4.160480743 | -0.11077953 | 0.9203258 | -0.12037 | 0.90419 | NA |
| CABZ01101739.1 | 0 | NA | NA | NA | NA | NA |
| ptpn23b | 342.1052186 | -0.22635034 | 0.1177543 | -1.922225 | 0.054577 | 0.457793 |
| CT583672.1 | 346.5157002 | -0.158752734 | 0.1277183 | -1.242991 | 0.213871 | 0.782251 |
| FQ311908.1 | 13.64209218 | -0.305831924 | 0.5370285 | -0.569489 | 0.569024 | 0.948983 |
| vclb | 287.0600162 | 0.014412766 | 0.1341576 | 0.1074316 | 0.914447 | 0.991119 |
| rela | 62.4079676 | 0.207658617 | 0.2535066 | 0.8191449 | 0.412704 | 0.904974 |
| si:ch211-11c3.9 | 0 | NA | NA | NA | NA | NA |
| illb | 306.4322875 | -0.508896421 | 0.1622073 | -3.13732 | 0.001705 | 0.047485 |
| zgc:165603 | 6.410050868 | 0.05972795 | 0.8026957 | 0.0744092 | 0.940685 | NA |
| si:ch73-236c18.7 | 1.959762264 | 0.47107059 | 1.4392594 | 0.3273007 | 0.74344 | NA |
| dre-mir-365-2 | 0.473290478 | -0.833892061 | 2.901156 | -0.287434 | 0.77378 | NA |
| CR388231.1 | 1.182894427 | 3.688339242 | 2.0602285 | 1.7902573 | 0.073413 | NA |
| CABZ01078350.1 | 17.60538014 | -0.052328811 | 0.4489944 | -0.116547 | 0.907219 | 0.990702 |
| CR925761.1 | 8.712356334 | 0.04384244 | 0.6411351 | 0.0683825 | 0.945481 | NA |
| parp11 | 3.102057144 | 1.463366333 | 1.1440555 | 1.2791043 | 0.20086 | NA |
| CU655844.1 | 1.107104734 | 0.423303955 | 1.9651206 | 0.2154086 | 0.829449 | NA |
| FP245456.1 | 25.16683053 | -0.087657766 | 0.3862923 | -0.226921 | 0.820485 | 0.981594 |
| BX649331.1 | 2.401490789 | -1.294064303 | 1.4085804 | -0.918701 | 0.358252 | NA |
| si:ch73-170d6.3 | 3.127678178 | 0.441663518 | 1.0960635 | 0.4029543 | 0.686982 | NA |
| rgrb | 528.0464331 | -0.066522301 | 0.126063 | -0.527691 | 0.597714 | 0.95534 |
| rptor | 507.6650939 | -0.157207185 | 0.1077282 | -1.459295 | 0.144484 | 0.688868 |
| BX511018.1 | 0.330916733 | -1.849579229 | 3.2489867 | -0.569279 | 0.569167 | NA |
| si:dkey-108k24.2 | 0 | NA | NA | NA | NA | NA |
| en1b | 305.391028 | -0.143280052 | 0.1282421 | -1.117262 | 0.263882 | 0.830245 |
| CU929403.1 | 1.489338074 | 0.356860712 | 1.5490398 | 0.2303754 | 0.8178 | NA |
| pxdn | 60.35922059 | 0.015841172 | 0.2532064 | 0.0625623 | 0.950115 | 0.99381 |
| ccdc14 | 28.48167532 | 0.125954154 | 0.3549548 | 0.3548457 | 0.722705 | 0.970375 |
| si:dkey-201i2.4 | 1.981016035 | -1.571021256 | 1.5219811 | -1.032221 | 0.301968 | NA |
| scn4aa | 7.896745316 | 0.048573328 | 0.7125698 | 0.0681664 | 0.945653 | NA |
| CABZ01046427.2 | 0 | NA | NA | NA | NA | NA |
| CT737182.1 | 0.988894344 | -1.041944082 | 1.9792901 | -0.526423 | 0.598594 | NA |
| lrtml | 29.0914112 | 0.205733327 | 0.3548793 | 0.5797276 | 0.562098 | 0.948728 |
| BX548018.1 | 0 | NA | NA | NA | NA | NA |
| tfec | 33.49626566 | -0.395506211 | 0.3542435 | -1.116481 | 0.264216 | 0.830245 |
| dhrrs1311 | 409.3305702 | 0.114914642 | 0.120537 | 0.9533561 | 0.34041 | 0.87805 |
| MYH6 (1 of many) | 111.0973914 | 0.019817969 | 0.1897691 | 0.104432 | 0.916827 | 0.991541 |
| tbcd | 267.5935663 | -0.081801822 | 0.129466 | -0.63184 | 0.527491 | 0.941391 |
| lzts3a | 28.11073296 | 0.088554217 | 0.3695161 | 0.2396491 | 0.810602 | 0.980958 |
| csf3b | 50.19936568 | -0.737701901 | 0.297491 | -2.479745 | 0.013148 | 0.204871 |
| elmol | 2680.883408 | 0.001005374 | 0.0712585 | 0.0141088 | 0.988743 | 0.997589 |
| si:ch211-156p11.1 | 0.651026051 | -0.042574319 | 2.4423909 | -0.017431 | 0.986092 | NA |
| znf1125 | 0.860946417 | -1.914579776 | 2.2239452 | -0.860893 | 0.389297 | NA |
| rgs2 | 43.86041134 | -0.245204265 | 0.3016308 | -0.812928 | 0.416259 | 0.906237 |
| musk | 109.5188747 | 0.233836275 | 0.1873417 | 1.2481804 | 0.211965 | 0.77986 |
| BX544876.2 | 0 | NA | NA | NA | NA | NA |

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|------------------|-------------|--------------|-----------|-----------|----------|----------|
| pcxa | 1560.026235 | 0.069314067 | 0.0819323 | 0.8459918 | 0.397557 | 0.899672 |
| CABZ01007829.1 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| BX005124.1 | 0.31759079 | 1.807926197 | 3.579045 | 0.5051421 | 0.613459 | NA |
| slitrk6 | 398.2123569 | -0.046404694 | 0.1124886 | -0.412528 | 0.679953 | 0.965311 |
| cbx8b | 213.7201571 | 0.182187303 | 0.1494865 | 1.2187545 | 0.222937 | 0.789115 |
| gig2d | 1.219995923 | 1.398342718 | 1.8849492 | 0.7418464 | 0.45818 | NA |
| si:zfos-741a10.3 | 5.335374045 | -0.302275223 | 0.9138716 | -0.330763 | 0.740823 | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| BX640547.2 | 5.195470755 | 0.912320558 | 0.879281 | 1.0375756 | 0.299468 | NA |
| CU693379.1 | 501.8505006 | 0.024229501 | 0.1169424 | 0.2071917 | 0.83586 | 0.984089 |
| BX547930.4 | 3.576015002 | 0.723892456 | 1.0389736 | 0.6967381 | 0.485967 | NA |
| nsmcel | 45.05178135 | -0.047348893 | 0.2950948 | -0.160453 | 0.872524 | 0.987846 |
| cratb | 192.2792226 | -0.241889456 | 0.155588 | -1.55468 | 0.120022 | 0.645215 |
| polr2b | 1681.489936 | -0.101731105 | 0.0802315 | -1.26797 | 0.204809 | 0.772822 |
| glrx3 | 1359.614161 | -0.00493099 | 0.0865142 | -0.056996 | 0.954548 | 0.994533 |
| rangrf | 99.3202694 | 0.067534011 | 0.2022106 | 0.3339785 | 0.738396 | 0.972689 |
| cd7al | 33.05653468 | -0.200690885 | 0.3531273 | -0.568325 | 0.569815 | 0.948983 |
| pcdh2g28 | 4472.016408 | 0.100947841 | 0.0733842 | 1.3756081 | 0.168943 | 0.725919 |
| sowahca | 6.779039746 | 0.376200166 | 0.7328624 | 0.5133299 | 0.607721 | NA |
| cdhr5b | 49.96449632 | -0.763550201 | 0.3064301 | -2.49176 | 0.012711 | 0.200229 |
| znrf2b | 87.62886328 | 0.181219937 | 0.2203748 | 0.8223259 | 0.410891 | 0.903176 |
| CABZ01078120.1 | 1.761237778 | -0.220188127 | 1.5792016 | -0.13943 | 0.88911 | NA |
| traj7 | 0 | NA | NA | NA | NA | NA |
| CR382300.1 | 107.2602411 | 0.089899996 | 0.201011 | 0.4472393 | 0.654702 | 0.961305 |
| si:ch211-194m7.5 | 0.696687138 | -1.510024977 | 2.3787501 | -0.634798 | 0.52556 | NA |
| znf1156 | 91.58864917 | -0.240600849 | 0.2305156 | -1.043751 | 0.296601 | 0.853709 |
| sbno2a | 24.86181743 | 0.617157066 | 0.387499 | 1.5926674 | 0.111235 | 0.627048 |
| map7d1a | 573.7954203 | 0.099501733 | 0.1023761 | 0.9719231 | 0.331089 | 0.874339 |
| cyp2aa4 | 125.7680763 | 0.36016594 | 0.1849913 | 1.9469344 | 0.051543 | 0.445067 |
| vwall | 35.61519989 | -0.715722004 | 0.3342349 | -2.141374 | 0.032244 | 0.349508 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| snap91a | 1894.067791 | 0.063131165 | 0.0927 | 0.6810267 | 0.495855 | 0.932377 |
| VSTM2B | 270.6625202 | 0.093108027 | 0.1389924 | 0.6698784 | 0.502935 | 0.935304 |
| L0018021.1 | 56.99129899 | -0.049711108 | 0.2663014 | -0.186672 | 0.851918 | 0.985174 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| stx12 | 743.1352455 | 0.082599897 | 0.0992498 | 0.8322425 | 0.405272 | 0.901305 |
| CU571064.1 | 0.706628594 | 2.93253102 | 2.4623982 | 1.1909248 | 0.233683 | NA |
| kcnc3b | 7.322184666 | 0.409835028 | 0.739849 | 0.5539441 | 0.579617 | NA |
| CABZ01055522.1 | 322.3974079 | 0.0453186 | 0.1329552 | 0.3408561 | 0.733212 | 0.971947 |
| si:dkey-58i8.5 | 1.181217373 | -0.359330701 | 1.8241705 | -0.196983 | 0.843841 | NA |
| ftr67 | 396.4709291 | -0.130636425 | 0.1148426 | -1.137526 | 0.255318 | 0.823868 |
| sec1411 | 380.4313588 | -0.084394963 | 0.1189644 | -0.709413 | 0.478068 | 0.926857 |
| tcer gla | 894.9858486 | -0.11904693 | 0.0947426 | -1.25653 | 0.208924 | 0.776073 |
| CT583651.2 | 195.0379942 | 0.042391538 | 0.1469616 | 0.2884532 | 0.773 | 0.975687 |
| cdh22 | 6.461447713 | 0.209972681 | 0.7603219 | 0.2761629 | 0.782423 | NA |
| farsa | 1018.876793 | -0.012375301 | 0.1028036 | -0.120378 | 0.904184 | 0.990291 |
| plc12 | 107.4039336 | 0.091298843 | 0.1995879 | 0.4574367 | 0.647357 | 0.960581 |
| CT573793.1 | 0 | NA | NA | NA | NA | NA |
| gcdhb | 255.9526167 | 0.042309616 | 0.1479898 | 0.2858955 | 0.774958 | 0.975687 |
| fam168a | 107.0998129 | -0.040150023 | 0.1909534 | -0.210261 | 0.833464 | 0.983583 |
| sox4b | 2710.733948 | -0.244249715 | 0.0744018 | -3.282845 | 0.001028 | 0.031702 |
| BX664606.1 | 0 | NA | NA | NA | NA | NA |
| tgm51 | 34.4199515 | -0.207708702 | 0.3463261 | -0.599749 | 0.548674 | 0.946312 |
| sdr42e1 | 44.01117965 | 0.308146991 | 0.3022397 | 1.0195451 | 0.307944 | 0.861088 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| CABZ01044108.1 | 0.787665208 | -1.829930327 | 2.4308619 | -0.752791 | 0.451576 | NA |
| BX005073.1 | 0 NA | | NA | NA | NA | NA |
| FQ311879.1 | 0 NA | | NA | NA | NA | NA |
| lrp12 | 943.8601133 | 0.153950691 | 0.0961259 | 1.6015532 | 0.109254 | 0.623132 |
| SLC25A29 | 24.25732633 | 0.739340938 | 0.3962642 | 1.8657777 | 0.062072 | 0.486493 |
| si:dkey-11d20.1 | 0 NA | | NA | NA | NA | NA |
| smdtlb | 781.4049987 | 0.033200608 | 0.1241096 | 0.2675103 | 0.789076 | 0.976965 |
| ehd1a | 808.4201482 | 0.022671463 | 0.0981495 | 0.2309891 | 0.817323 | 0.981594 |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| oxsm | 229.1286349 | -0.305580226 | 0.1418551 | -2.154171 | 0.031227 | 0.342093 |
| RYR2 (1 of many) | 750.2721649 | 0.056259225 | 0.1109853 | 0.506907 | 0.61222 | 0.95688 |
| lifra | 12.80252764 | 0.114122239 | 0.5634539 | 0.2025405 | 0.839494 | 0.984979 |
| nop14 | 600.0700145 | -0.122114966 | 0.0982572 | -1.242809 | 0.213938 | 0.782251 |
| fam57a | 27.36358095 | 0.108417088 | 0.3880671 | 0.2793772 | 0.779955 | 0.976146 |
| plpp4 | 2.147436038 | 0.228613569 | 1.259339 | 0.1815346 | 0.855948 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| BX548044.7 | 2.427105035 | 0.46344952 | 1.3765106 | 0.3366843 | 0.736355 | NA |
| PRDM15 | 36.22081447 | -0.032196485 | 0.3255794 | -0.09889 | 0.921226 | 0.992138 |
| XPO5 | 178.3195967 | 0.127300938 | 0.172466 | 0.7381219 | 0.46044 | 0.921978 |
| gga3b | 85.66899765 | -0.0444142 | 0.2221221 | -0.199954 | 0.841517 | 0.985174 |
| exoc6b | 441.7139641 | -0.076794418 | 0.1081171 | -0.71029 | 0.477525 | 0.926857 |
| si:dkey-199m13.5 | 5.183181456 | -1.027821731 | 0.8746423 | -1.175134 | 0.239941 | NA |
| BX927164.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:dkey-4j21.2 | 2.453597695 | -1.030026991 | 1.2425449 | -0.828966 | 0.407124 | NA |
| pclob | 1222.154155 | 0.189927177 | 0.087273 | 2.176242 | 0.029537 | 0.332786 |
| si:dkey-238i5.3 | 0.665331516 | 0.047715978 | 2.3078578 | 0.0206754 | 0.983505 | NA |
| stac3 | 774.5872899 | 0.19897792 | 0.0943196 | 2.1096136 | 0.034892 | 0.363705 |
| BX649355.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| dre-mir-735 | 0 NA | | NA | NA | NA | NA |
| CU861459.1 | 0 NA | | NA | NA | NA | NA |
| si:zfos-128g4.2 | 105.5601953 | 0.185330963 | 0.195938 | 0.9458652 | 0.344217 | 0.878434 |
| cyp2aa9 | 64.25285371 | -0.111729623 | 0.2835926 | -0.393979 | 0.693596 | 0.96736 |
| si:ch211-223a21.1 | 15.98118161 | -0.112316432 | 0.4802103 | -0.23389 | 0.81507 | 0.981081 |
| BX324119.1 | 0.317711143 | 1.810477155 | 3.2978238 | 0.5489915 | 0.583011 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| BX323544.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| pds5b | 2768.360704 | -0.070888703 | 0.0769692 | -0.921001 | 0.35705 | 0.883467 |
| si:ch211-255f4.2 | 47.48880026 | 0.193407177 | 0.3115185 | 0.620853 | 0.534696 | 0.943336 |
| zmp:0000001082 | 162.1268903 | -0.298224875 | 0.1739813 | -1.71412 | 0.086507 | 0.563804 |
| ubxn8 | 78.15363296 | 0.278106179 | 0.2250376 | 1.235821 | 0.216525 | 0.783739 |
| tfe3a | 14.79044833 | 0.36323802 | 0.4876477 | 0.7448779 | 0.456346 | 0.921215 |
| pex1 | 176.9316525 | 0.271026582 | 0.1681947 | 1.6113861 | 0.107096 | 0.617015 |
| herc7 | 26.56607235 | -0.171995386 | 0.3850002 | -0.446741 | 0.655062 | 0.961614 |
| abraxas2 | 185.0561926 | 0.00224679 | 0.1508673 | 0.0148925 | 0.988118 | 0.997369 |
| CU062501.1 | 65.19889207 | 0.225986522 | 0.244101 | 0.9257909 | 0.354555 | 0.882105 |
| SHC3 | 66.73244984 | 0.380916449 | 0.2477295 | 1.5376306 | 0.124139 | 0.652708 |
| zgc:153293 | 126.9419817 | -0.238852033 | 0.1844661 | -1.294829 | 0.195379 | 0.760412 |
| CU633999.2 | 21.70432983 | 0.125009722 | 0.4093853 | 0.3053596 | 0.760092 | 0.975374 |
| faslg | 0.476626891 | 2.395187592 | 2.815932 | 0.8505843 | 0.395 | NA |
| si:ch211-216p19.5 | 3.433455288 | 0.980028049 | 1.0442268 | 0.9385203 | 0.347977 | NA |
| krit1 | 254.7331374 | 0.018806502 | 0.1363993 | 0.1378783 | 0.890337 | 0.989291 |
| mcoln2 | 23.43760561 | 0.120070688 | 0.4178697 | 0.28734 | 0.773852 | 0.975687 |
| smarcc1b | 466.5887912 | -0.028731967 | 0.1047327 | -0.274336 | 0.783826 | 0.97627 |
| zgc:173577 | 14.26794098 | -0.056777712 | 0.494552 | -0.114806 | 0.908599 | 0.990702 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| suz12b | 1062.23034 | -0.001148608 | 0.0857221 | -0.013399 | 0.989309 | 0.997589 |
| prdm1b | 88.62165193 | -0.157508378 | 0.2281822 | -0.690275 | 0.490021 | 0.931926 |
| si:ch211-196h24.1 | 1.659851382 | -1.161637942 | 1.5333985 | -0.757558 | 0.448716 | NA |
| tex15 | 5.774379846 | 0.909870758 | 0.8633749 | 1.0538536 | 0.29195 | NA |
| gigyfla | 149.6941371 | -0.029245418 | 0.1811093 | -0.161479 | 0.871716 | 0.987811 |
| rrp7a | 210.0038249 | -0.261288605 | 0.1588517 | -1.644858 | 0.099999 | 0.601211 |
| bxdc2 | 524.9596208 | 0.136109212 | 0.1129905 | 1.2046071 | 0.228355 | 0.795541 |
| kif5aa | 5049.689071 | 6.94E-05 | 0.0724928 | 0.0009574 | 0.999236 | 0.999704 |
| si:ch73-315f9.2 | 49.26796873 | 0.309194207 | 0.3224497 | 0.9588913 | 0.337614 | 0.876395 |
| trdjl | 0 | NA | NA | NA | NA | NA |
| BX323855.1 | 0.475018861 | 0.853207185 | 2.8976509 | 0.2944479 | 0.768416 | NA |
| CU856520.1 | 786.6676429 | -0.12370277 | 0.0915474 | -1.351243 | 0.176618 | 0.737268 |
| rp9 | 202.1449903 | -0.081245786 | 0.1691777 | -0.480239 | 0.631057 | 0.957356 |
| dre-mir-7148 | 0 | NA | NA | NA | NA | NA |
| nme8 | 24.07013768 | 0.150923552 | 0.3918345 | 0.3851717 | 0.70011 | 0.967998 |
| CT583726.1 | 0 | NA | NA | NA | NA | NA |
| pald1a | 442.6963556 | -0.145517038 | 0.1087621 | -1.337939 | 0.180916 | 0.741776 |
| m1na | 32.46571953 | 0.157201382 | 0.3566634 | 0.4407556 | 0.65939 | 0.96288 |
| si:dkeyp-92c9.4 | 24.59835614 | -1.039087982 | 0.4042065 | -2.570686 | 0.01015 | 0.172128 |
| BX957297.1 | 4.644996436 | -0.222709595 | 0.9580771 | -0.232455 | 0.816185 | NA |
| gata4 | 18.96587374 | -0.30650826 | 0.4813192 | -0.636809 | 0.524249 | 0.939336 |
| stard13b | 514.5454899 | -0.050956289 | 0.1054343 | -0.483299 | 0.628883 | 0.957354 |
| ssh2b | 442.2046332 | -0.0632761 | 0.1253753 | -0.504693 | 0.613774 | 0.95688 |
| znf1100 | 1.422967141 | 0.331098809 | 1.7641049 | 0.1876866 | 0.851122 | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| pcdhlgl3 | 56.38889471 | 0.154675993 | 0.257483 | 0.6007231 | 0.548024 | 0.945768 |
| si:ch211-9d9.7 | 0.988265837 | 0.023857189 | 1.9450119 | 0.0122658 | 0.990214 | NA |
| CABZ01064972.1 | 9.225082698 | 0.394168422 | 0.6401605 | 0.6157337 | 0.53807 | NA |
| rabgap1 | 1061.2075 | 0.018624493 | 0.0861439 | 0.2162021 | 0.82883 | 0.982721 |
| RSBN1 | 236.5701417 | -0.300193977 | 0.1420116 | -2.11387 | 0.034526 | 0.361039 |
| CU459186.1 | 9.676719148 | 1.163617693 | 0.673983 | 1.7264792 | 0.084261 | NA |
| FP003590.1 | 1.468709556 | -0.366786288 | 1.7646744 | -0.207849 | 0.835347 | NA |
| mrps16 | 316.8208371 | 0.002990016 | 0.1397579 | 0.0213943 | 0.982931 | 0.996944 |
| CR759816.1 | 6.647152399 | -0.001195502 | 0.7555354 | -0.001582 | 0.998737 | NA |
| si:ch211-76m11.15 | 0 | NA | NA | NA | NA | NA |
| si:ch211-153f2.3 | 44.48146205 | -0.080912585 | 0.2844388 | -0.284464 | 0.776055 | 0.975826 |
| dre-mir-126b | 0 | NA | NA | NA | NA | NA |
| CABZ01112656.1 | 469.8396397 | 0.046356306 | 0.1131624 | 0.4096442 | 0.682067 | 0.965476 |
| pid1 | 44.2061838 | -0.183034136 | 0.2863546 | -0.639187 | 0.522701 | 0.939336 |
| BX649431.2 | 0 | NA | NA | NA | NA | NA |
| znf1040 | 53.48904879 | 0.139546136 | 0.2701863 | 0.5164811 | 0.605518 | 0.95651 |
| znf1071 | 2.142291928 | 0.636310703 | 1.3817343 | 0.460516 | 0.645146 | NA |
| si:ch211-193i15.1 | 1.297255751 | -0.034484508 | 1.7090399 | -0.020178 | 0.983902 | NA |
| CU459012.1 | 41.02807001 | 0.48009166 | 0.3065433 | 1.5661461 | 0.117314 | 0.640853 |
| zgc:162858 | 268.727853 | 0.025861641 | 0.1303567 | 0.1983914 | 0.842739 | 0.985174 |
| znf1095 | 5.394696306 | -0.537123051 | 0.8723075 | -0.61575 | 0.53806 | NA |
| zgc:114119 | 272.4184328 | -0.032941306 | 0.1500319 | -0.219562 | 0.826212 | 0.982196 |
| CR352263.1 | 21.5181699 | 0.474499749 | 0.4312154 | 1.1003775 | 0.271168 | 0.835995 |
| cyp2k6 | 9.91112297 | 0.475431706 | 0.6007469 | 0.791401 | 0.42871 | NA |
| RF01190 | 0 | NA | NA | NA | NA | NA |
| si:ch73-311h14.2 | 279.0415166 | 0.054093216 | 0.1282537 | 0.4217673 | 0.673195 | 0.965257 |
| RF00001 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| CR847947.1 | 1.226716822 | -1.285857512 | 1.9544125 | -0.657925 | 0.510586 | NA |
| creb5a | 39.19487413 | -0.060995929 | 0.3115613 | -0.195775 | 0.844786 | 0.985174 |

| | | | | | | |
|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| cyp2aa1 | 157.8551472 | -0.52841137 | 0.162381 | -3.254146 | 0.001137 | 0.034075 |
| palm2 | 7.456507971 | 0.731710543 | 0.690453 | 1.0597543 | 0.289256 | NA |
| EGFLAM | 8.324457277 | 0.123426632 | 0.6458845 | 0.1910971 | 0.84845 | NA |
| si:dkey-50i6.6 | 72.65467274 | -0.13839676 | 0.2321426 | -0.596171 | 0.551061 | 0.946549 |
| fxyd1 | 932.4310712 | 0.106540959 | 0.1064992 | 1.000392 | 0.317121 | 0.867335 |
| wacb | 90.41815055 | 0.024717357 | 0.2080204 | 0.1188218 | 0.905417 | 0.990702 |
| CR749168.1 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| setdbl1b | 1322.860223 | -0.048769512 | 0.0864266 | -0.564288 | 0.572558 | 0.949494 |
| faua | 7273.909 | -0.266488144 | 0.0793922 | -3.356603 | 0.000789 | 0.025611 |
| CABZ01034698.1 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-188p14.5 | 0 NA | NA | NA | NA | NA | NA |
| CU915778.1 | 14.85371436 | 0.692023048 | 0.5233783 | 1.3222234 | 0.186094 | 0.750443 |
| si:dkey-185m8.2 | 8.490569789 | 0.66696346 | 0.6914491 | 0.964588 | 0.334751 | NA |
| tradv25.0.2 | 0 NA | NA | NA | NA | NA | NA |
| trdj2 | 0.333314908 | -1.858695402 | 3.5126701 | -0.52914 | 0.596708 | NA |
| scn4ba | 31.62310177 | 0.772851606 | 0.3496023 | 2.2106596 | 0.027059 | 0.316986 |
| F0818704.1 | 1.483603486 | -0.918010655 | 1.6988633 | -0.540368 | 0.588944 | NA |
| unc5a | 9.713252842 | -0.344927183 | 0.6467364 | -0.533335 | 0.593802 | NA |
| pcdh1g33 | 320.9360715 | 0.137318698 | 0.1247418 | 1.1008237 | 0.270973 | 0.835943 |
| CU138542.1 | 0.471562095 | -2.373056629 | 3.0645586 | -0.774355 | 0.438721 | NA |
| kcngl | 55.41502347 | 0.086382386 | 0.280046 | 0.3084578 | 0.757734 | 0.975374 |
| pcbp2 | 3451.783891 | -0.028214195 | 0.069165 | -0.407926 | 0.683328 | 0.965476 |
| cfap157 | 9.245153283 | -0.72966595 | 0.6659777 | -1.095631 | 0.27324 | NA |
| BX548000.1 | 2.973102951 | 0.995041575 | 1.2096859 | 0.8225619 | 0.410757 | NA |
| cacnb2a | 255.6424349 | 0.032567974 | 0.1322826 | 0.2461999 | 0.805527 | 0.979893 |
| si:ch211-227p7.5 | 12.47398025 | -0.027849693 | 0.5355055 | -0.052006 | 0.958524 | 0.994935 |
| BX323797.1 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| znf1070 | 6.319239139 | -1.6994311 | 0.8038043 | -2.114235 | 0.034495 | NA |
| rragcb | 83.19835446 | 0.0256479 | 0.2297274 | 0.1116449 | 0.911105 | 0.991066 |
| tradv2.0.3 | 0 NA | NA | NA | NA | NA | NA |
| BX088596.1 | 29.66386225 | 0.276362456 | 0.3635036 | 0.7602744 | 0.447091 | 0.917154 |
| CR790365.1 | 0 NA | NA | NA | NA | NA | NA |
| CU929262.1 | 0.522329263 | 0.999930388 | 2.8066578 | 0.3562709 | 0.721638 | NA |
| zgc:111868 | 12.62365995 | -0.634782671 | 0.5663675 | -1.120796 | 0.262375 | 0.830166 |
| znf1154 | 17.71968251 | 0.101369884 | 0.4822863 | 0.2101861 | 0.833522 | 0.983583 |
| tradv6.0.2 | 0 NA | NA | NA | NA | NA | NA |
| BX323051.1 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |
| si:dkey-161111.67 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-147m6.3 | 0 NA | NA | NA | NA | NA | NA |
| bsk146 | 326.2903964 | 0.199815595 | 0.1291439 | 1.5472318 | 0.121807 | 0.648874 |
| FP074867.1 | 6.956273952 | -0.403105631 | 0.706295 | -0.570733 | 0.568181 | NA |
| si:zfos-741a10.4 | 1.957123383 | 0.475071774 | 1.3245505 | 0.3586664 | 0.719845 | NA |
| si:ch211-106g8.54 | 0 NA | NA | NA | NA | NA | NA |
| CABZ01032982.1 | 0.656369582 | -1.475482481 | 2.3019817 | -0.640962 | 0.521547 | NA |
| CU467646.3 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| F0905040.1 | 24.57415202 | -0.024418099 | 0.3906613 | -0.062505 | 0.950161 | 0.99381 |
| aclya | 2581.315186 | 0.008055313 | 0.0746656 | 0.1078852 | 0.914087 | 0.991119 |
| sbno1 | 1399.165849 | -0.043423083 | 0.0895748 | -0.484769 | 0.62784 | 0.957354 |
| CR376766.1 | 0 NA | NA | NA | NA | NA | NA |
| BX572078.1 | 1.1953612 | -0.381847657 | 1.7325832 | -0.220392 | 0.825566 | NA |
| pcif1 | 105.2315161 | 0.162727361 | 0.1933374 | 0.8416757 | 0.399969 | 0.90084 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| BX511142.1 | 1.518457159 | -0.245850314 | 1.574579 | -0.156137 | 0.875925 | NA |

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| edar | 29.0118824 | 0.189892777 | 0.3738043 | 0.5080005 | 0.611453 | 0.95688 |
| znf1087 | 7.764594022 | -0.11622613 | 0.7011629 | -0.165762 | 0.868344 | NA |
| CU929418.1 | 0 NA | | NA | NA | NA | NA |
| RASGRP2 | 15.05517927 | 0.17213103 | 0.5337243 | 0.3225092 | 0.747067 | 0.97419 |
| dock1 | 670.0463526 | -0.18328455 | 0.1064793 | -1.721317 | 0.085193 | 0.560519 |
| CR974475.1 | 0 NA | | NA | NA | NA | NA |
| gabbr4 | 27.30931701 | -0.424577776 | 0.3866483 | -1.098098 | 0.272162 | 0.837242 |
| L0017849.1 | 0.981393344 | -0.052272524 | 2.0628158 | -0.02534 | 0.979783 | NA |
| CABZ01015815.1 | 58.93141907 | -0.458538039 | 0.2919866 | -1.570408 | 0.11632 | 0.638744 |
| gch2 | 1224.574865 | 0.073567434 | 0.0956055 | 0.7694893 | 0.441603 | 0.916336 |
| dre-mir-19a | 0 NA | | NA | NA | NA | NA |
| rpl24 | 14195.05076 | -0.379886338 | 0.0800115 | -4.747895 | 2.06E-06 | 0.000186 |
| afmid | 91.44296157 | -0.282983778 | 0.2262094 | -1.250982 | 0.210941 | 0.778412 |
| FP016019.1 | 0.672911584 | -1.510325414 | 2.402234 | -0.628717 | 0.529534 | NA |
| clic6 | 115.7569428 | -0.005815523 | 0.1966647 | -0.029571 | 0.976409 | 0.996762 |
| CU929444.1 | 394.5200744 | 0.050289418 | 0.1215397 | 0.4137696 | 0.679043 | 0.965257 |
| zgc:175280 | 111.3582233 | 0.315336173 | 0.2020818 | 1.5604379 | 0.118656 | 0.642318 |
| si:dkey-7114.3 | 7.169771436 | -0.327716293 | 0.7146028 | -0.458599 | 0.646522 | NA |
| UNC13B | 148.3203073 | 0.241906098 | 0.1661955 | 1.4555516 | 0.145517 | 0.691029 |
| FP017279.1 | 0 NA | | NA | NA | NA | NA |
| nagk | 287.2698817 | -0.277605655 | 0.1314839 | -2.111329 | 0.034744 | 0.36274 |
| si:dkey-33i11.4 | 642.6802927 | 0.222202619 | 0.1331352 | 1.669 | 0.095117 | 0.586483 |
| si:dkey-218f9.10 | 165.8069126 | 0.158354118 | 0.1581654 | 1.0011934 | 0.316733 | 0.867129 |
| si:dkey-6d5.1 | 0.317831496 | 1.808837541 | 3.5779923 | 0.5055454 | 0.613176 | NA |
| naa38 | 345.2213857 | -0.225996795 | 0.1224446 | -1.845707 | 0.064935 | 0.497901 |
| CU459186.2 | 6.411359828 | 3.098962696 | 0.9807952 | 3.159643 | 0.00158 | NA |
| f3a | 182.9781941 | 0.172999603 | 0.1526085 | 1.1336174 | 0.256955 | 0.82511 |
| RF01848 | 0 NA | | NA | NA | NA | NA |
| CABZ01055168.1 | 0 NA | | NA | NA | NA | NA |
| phlda1 | 64.3118799 | -0.109735668 | 0.2420799 | -0.453304 | 0.65033 | 0.960708 |
| si:ch73-72b7.1 | 6.627804464 | -0.725680598 | 0.7913929 | -0.916966 | 0.35916 | NA |
| zgc:195356 | 8.008038641 | 1.150864211 | 0.6939898 | 1.6583301 | 0.097251 | NA |
| BX663503.3 | 649.1456667 | 0.146404878 | 0.1049464 | 1.3950449 | 0.163002 | 0.717875 |
| btr29 | 2.005182646 | -0.002059822 | 1.3014479 | -0.001583 | 0.998737 | NA |
| fbxw5 | 928.8015334 | 0.144560936 | 0.0847481 | 1.7057717 | 0.088051 | 0.568063 |
| tradv25.0.3 | 0 NA | | NA | NA | NA | NA |
| CR762408.1 | 0 NA | | NA | NA | NA | NA |
| fnta | 568.4822278 | -0.161692002 | 0.1049247 | -1.541029 | 0.12331 | 0.651258 |
| igfbp3 | 749.1265963 | 0.105275801 | 0.0901052 | 1.1683655 | 0.242659 | 0.811434 |
| BX511066.1 | 0 NA | | NA | NA | NA | NA |
| bzwlb | 2296.607739 | 0.017438773 | 0.0882527 | 0.1976004 | 0.843358 | 0.985174 |
| hs3st3bla | 23.22468388 | -0.141927043 | 0.4360191 | -0.325506 | 0.744798 | 0.974094 |
| si:dkey-190j3.2 | 3.1004604 | 0.186119465 | 1.1084336 | 0.1679121 | 0.866652 | NA |
| tpst2 | 34.22509963 | 0.284805214 | 0.3359159 | 0.8478467 | 0.396523 | 0.899672 |
| katnall | 345.858906 | -0.052943687 | 0.1216195 | -0.435322 | 0.663329 | 0.964736 |
| CR450748.1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:ch211-186j3.3 | 1.147930445 | -0.458203818 | 1.7520625 | -0.261523 | 0.79369 | NA |
| CR749168.2 | 0.476506538 | 2.394892832 | 2.8161716 | 0.8504073 | 0.395099 | NA |
| dnaaf4 | 62.39585465 | 0.013885945 | 0.2523496 | 0.0550266 | 0.956117 | 0.994543 |
| RF00017 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| naccla | 67.00743287 | 0.194723733 | 0.250129 | 0.7784933 | 0.436278 | 0.914408 |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| cxc18b.3 | 27.6686491 | -0.051375908 | 0.3756265 | -0.136774 | 0.891209 | 0.989291 |
| si:dkey-161111.78 | 0 NA | | NA | NA | NA | NA |

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|-------------------|--------------|---------------|------------|------------|-----------|-----------|
| BX000701. 1 | 25. 54882446 | 0. 090786149 | 0. 3857409 | 0. 2353553 | 0. 813933 | 0. 981081 |
| BX530097. 1 | 28. 63386579 | 0. 497532591 | 0. 3598996 | 1. 3824204 | 0. 166843 | 0. 723339 |
| BX666065. 1 | 0. 949676663 | 1. 00110294 | 2. 1117873 | 0. 4740548 | 0. 635461 | NA |
| hmgb1a | 11831. 28857 | 0. 094904786 | 0. 0697414 | 1. 3608093 | 0. 173574 | 0. 732917 |
| dok1b | 54. 94044735 | 0. 108928637 | 0. 2664224 | 0. 4088569 | 0. 682645 | 0. 965476 |
| CR927050. 1 | 0 NA | NA | NA | NA | NA | NA |
| L0018568. 1 | 4. 886277917 | 0. 955634684 | 0. 9316713 | 1. 0257209 | 0. 305023 | NA |
| ankrd55 | 158. 4130072 | 0. 026597303 | 0. 1654422 | 0. 160765 | 0. 872279 | 0. 987846 |
| fkbp10a | 135. 6680189 | 0. 313287085 | 0. 1826326 | 1. 7153952 | 0. 086273 | 0. 563208 |
| map2k6 | 960. 7179482 | 0. 006416299 | 0. 0908289 | 0. 0706416 | 0. 943683 | 0. 993364 |
| chia. 2 | 476. 4418514 | -0. 547457952 | 0. 141774 | -3. 861483 | 0. 000113 | 0. 005422 |
| slcla5 | 2061. 180421 | 0. 032206346 | 0. 0719362 | 0. 4477073 | 0. 654364 | 0. 961305 |
| purg | 53. 794484 | -0. 003428656 | 0. 2628636 | -0. 013043 | 0. 989593 | 0. 997612 |
| CU856516. 1 | 19. 46748355 | 0. 1783056 | 0. 4559835 | 0. 3910352 | 0. 695771 | 0. 96736 |
| CABZ01058261. 1 | 809. 7535176 | -0. 121724307 | 0. 0963266 | -1. 263663 | 0. 206351 | 0. 774011 |
| ier2a | 578. 5960162 | -0. 003982058 | 0. 1279248 | -0. 031128 | 0. 975167 | 0. 996762 |
| actclb | 121343. 8334 | 0. 256736709 | 0. 1885659 | 1. 3615227 | 0. 173349 | 0. 732435 |
| BX927287. 1 | 8. 165032132 | 0. 161869301 | 0. 6979331 | 0. 2319267 | 0. 816595 | NA |
| itchb | 23. 39186765 | -0. 791758691 | 0. 4011224 | -1. 973858 | 0. 048398 | 0. 433433 |
| zgc:123103 | 4187. 827342 | 0. 29633398 | 0. 1065553 | 2. 7810346 | 0. 005419 | 0. 109223 |
| BX908731. 1 | 1. 845758743 | 0. 297900097 | 1. 3652675 | 0. 2181991 | 0. 827274 | NA |
| atplb2a | 6201. 51426 | 0. 14092081 | 0. 0748472 | 1. 8827812 | 0. 05973 | 0. 478372 |
| CU466285. 2 | 0 NA | NA | NA | NA | NA | NA |
| CR855379. 1 | 0. 157187365 | -0. 955901296 | 4. 0804729 | -0. 234262 | 0. 814781 | NA |
| si:dkey-11f4. 7 | 6. 547578104 | 0. 586494051 | 0. 7661767 | 0. 7654814 | 0. 443985 | NA |
| BX681417. 1 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-220o5. 5 | 1. 149418122 | 0. 346570459 | 1. 8373228 | 0. 188628 | 0. 850384 | NA |
| glyr1 | 1437. 987874 | -0. 047753251 | 0. 0764458 | -0. 624668 | 0. 532189 | 0. 942546 |
| CR318603. 1 | 0. 157187365 | -0. 955901296 | 4. 0804729 | -0. 234262 | 0. 814781 | NA |
| atp8b2 | 3. 81066062 | -0. 936135673 | 1. 0219372 | -0. 91604 | 0. 359646 | NA |
| zgc:109982 | 43. 90276539 | 0. 184565236 | 0. 2923074 | 0. 6314081 | 0. 527774 | 0. 941629 |
| ghrhr2 | 2. 096858248 | 0. 683236533 | 1. 3795241 | 0. 4952697 | 0. 62041 | NA |
| BX571942. 1 | 48. 81365614 | 0. 109791605 | 0. 273683 | 0. 4011634 | 0. 6883 | 0. 966672 |
| ppp2r2bb | 213. 4827598 | -0. 059128587 | 0. 1461025 | -0. 404706 | 0. 685693 | 0. 966307 |
| prpsap1 | 88. 1294897 | -0. 250207259 | 0. 2236023 | -1. 118983 | 0. 263147 | 0. 830245 |
| CABZ01076667. 1 | 946. 0835093 | -0. 156299491 | 0. 1011049 | -1. 545915 | 0. 122125 | 0. 649408 |
| galnt13 | 340. 4177665 | 0. 11372149 | 0. 1254199 | 0. 9067257 | 0. 364552 | 0. 886564 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| CU929119. 1 | 7. 121035593 | 0. 914852805 | 0. 732911 | 1. 2482455 | 0. 211941 | NA |
| si:zfos-2372e4. 1 | 8. 426024301 | -0. 774171085 | 0. 7311647 | -1. 058819 | 0. 289682 | NA |
| hook2 | 183. 38059 | 0. 091006939 | 0. 1636744 | 0. 5560243 | 0. 578194 | 0. 951024 |
| 10-Sep | 1089. 617294 | -0. 086346917 | 0. 0946944 | -0. 911848 | 0. 361849 | 0. 885944 |
| rasd4 | 644. 1627495 | -0. 056254801 | 0. 0990496 | -0. 567946 | 0. 570072 | 0. 948983 |
| traj47 | 0 NA | NA | NA | NA | NA | NA |
| acap3b | 97. 12589676 | 0. 000744951 | 0. 1980832 | 0. 0037608 | 0. 996999 | 0. 99906 |
| ppp2cb | 3229. 804651 | -0. 066682098 | 0. 0713794 | -0. 934193 | 0. 350205 | 0. 880195 |
| si:dkey-68o6. 5 | 19. 17726267 | -0. 452151334 | 0. 4595601 | -0. 983879 | 0. 325175 | 0. 871629 |
| CR450749. 1 | 0 NA | NA | NA | NA | NA | NA |
| CT030005. 1 | 0 NA | NA | NA | NA | NA | NA |
| ipcef1 | 69. 87123002 | 0. 050866203 | 0. 2356759 | 0. 2158312 | 0. 829119 | 0. 982737 |
| CU861469. 1 | 0. 365141898 | 1. 973577737 | 3. 3927314 | 0. 5817076 | 0. 560764 | NA |
| BX465836. 2 | 0 NA | NA | NA | NA | NA | NA |
| puml | 2896. 705788 | -0. 018743832 | 0. 0728329 | -0. 257354 | 0. 796906 | 0. 978569 |
| si:ch73-119p20. 1 | 1566. 410153 | 0. 276343947 | 0. 0886815 | 3. 1161398 | 0. 001832 | 0. 050201 |

| | | | | | | |
|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| vps52 | 458.5684559 | 0.046222149 | 0.1174992 | 0.3933825 | 0.694037 | 0.96736 |
| tradv15.0 | 0.349228403 | 0.005884014 | 3.2372587 | 0.0018176 | 0.99855 | NA |
| PITPNC1 | 15.91354488 | -0.040021703 | 0.5158585 | -0.077583 | 0.93816 | 0.99279 |
| si:dkey-16p6.1 | 35.27611629 | -0.319078287 | 0.3314616 | -0.96264 | 0.335728 | 0.876088 |
| slc7a5 | 34.71063869 | 0.340655741 | 0.3293108 | 1.0344506 | 0.300926 | 0.856434 |
| vasna | 661.8251428 | 0.078197773 | 0.0986452 | 0.7927178 | 0.427942 | 0.910858 |
| si:dkeyp-13d12.11 | 0 NA | NA | NA | NA | NA | NA |
| si:dkeyp-115e12.7 | 239.343443 | -0.136764746 | 0.140144 | -0.975887 | 0.32912 | 0.873436 |
| zgc:103508 | 268.6404644 | -0.017128839 | 0.1325772 | -0.129199 | 0.8972 | 0.990121 |
| atxn3 | 193.5225737 | -0.113479004 | 0.1653661 | -0.686229 | 0.492569 | 0.931926 |
| ugt5b3 | 125.6277591 | -0.523901918 | 0.2174344 | -2.409472 | 0.015976 | 0.233052 |
| znf1039 | 0.325573202 | 0.005883621 | 3.3172783 | 0.0017736 | 0.998585 | NA |
| utp20 | 398.5713136 | -0.134031727 | 0.1121758 | -1.194837 | 0.232151 | 0.800166 |
| si:dkey-112e7.2 | 477.6553297 | -0.13743551 | 0.1276759 | -1.07644 | 0.28173 | 0.84357 |
| si:ch73-359m17.6 | 0 NA | NA | NA | NA | NA | NA |
| epb41a | 404.6518357 | -0.198372706 | 0.1378772 | -1.438764 | 0.150217 | 0.698425 |
| si:dkey-228b2.6 | 0 NA | NA | NA | NA | NA | NA |
| st3gal113 | 0.862674799 | -0.605687625 | 2.2107371 | -0.273975 | 0.784104 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| lsr | 483.036738 | -0.117378623 | 0.1108791 | -1.058618 | 0.289774 | 0.846246 |
| CR847534.1 | 7.234557703 | 0.953295225 | 0.7123752 | 1.3381927 | 0.180834 | NA |
| BX914214.2 | 6.726419345 | -0.660832165 | 0.7697994 | -0.858447 | 0.390646 | NA |
| si:ch73-199g24.2 | 475.7958517 | -0.169732623 | 0.1142291 | -1.485896 | 0.137307 | 0.674358 |
| BX511034.4 | 0 NA | NA | NA | NA | NA | NA |
| xrcc5 | 478.5186347 | -0.261903812 | 0.1049876 | -2.494615 | 0.012609 | 0.19947 |
| cdc37 | 1619.338543 | -0.195132638 | 0.0899508 | -2.169326 | 0.030058 | 0.335259 |
| AL954741.1 | 53.18664226 | 0.030993751 | 0.2827346 | 0.1096214 | 0.91271 | 0.991119 |
| RF00001 | 0.340386822 | -1.882368278 | 3.2159502 | -0.585323 | 0.558331 | NA |
| si:ch211-51f19.1 | 32.07101858 | 0.262220564 | 0.3445963 | 0.7609499 | 0.446687 | 0.917154 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| zgc:175088 | 1182.952614 | 0.130954811 | 0.0975219 | 1.3428252 | 0.179329 | 0.740258 |
| si:dkey-10p5.10 | 168.1641062 | 0.085200478 | 0.1596739 | 0.5335906 | 0.593625 | 0.954434 |
| si:zfos-169g10.3 | 67.40276824 | -0.0813297 | 0.2548424 | -0.319137 | 0.749622 | 0.97419 |
| jpt1b | 1858.197714 | 0.075589036 | 0.1015449 | 0.7443906 | 0.45664 | 0.921215 |
| naga | 361.8527613 | -0.339905708 | 0.158203 | -2.148541 | 0.031671 | 0.345305 |
| nsdhl | 182.873566 | -0.134358337 | 0.1588585 | -0.845774 | 0.397679 | 0.899672 |
| si:ch211-255f4.9 | 2.483816655 | -0.573279681 | 1.1753477 | -0.487753 | 0.625725 | NA |
| CU651657.1 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |
| CU138553.1 | 0 NA | NA | NA | NA | NA | NA |
| btbd17a | 282.1843005 | 0.141818737 | 0.1569176 | 0.9037784 | 0.366113 | 0.887239 |
| dlg2 | 144.7888514 | -0.126838805 | 0.1695905 | -0.747912 | 0.454513 | 0.920666 |
| gig2i | 0.340386822 | -1.882368278 | 3.2159502 | -0.585323 | 0.558331 | NA |
| zgc:174944 | 6.055371038 | -0.223957455 | 0.787585 | -0.28436 | 0.776135 | NA |
| BX927130.1 | 4.247249532 | -0.558419465 | 0.9767229 | -0.571728 | 0.567507 | NA |
| h2afy | 308.3258181 | -0.249656891 | 0.1264054 | -1.975049 | 0.048263 | 0.432986 |
| si:ch211-246b8.5 | 0 NA | NA | NA | NA | NA | NA |
| CABZ01064859.1 | 142.7179342 | -0.332225283 | 0.1735729 | -1.914038 | 0.055615 | 0.461579 |
| ly6m5 | 17.69934361 | -0.13843067 | 0.4476909 | -0.30921 | 0.757162 | 0.975374 |
| mvda | 176.088135 | 0.076651525 | 0.1520755 | 0.504036 | 0.614236 | 0.95688 |
| si:ch211-209j12.2 | 13.17200047 | -0.846668638 | 0.542944 | -1.559403 | 0.118901 | 0.642772 |
| pacsin3 | 744.2335557 | 0.214438578 | 0.0977721 | 2.1932484 | 0.028289 | 0.325989 |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| crfb15 | 8.725440575 | -0.616138647 | 0.6566336 | -0.938329 | 0.348075 | NA |
| zgc:92162 | 12.06708507 | 1.214920528 | 0.5599675 | 2.1696268 | 0.030035 | 0.335259 |

| | | | | | | |
|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| si:rp71-1d10.8 | 94.19793314 | 0.231592426 | 0.2089373 | 1.1084305 | 0.267676 | 0.833349 |
| znf1079 | 7.138487098 | 0.215459069 | 0.7046981 | 0.3057466 | 0.759798 | NA |
| si:dkey-220o21.4 | 0 NA | NA | NA | NA | NA | NA |
| CU469503.1 | 0 NA | NA | NA | NA | NA | NA |
| igfbpla | 1413.876652 | -0.083720398 | 0.0982867 | -0.851798 | 0.394326 | 0.898733 |
| si:rp71-62i8.1 | 15.82470861 | -0.591903602 | 0.5086297 | -1.163722 | 0.244537 | 0.814189 |
| slc25a13 | 9.300484764 | 0.408599165 | 0.675567 | 0.6048241 | 0.545296 | NA |
| BX890548.1 | 495.6206185 | 0.070437673 | 0.1122364 | 0.6275832 | 0.530277 | 0.942209 |
| hccsb | 849.3500933 | 0.17318808 | 0.0870751 | 1.9889517 | 0.046707 | 0.424613 |
| CR855320.1 | 1.717690463 | 0.06652635 | 1.4948007 | 0.0445052 | 0.964502 | NA |
| si:dkey-30e9.6 | 11.6618742 | 0.521074356 | 0.5668249 | 0.9192862 | 0.357946 | 0.884398 |
| CABZ01088346.1 | 65.19297549 | 0.454414593 | 0.2791855 | 1.6276439 | 0.1036 | 0.609882 |
| lhb | 2.83127539 | -0.872060563 | 1.1245163 | -0.775498 | 0.438045 | NA |
| BX511034.5 | 8.242286414 | 0.840274856 | 0.6709519 | 1.2523623 | 0.210438 | NA |
| evx1 | 0 NA | NA | NA | NA | NA | NA |
| slc25a42 | 49.98183601 | -0.147849544 | 0.2927179 | -0.505092 | 0.613494 | 0.95688 |
| AL954861.2 | 4.799179691 | -1.307683096 | 1.0171432 | -1.285643 | 0.198568 | NA |
| cygbl | 1018.248577 | -0.013757532 | 0.0887583 | -0.155 | 0.876821 | 0.987881 |
| CT583728.3 | 0 NA | NA | NA | NA | NA | NA |
| zgc:158320 | 52.39152625 | -0.167443361 | 0.2783064 | -0.601651 | 0.547406 | 0.945526 |
| sp9 | 359.2515001 | 0.00323551 | 0.1325109 | 0.0244169 | 0.98052 | 0.996944 |
| poldip3 | 509.756642 | 0.016454472 | 0.1051621 | 0.1564677 | 0.875664 | 0.987881 |
| CABZ01050249.1 | 160.5216918 | -0.010126998 | 0.1678151 | -0.060346 | 0.95188 | 0.993864 |
| si:cabz01030277.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| ppp4r11 | 99.51796872 | 0.102973647 | 0.1980476 | 0.519944 | 0.603103 | 0.956045 |
| rp113 | 19224.30695 | -0.298393436 | 0.0714708 | -4.175042 | 2.98E-05 | 0.001748 |
| si:dkey-27n6.1 | 4.817559143 | -0.478299764 | 0.8585534 | -0.5571 | 0.577459 | NA |
| si:ch211-209n20.1 | 3.773212606 | -0.13350886 | 1.0172283 | -0.131248 | 0.895579 | NA |
| dnajbla | 122.9066103 | 0.303494832 | 0.1895599 | 1.6010496 | 0.109366 | 0.623408 |
| si:dkey-238k10.1 | 20.38671354 | -0.709000744 | 0.4375454 | -1.620405 | 0.105145 | 0.613317 |
| si:ch211-22312.4 | 400.2724438 | 0.023923717 | 0.12532 | 0.190901 | 0.848603 | 0.985174 |
| lrrtm412 | 16.07403826 | 0.073580354 | 0.4800498 | 0.1532765 | 0.87818 | 0.987881 |
| jptla | 269.6070401 | -0.069952666 | 0.1336105 | -0.523557 | 0.600587 | 0.956045 |
| BX957256.1 | 0.356300316 | 0.005884122 | 3.214964 | 0.0018302 | 0.99854 | NA |
| lama2 | 48.29573717 | -0.045031053 | 0.3030867 | -0.148575 | 0.881889 | 0.988344 |
| si:dkey-161111.76 | 0 NA | NA | NA | NA | NA | NA |
| cables1 | 41.58582107 | 0.728152819 | 0.3070006 | 2.371829 | 0.0177 | 0.246724 |
| rbpms | 30.02789003 | -0.30919787 | 0.3516941 | -0.879167 | 0.379311 | 0.895192 |
| cfap410 | 76.21022526 | -0.459124291 | 0.2286693 | -2.007809 | 0.044664 | 0.41583 |
| ccl33.3 | 0.795406914 | -3.1255921 | 2.3628864 | -1.322786 | 0.185907 | NA |
| CR753902.1 | 0.681245011 | 1.537021632 | 2.3941387 | 0.6419936 | 0.520877 | NA |
| CU694952.1 | 1.222514451 | 1.394641811 | 1.9626635 | 0.7105863 | 0.477341 | NA |
| lritlb | 485.2550907 | 0.383384956 | 0.1304477 | 2.9389934 | 0.003293 | 0.076602 |
| FP085432.1 | 0.332524763 | 0.005883742 | 3.292841 | 0.0017868 | 0.998574 | NA |
| BX640537.1 | 12.56705356 | -0.853291997 | 0.5575675 | -1.530383 | 0.125922 | 0.654803 |
| zgc:162182 | 7.339482317 | -0.675478786 | 0.7226065 | -0.934781 | 0.349901 | NA |
| si:dkeyp-79b7.3 | 1.331129901 | -0.800050342 | 1.731093 | -0.462165 | 0.643963 | NA |
| zgc:158343 | 567.527813 | 0.110009074 | 0.1217362 | 0.9036679 | 0.366172 | 0.887239 |
| bean | 553.3047495 | 0.210325924 | 0.1120247 | 1.8774951 | 0.06045 | 0.480058 |
| BX914205.1 | 0.356300316 | 0.005884122 | 3.214964 | 0.0018302 | 0.99854 | NA |
| CR759907.1 | 1.513391121 | -2.914329743 | 1.8767386 | -1.552869 | 0.120454 | NA |
| ly6m3 | 0.530029684 | -0.939524117 | 2.7937867 | -0.336291 | 0.736652 | NA |
| nme2b.2 | 9767.75073 | -0.046751006 | 0.1141382 | -0.4096 | 0.6821 | 0.965476 |
| si:ch73-236c18.9 | 0 NA | NA | NA | NA | NA | NA |

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| CR391930.1 | 0.490502273 | -2.421143305 | 2.7891168 | -0.868068 | 0.385357 | NA |
| lcat | 104.0061088 | 0.134309038 | 0.2166706 | 0.6198766 | 0.535339 | 0.943336 |
| CABZ01073265.1 | 808.1490536 | -0.041515975 | 0.2257211 | -0.183926 | 0.854072 | 0.985174 |
| CU179702.1 | 0 NA | NA | NA | NA | NA | NA |
| nkx1.2lb | 197.223797 | -0.143295001 | 0.159496 | -0.898424 | 0.36896 | 0.888432 |
| si:dkey-15h8.17 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| atgl6l1 | 893.9627816 | -0.066217208 | 0.0877 | -0.755042 | 0.450224 | 0.918761 |
| med24 | 598.6838571 | 0.034506385 | 0.1080627 | 0.3193182 | 0.749485 | 0.97419 |
| si:ch211-246b8.1 | 2.471988433 | -0.636198482 | 1.2642899 | -0.503206 | 0.614819 | NA |
| BX927335.1 | 0 NA | NA | NA | NA | NA | NA |
| tradv23.1.1 | 0 NA | NA | NA | NA | NA | NA |
| AL844563.1 | 0 NA | NA | NA | NA | NA | NA |
| si:ch1073-268j14.1 | 9.970721675 | 1.114761363 | 0.6146778 | 1.8135703 | 0.069744 | NA |
| CABZ01073736.1 | 8.784617977 | -0.164288717 | 0.6451832 | -0.254639 | 0.799002 | NA |
| serpl | 891.6095337 | -0.183739697 | 0.0875256 | -2.099269 | 0.035793 | 0.368633 |
| CR936249.1 | 3.702677086 | 0.603405183 | 1.0854107 | 0.5559234 | 0.578263 | NA |
| cbx4 | 377.0237115 | -0.069638581 | 0.1235241 | -0.563765 | 0.572914 | 0.949762 |
| znf1122 | 0.670675047 | -1.455259498 | 2.4036813 | -0.605429 | 0.544894 | NA |
| cc2dlb | 259.6782447 | -0.229118038 | 0.1329035 | -1.723943 | 0.084718 | 0.560519 |
| slit1b | 770.152998 | 0.020171934 | 0.1031793 | 0.1955037 | 0.844999 | 0.985174 |
| pcdh1g18 | 61.38345388 | 0.079729248 | 0.2851639 | 0.2795909 | 0.779791 | 0.976146 |
| sh3d21 | 624.2993817 | 0.18543055 | 0.096688 | 1.9178229 | 0.055133 | 0.460392 |
| atrx1 | 891.7032067 | 0.056399801 | 0.0930332 | 0.606233 | 0.54436 | 0.945438 |
| dre-mir-455-1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| elof1 | 1675.525913 | -0.025769161 | 0.081183 | -0.317421 | 0.750924 | 0.97419 |
| tradv14.0 | 1.505880076 | 0.335389091 | 1.4976509 | 0.2239434 | 0.822801 | NA |
| ogt.1 | 1820.240962 | -0.048677588 | 0.0773123 | -0.629623 | 0.528942 | 0.942109 |
| BX293991.1 | 0.48983248 | -0.887840757 | 2.6934859 | -0.329625 | 0.741683 | NA |
| ddx46 | 1414.25758 | -0.186299438 | 0.0963852 | -1.932864 | 0.053253 | 0.452412 |
| asb10 | 36.60633581 | -0.003204204 | 0.3187319 | -0.010053 | 0.991979 | 0.997833 |
| prlh | 6.726854768 | 0.93497721 | 0.7668996 | 1.2191651 | 0.222782 | NA |
| rnf213a | 185.0859879 | -0.133789411 | 0.162406 | -0.823796 | 0.410055 | 0.902642 |
| si:dkey-190j3.2 | 0.647019846 | -1.455099716 | 2.4289208 | -0.599073 | 0.549125 | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| pcdh2ab2 | 0 NA | NA | NA | NA | NA | NA |
| BX000985.1 | 0 NA | NA | NA | NA | NA | NA |
| muc5.3 | 186.9089533 | -0.831015679 | 0.1628131 | -5.104109 | 3.32E-07 | 3.89E-05 |
| CT476811.1 | 12.45473035 | -0.257336447 | 0.5386158 | -0.477774 | 0.632811 | 0.957356 |
| FQ312013.1 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CR855306.1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| zgc:174863 | 139.3194022 | 0.031400238 | 0.1714969 | 0.1830951 | 0.854723 | 0.985174 |
| hs2st1a | 209.564806 | 0.141246766 | 0.1460743 | 0.9669516 | 0.333568 | 0.874933 |
| SYDE2 | 142.3069866 | -0.176392156 | 0.1817706 | -0.970411 | 0.331842 | 0.874653 |
| vdra | 7.581226139 | 0.865049559 | 0.7247968 | 1.1935063 | 0.232671 | NA |
| mlap | 0.507044276 | -2.459587493 | 2.7586536 | -0.89159 | 0.372613 | NA |
| si:ch73-233f7.7 | 1.880182333 | -0.761974007 | 1.5642365 | -0.487122 | 0.626172 | NA |
| tmem1761.1 | 302.5261865 | 0.16374095 | 0.1284128 | 1.275114 | 0.202269 | 0.768575 |
| CR847906.1 | 3.378008714 | -0.868895362 | 1.0549881 | -0.823607 | 0.410163 | NA |
| si:ch73-309g22.1 | 0.802200093 | 1.852032281 | 2.2653592 | 0.8175446 | 0.413617 | NA |
| FP016247.1 | 0.325452849 | 0.005883619 | 3.3177086 | 0.0017734 | 0.998585 | NA |
| ndufa41 | 3780.696576 | -0.028262384 | 0.0808669 | -0.349492 | 0.72672 | 0.970402 |
| clec3bb | 32.73585744 | -0.356939913 | 0.3842769 | -0.928861 | 0.352961 | 0.881552 |
| FQ311879.2 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| traj5 | 0 NA | NA | NA | NA | NA | NA |

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| CABZ01049362. 1 | | 0 NA | NA | NA | NA | NA |
| btr23 | 28. 92290011 | 0. 162706229 | 0. 3664295 | 0. 4440314 | 0. 65702 | 0. 96215 |
| cnm3a | 1180. 803754 | 0. 091960526 | 0. 0814411 | 1. 129166 | 0. 258828 | 0. 826961 |
| CABZ01034698. 2 | 0. 672403429 | 0. 029250563 | 2. 3004318 | 0. 0127152 | 0. 989855 | NA |
| zgc:112234 | 15. 96779089 | 0. 305163475 | 0. 4950296 | 0. 616455 | 0. 537594 | 0. 943336 |
| epx4 | 215. 5254552 | 0. 036032352 | 0. 1551833 | 0. 2321922 | 0. 816389 | 0. 981594 |
| mettl23 | 114. 6678199 | -0. 237451189 | 0. 1856175 | -1. 27925 | 0. 200809 | 0. 766855 |
| adssl1 | 2356. 231366 | 0. 435886268 | 0. 082429 | 5. 2880179 | 1. 24E-07 | 1. 67E-05 |
| si:ch211-119e14. 1 | 41. 87024966 | 0. 103546509 | 0. 309385 | 0. 3346849 | 0. 737863 | 0. 972535 |
| zgc:66475 | 586. 297669 | 0. 018934111 | 0. 1040385 | 0. 1819915 | 0. 855589 | 0. 985174 |
| CU571163. 1 | 0. 31598276 | 0. 005883445 | 3. 3523626 | 0. 001755 | 0. 9986 | NA |
| si:ch73-252p3. 1 | 120. 032181 | 0. 119533561 | 0. 1886205 | 0. 6337252 | 0. 52626 | 0. 940506 |
| gbelb | 156. 1574246 | 0. 144301855 | 0. 1888547 | 0. 7640891 | 0. 444814 | 0. 916797 |
| si:ch1073-13h15. 3 | 108. 7582279 | -0. 130986022 | 0. 214783 | -0. 609853 | 0. 541959 | 0. 944974 |
| tradv4. 0. 2 | | 0 NA | NA | NA | NA | NA |
| nkiras1 | 189. 4864098 | 0. 045876371 | 0. 151593 | 0. 3026286 | 0. 762173 | 0. 975374 |
| dus3l | 317. 2121174 | -0. 181645854 | 0. 1208969 | -1. 502485 | 0. 132972 | 0. 667628 |
| BX957252. 2 | 1. 162156842 | -0. 331037298 | 1. 8315853 | -0. 180738 | 0. 856573 | NA |
| pimr58 | | 0 NA | NA | NA | NA | NA |
| ubl3a | 1702. 225887 | 0. 032029317 | 0. 0901646 | 0. 3552314 | 0. 722416 | 0. 970375 |
| zgc:113279 | 35. 33950733 | 0. 281889871 | 0. 3525154 | 0. 7996526 | 0. 423912 | 0. 908025 |
| CABZ01066926. 1 | 180. 5706831 | -0. 230255912 | 0. 162589 | -1. 416184 | 0. 156722 | 0. 707054 |
| si:ch73-379j16. 2 | 0. 158915748 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| si:ch211-188p14. 3 | 13. 39133822 | 0. 385968066 | 0. 5166186 | 0. 7471045 | 0. 455 | 0. 921022 |
| dicp2. 2 | 0. 330916733 | -1. 849579229 | 3. 2489867 | -0. 569279 | 0. 569167 | NA |
| FQ311924. 1 | 6. 991360453 | 0. 724092315 | 0. 7663631 | 0. 9448423 | 0. 344739 | NA |
| CR388156. 1 | | 0 NA | NA | NA | NA | NA |
| si:dkey-165b20. 3 | 2. 674799102 | -1. 096281918 | 1. 2186616 | -0. 899579 | 0. 368345 | NA |
| snx25 | 789. 6391458 | 0. 019290137 | 0. 0907036 | 0. 2126723 | 0. 831583 | 0. 983358 |
| kynu | 373. 7687561 | -0. 305899751 | 0. 1259347 | -2. 429035 | 0. 015139 | 0. 225353 |
| nbeall | 183. 5542334 | -0. 066535151 | 0. 1557964 | -0. 427065 | 0. 669332 | 0. 965092 |
| secl6b | 134. 8679911 | -0. 019270104 | 0. 175525 | -0. 109786 | 0. 912579 | 0. 991119 |
| foxola | 555. 3070014 | -0. 210005377 | 0. 1085926 | -1. 933883 | 0. 053128 | 0. 452412 |
| CU929079. 1 | | 0 NA | NA | NA | NA | NA |
| CT027744. 1 | 10. 47067067 | -0. 072941999 | 0. 6075585 | -0. 120058 | 0. 904438 | NA |
| NPC1L1 | 117. 5097746 | -1. 243417721 | 0. 2043813 | -6. 083813 | 1. 17E-09 | 2. 42E-07 |
| mir196a-2 | | 0 NA | NA | NA | NA | NA |
| lyrm5a | 190. 3535567 | 0. 185713151 | 0. 1508206 | 1. 2313517 | 0. 218191 | 0. 785379 |
| BX088603. 1 | 3. 447021936 | 0. 398019593 | 1. 126451 | 0. 3533395 | 0. 723834 | NA |
| lygl2 | 0. 489712128 | -0. 887840729 | 2. 693685 | -0. 329601 | 0. 741702 | NA |
| inpp5ka | 354. 8828119 | -0. 10970812 | 0. 116275 | -0. 943523 | 0. 345414 | 0. 878434 |
| lmbd2a | 764. 9863844 | -0. 071518096 | 0. 1050196 | -0. 680998 | 0. 495873 | 0. 932377 |
| CU856423. 1 | 19. 28514996 | 0. 15548996 | 0. 4502241 | 0. 3453612 | 0. 729823 | 0. 971143 |
| RF00001 | 1. 624478268 | 0. 588556441 | 1. 4939716 | 0. 3939542 | 0. 693615 | NA |
| CU468012. 2 | 0. 182570949 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| hmgn2 | 14357. 07147 | 0. 05463941 | 0. 0784898 | 0. 6961339 | 0. 486345 | 0. 930833 |
| CR759927. 3 | 41. 39801979 | -0. 2809935 | 0. 3002988 | -0. 935713 | 0. 349421 | 0. 880195 |
| CU929203. 1 | | 0 NA | NA | NA | NA | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| si:dkey-182g1. 10 | 77. 54161271 | -0. 110791098 | 0. 2344985 | -0. 47246 | 0. 636599 | 0. 958607 |
| BX005124. 2 | | 0 NA | NA | NA | NA | NA |
| aldh18a1 | 1140. 063993 | -0. 07415612 | 0. 0861797 | -0. 860482 | 0. 389523 | 0. 896421 |
| CR762480. 1 | 0. 476626891 | 2. 395187592 | 2. 815932 | 0. 8505843 | 0. 395 | NA |
| CR382383. 2 | 2. 114070043 | 0. 218508395 | 1. 3099 | 0. 166813 | 0. 867517 | NA |

| | | | | | | |
|------------------|-------------|--------------|-----------|-----------|----------|----------|
| tradv23.3.8 | 0.356300316 | 0.005884122 | 3.214964 | 0.0018302 | 0.99854 | NA |
| BX914205.2 | 0 | NA | NA | NA | NA | NA |
| r3hcc1 | 136.6526376 | -0.193127644 | 0.1716745 | -1.124964 | 0.260604 | 0.828546 |
| CU468012.3 | 3.550638206 | -1.661963272 | 1.086592 | -1.529519 | 0.126136 | NA |
| BX088603.2 | 0 | NA | NA | NA | NA | NA |
| btd | 58.41587528 | -0.21171544 | 0.2619187 | -0.808325 | 0.418903 | 0.906406 |
| si:dkey-211i20.5 | 3.352976145 | -0.245756704 | 1.0634298 | -0.231098 | 0.817239 | NA |
| CABZ01067558.1 | 13.27770705 | 0.155024746 | 0.5238775 | 0.2959179 | 0.767293 | 0.975687 |
| pigr12.3 | 1.95189695 | -1.022617052 | 1.416056 | -0.722159 | 0.470197 | NA |
| si:dkey-93h22.7 | 6.861220273 | 1.440278251 | 0.8156337 | 1.7658396 | 0.077423 | NA |
| BX842700.1 | 1.364416829 | -0.705571612 | 1.7443167 | -0.404497 | 0.685847 | NA |
| clca5.1 | 0 | NA | NA | NA | NA | NA |
| si:ch73-160p18.4 | 0.816075475 | -1.880611245 | 2.2559232 | -0.833633 | 0.404488 | NA |
| tpbga | 43.98206215 | 0.323218084 | 0.3105524 | 1.0407843 | 0.297976 | 0.85401 |
| RF00001 | 2.634753246 | 1.586156655 | 1.2604672 | 1.2583879 | 0.208252 | NA |
| zgc:66483 | 5.993670435 | -0.96823712 | 0.7946797 | -1.218399 | 0.223072 | NA |
| purab | 388.5377394 | 0.271460576 | 0.1157198 | 2.3458447 | 0.018984 | 0.257116 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| FP236734.1 | 146.6383251 | -0.11336903 | 0.1761359 | -0.643645 | 0.519806 | 0.938945 |
| sdr39u1 | 340.3083294 | 0.079887976 | 0.1171666 | 0.6818324 | 0.495345 | 0.931928 |
| si:dkey-1b17.6 | 43.90914671 | -0.005591668 | 0.2860721 | -0.019546 | 0.984405 | 0.996944 |
| CABZ01083166.1 | 179.627543 | -0.06673429 | 0.1610337 | -0.414412 | 0.678572 | 0.965257 |
| si:ch211-69b22.5 | 42.27532016 | 0.439466309 | 0.3287663 | 1.3367134 | 0.181316 | 0.742543 |
| chmplb | 1363.209082 | -0.094043917 | 0.0927915 | -1.013497 | 0.310823 | 0.862927 |
| BX908721.1 | 2.995228194 | -0.657850111 | 1.165773 | -0.564304 | 0.572547 | NA |
| CR855307.1 | 9.631142079 | -0.279625443 | 0.619518 | -0.45136 | 0.65173 | NA |
| BX510915.1 | 30.80292364 | -0.018584542 | 0.3918958 | -0.047422 | 0.962177 | 0.995907 |
| cmtm6 | 366.1595121 | -0.205315973 | 0.1192426 | -1.721834 | 0.0851 | 0.560519 |
| sec1417 | 197.0492339 | 0.569469111 | 0.1497938 | 3.8016875 | 0.000144 | 0.006578 |
| akap81 | 3088.87346 | -0.085087992 | 0.0704403 | -1.207945 | 0.227069 | 0.794587 |
| si:ch211-11c3.11 | 0.341366344 | 1.891903201 | 3.2128156 | 0.5888614 | 0.555954 | NA |
| szl | 1.504941839 | -0.942645884 | 1.6627636 | -0.566915 | 0.570772 | NA |
| tradv8.0 | 0 | NA | NA | NA | NA | NA |
| trim35-19 | 0.657349104 | 1.487939685 | 2.418178 | 0.6153144 | 0.538347 | NA |
| eed | 445.7581518 | -0.030201619 | 0.1240588 | -0.243446 | 0.80766 | 0.980642 |
| dcunld1 | 342.6970018 | 0.095674816 | 0.1189818 | 0.804113 | 0.421332 | 0.90651 |
| si:ch211-76m11.9 | 0.476747244 | 2.393381959 | 3.0525537 | 0.7840589 | 0.433006 | NA |
| zgc:153184 | 226.8566821 | 0.206245141 | 0.1453614 | 1.4188443 | 0.155944 | 0.705963 |
| pcdhlg3 | 36.50158422 | 0.049260196 | 0.3489757 | 0.1411565 | 0.887746 | 0.989291 |
| L0018363.1 | 131.4230172 | 0.171551363 | 0.1805338 | 0.9502449 | 0.341988 | 0.878434 |
| CABZ01079663.1 | 179.3120758 | 0.019870946 | 0.1524942 | 0.1303062 | 0.896324 | 0.989971 |
| bin3 | 376.8460056 | -0.260887073 | 0.1184766 | -2.202013 | 0.027664 | 0.321596 |
| xpot | 1154.3208 | -0.0246672 | 0.07977 | -0.309229 | 0.757147 | 0.975374 |
| marveld3 | 48.83349966 | -0.234710724 | 0.2788057 | -0.841843 | 0.399876 | 0.90084 |
| pimr207 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CR381657.1 | 0.785936826 | -3.109243185 | 2.5574139 | -1.215776 | 0.22407 | NA |
| akt1 | 39.55505128 | -0.139820031 | 0.3037023 | -0.460385 | 0.64524 | 0.96029 |
| CU915256.1 | 2.796063914 | 0.167534363 | 1.1001741 | 0.1522799 | 0.878966 | NA |
| cox5ab | 1470.647981 | -0.02481047 | 0.0771448 | -0.321609 | 0.747749 | 0.97419 |
| selenof | 1051.188241 | -0.025807986 | 0.1039742 | -0.248215 | 0.803968 | 0.979643 |
| snrpg | 903.8585101 | -0.151150129 | 0.1140459 | -1.325345 | 0.185057 | 0.748632 |
| CR927050.2 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| znf1074 | 13.29483637 | -0.224602221 | 0.5493318 | -0.408864 | 0.682639 | 0.965476 |
| capgb | 688.663817 | 0.077687531 | 0.0948609 | 0.8189622 | 0.412808 | 0.904974 |

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|------------------|-------------|--------------|-----------|-----------|----------|----------|
| si:dkey-203a12.5 | 0 | NA | NA | NA | NA | NA |
| dicp3.1 | 16.89878279 | 0.008180872 | 0.4802249 | 0.0170355 | 0.986408 | 0.996965 |
| kdm4b | 2785.610575 | -0.138284795 | 0.0806305 | -1.715043 | 0.086337 | 0.563258 |
| BX927335.2 | 0 | NA | NA | NA | NA | NA |
| bambib | 114.1406147 | -0.119557193 | 0.1952897 | -0.612204 | 0.540403 | 0.944487 |
| BX569789.1 | 25.0514473 | -0.029124774 | 0.3927715 | -0.074152 | 0.940889 | 0.992857 |
| tent2 | 398.7220921 | -0.024759574 | 0.1253347 | -0.197548 | 0.843399 | 0.985174 |
| BX004980.1 | 0 | NA | NA | NA | NA | NA |
| trim35-24 | 1.627395884 | -1.946676945 | 1.7019099 | -1.143819 | 0.252699 | NA |
| gnb5a | 453.1443823 | 0.20558749 | 0.107267 | 1.9165965 | 0.055289 | 0.46072 |
| CT009597.1 | 0 | NA | NA | NA | NA | NA |
| FP016142.3 | 0 | NA | NA | NA | NA | NA |
| spink2.3 | 0 | NA | NA | NA | NA | NA |
| vaspa | 8.748110461 | 0.385984871 | 0.6371778 | 0.6057726 | 0.544666 | NA |
| CR550302.1 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| ccny11 | 250.5359027 | 0.223369736 | 0.1356189 | 1.6470393 | 0.09955 | 0.600153 |
| AL935065.1 | 4.479178197 | -1.011012122 | 0.9008241 | -1.122319 | 0.261727 | NA |
| neur11b | 323.6507737 | -0.082696256 | 0.1327247 | -0.623066 | 0.533241 | 0.942971 |
| si:dkey-61n16.5 | 331.588926 | 0.353175992 | 0.1391742 | 2.5376534 | 0.01116 | 0.183437 |
| BX548059.1 | 4.615657976 | -1.338301759 | 0.92645 | -1.444548 | 0.148585 | NA |
| BX649620.1 | 0.690594747 | 1.536595024 | 2.3851901 | 0.6442233 | 0.519431 | NA |
| ahrra | 52.59574207 | 0.378551592 | 0.2749894 | 1.3766044 | 0.168635 | 0.725919 |
| foxred1 | 100.252725 | 0.030589039 | 0.2042163 | 0.1497875 | 0.880932 | 0.988111 |
| CR385021.1 | 0.547712847 | 2.559541715 | 2.9076406 | 0.8802813 | 0.378707 | NA |
| cacnalhb | 14.49287227 | 0.265246616 | 0.5144126 | 0.5156301 | 0.606113 | 0.956692 |
| BX284696.1 | 0 | NA | NA | NA | NA | NA |
| si:dkey-29j8.1 | 4.697744131 | -0.113304709 | 0.9439408 | -0.120034 | 0.904456 | NA |
| zgc:163073 | 145.3089833 | 0.245058545 | 0.1672105 | 1.4655691 | 0.142766 | 0.684998 |
| si:dkey-152b24.7 | 13.23078345 | -0.216209287 | 0.5138231 | -0.420785 | 0.673912 | 0.965257 |
| si:rp71-1h20.9 | 17.26017264 | 0.081229216 | 0.4608622 | 0.1762549 | 0.860094 | 0.985773 |
| CU929391.3 | 0.853712865 | -1.943683846 | 2.3771108 | -0.817666 | 0.413548 | NA |
| evlb | 1193.520553 | -0.115171949 | 0.0816411 | -1.41071 | 0.15833 | 0.709224 |
| zgc:153993 | 304.9499926 | -0.007393738 | 0.1324339 | -0.05583 | 0.955478 | 0.994543 |
| re1t | 224.0692345 | 0.309356164 | 0.1438998 | 2.1498027 | 0.031571 | 0.344716 |
| FP236161.1 | 0.977029335 | 3.42365565 | 2.0852004 | 1.6418833 | 0.100614 | NA |
| ssbp2 | 278.4292385 | 0.024578083 | 0.1364066 | 0.1801825 | 0.857009 | 0.985597 |
| zgc:56622 | 126.2421546 | -0.435808422 | 0.1817915 | -2.397298 | 0.016516 | 0.237008 |
| pcdh10a | 1545.581541 | -0.073497523 | 0.0862555 | -0.852091 | 0.394164 | 0.898673 |
| pkma | 7941.585755 | -0.057501322 | 0.067448 | -0.852528 | 0.393921 | 0.898496 |
| gfrala | 320.0691379 | 0.280745949 | 0.1328106 | 2.1138829 | 0.034525 | 0.361039 |
| CIR1 | 259.8516835 | -0.16359465 | 0.139181 | -1.175409 | 0.239831 | 0.808111 |
| gig2f | 0 | NA | NA | NA | NA | NA |
| ccr9b | 3.679219139 | -0.48839622 | 0.9924277 | -0.492123 | 0.622633 | NA |
| mvl2a | 227.955772 | 0.02873696 | 0.1478868 | 0.1943173 | 0.845927 | 0.985174 |
| heatr1 | 767.0188349 | -0.005509898 | 0.0927142 | -0.059429 | 0.952611 | 0.99398 |
| zgc:113019 | 202.0230697 | 0.082797869 | 0.1508259 | 0.5489634 | 0.583031 | 0.952214 |
| gap43 | 2139.173001 | 0.019225713 | 0.0896445 | 0.2144661 | 0.830184 | 0.982916 |
| baz1a | 298.5114713 | -0.051094153 | 0.1228805 | -0.415803 | 0.677554 | 0.965257 |
| rgs3a | 380.4015754 | -0.0263079 | 0.1136866 | -0.231407 | 0.816998 | 0.981594 |
| CABZ01111953.1 | 215.2478369 | -0.089847307 | 0.1517639 | -0.59202 | 0.553837 | 0.947449 |
| si:ch73-46n24.1 | 0.31759079 | 1.807926197 | 3.579045 | 0.5051421 | 0.613459 | NA |
| ube2d21 | 617.0218176 | 0.150653387 | 0.0972145 | 1.5497015 | 0.121213 | 0.647458 |
| BX682557.2 | 0 | NA | NA | NA | NA | NA |
| si:dkey-250k10.4 | 2.131591567 | 1.170707889 | 1.3441419 | 0.8709704 | 0.38377 | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| si:dkey-19b23.7 | 156.2264787 | -0.004262054 | 0.1656223 | -0.025734 | 0.97947 | 0.996866 |
| zgc:63863 | 124.3379288 | 0.007011227 | 0.1840643 | 0.0380912 | 0.969615 | 0.996315 |
| pfklb | 780.3899054 | -0.042757747 | 0.1036368 | -0.412573 | 0.67992 | 0.965311 |
| wdr47b | 173.7349475 | 0.184075227 | 0.1769415 | 1.0403171 | 0.298193 | 0.85401 |
| igf2bp2b | 387.7366417 | 0.135267961 | 0.1125501 | 1.2018465 | 0.229423 | 0.797069 |
| BX510342.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| vox | 3.804730862 | 0.641602525 | 0.9698754 | 0.6615309 | 0.508272 | NA |
| CR855389.1 | 45.62640399 | -0.570638036 | 0.3002381 | -1.900618 | 0.057352 | 0.469987 |
| BX323861.1 | 0 NA | NA | NA | NA | NA | NA |
| myl12.1 | 6064.844339 | -0.103167869 | 0.0769235 | -1.341174 | 0.179864 | 0.741062 |
| fhdc2 | 142.609791 | 0.075729667 | 0.1742408 | 0.4346265 | 0.663834 | 0.964736 |
| si:ch211-272n13.3 | 402.6813317 | 0.114983138 | 0.1183384 | 0.9716467 | 0.331226 | 0.874339 |
| tradv18.0 | 0 NA | NA | NA | NA | NA | NA |
| CU104782.1 | 0 NA | NA | NA | NA | NA | NA |
| gne | 475.0179339 | 0.165408351 | 0.1045408 | 1.5822372 | 0.113595 | 0.631853 |
| CU928046.1 | 123.9341753 | 0.107852788 | 0.1954931 | 0.5516962 | 0.581157 | 0.951731 |
| olfcg4 | 4.150461214 | 0.118731858 | 0.9105978 | 0.1303889 | 0.896259 | NA |
| cyb5b | 301.4579944 | 0.123358698 | 0.1404252 | 0.8784657 | 0.379691 | 0.895192 |
| glula | 12029.18197 | 0.085545503 | 0.1133966 | 0.7543923 | 0.450614 | 0.918761 |
| si:ch211-11n16.2 | 252.3814353 | 0.120017515 | 0.1423221 | 0.8432811 | 0.399071 | 0.90062 |
| CT737196.1 | 0 NA | NA | NA | NA | NA | NA |
| CR383669.2 | 0.672283077 | 0.02892376 | 2.3005571 | 0.0125725 | 0.989969 | NA |
| pcdh2ac | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-146m20.13 | 0 NA | NA | NA | NA | NA | NA |
| actn4 | 7284.67497 | -0.124543711 | 0.0681255 | -1.82815 | 0.067527 | 0.508678 |
| echdc3 | 47.65139508 | -0.237735358 | 0.3210538 | -0.740484 | 0.459006 | 0.921978 |
| si:ch211-76m11.7 | 0 NA | NA | NA | NA | NA | NA |
| pdk3b | 8.718331628 | 0.255277613 | 0.6653737 | 0.3836605 | 0.70123 | NA |
| BX908776.1 | 0.790881268 | 0.5906245 | 2.2495814 | 0.2625486 | 0.792899 | NA |
| cspg5b | 1014.862917 | 0.047137282 | 0.0875876 | 0.538173 | 0.590458 | 0.954193 |
| si:dkey-285b23.3 | 0.832617477 | -1.907662728 | 2.2444108 | -0.849961 | 0.395347 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| mon2 | 1349.579981 | -0.086071101 | 0.0832782 | -1.033537 | 0.301352 | 0.856944 |
| si:dkey-11f4.16 | 98.45865754 | 0.061588494 | 0.2044358 | 0.3012608 | 0.763216 | 0.975374 |
| topaz1 | 41.68294903 | -0.105516006 | 0.3057983 | -0.345051 | 0.730056 | 0.971177 |
| pnp5b | 207.9239098 | 0.237317314 | 0.1459255 | 1.6262907 | 0.103888 | 0.610484 |
| pik3c2g | 104.9575627 | -0.1320205 | 0.2059779 | -0.640945 | 0.521558 | 0.939056 |
| CABZ01059119.1 | 87.7352532 | 0.539531716 | 0.2141558 | 2.519342 | 0.011757 | 0.190723 |
| dre-mir-202 | 0 NA | NA | NA | NA | NA | NA |
| BX572620.1 | 17.24894677 | 0.307768317 | 0.473166 | 0.6504447 | 0.515405 | 0.9377 |
| si:dkey-203a12.7 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:dkey-31f5.11 | 418.1230334 | 0.049979523 | 0.1103631 | 0.4528644 | 0.650646 | 0.960708 |
| FBX046 | 595.5799799 | -0.099490529 | 0.1092908 | -0.910329 | 0.362649 | 0.885944 |
| tusc2a | 164.7196597 | -0.23587716 | 0.160344 | -1.47107 | 0.141272 | 0.681968 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| sb:cb1058 | 268.7883553 | 0.262476929 | 0.1528671 | 1.7170274 | 0.085974 | 0.562932 |
| tymp | 27.8912609 | 0.671635447 | 0.361172 | 1.8596001 | 0.062942 | 0.489621 |
| nots | 12.38700104 | -0.836973318 | 0.5897774 | -1.419134 | 0.15586 | 0.705963 |
| zgc:174944 | 22.67377897 | -0.203419231 | 0.4014704 | -0.506685 | 0.612376 | 0.95688 |
| BX927336.2 | 6.509954753 | 1.527179986 | 0.8028912 | 1.9021008 | 0.057158 | NA |
| BX005396.2 | 2.32686674 | -2.565353802 | 1.5613754 | -1.643009 | 0.100381 | NA |
| BX255908.1 | 0.365141898 | 1.973577737 | 3.3927314 | 0.5817076 | 0.560764 | NA |
| fbxo7 | 186.9362415 | -0.193779145 | 0.1500476 | -1.291451 | 0.196547 | 0.761835 |
| si:dkey-199m13.7 | 20.97030462 | 0.094247662 | 0.4151862 | 0.227001 | 0.820423 | 0.981594 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| si:ch211-9d9.1 | 37.14154406 | -0.151363711 | 0.3243138 | -0.46672 | 0.6407 | 0.959994 |
| lpar1 | 55.49140712 | 0.209159923 | 0.2635784 | 0.7935396 | 0.427463 | 0.91075 |
| prkcab | 12.33841013 | -0.268471598 | 0.5417226 | -0.495589 | 0.620185 | 0.957354 |
| CU138533.1 | 40.61605992 | 0.550518875 | 0.3173462 | 1.7347578 | 0.082784 | 0.554784 |
| nedd4a | 397.6334196 | -0.327715035 | 0.1144402 | -2.863635 | 0.004188 | 0.090115 |
| GNAZ | 123.3757602 | -0.174368075 | 0.1901921 | -0.9168 | 0.359248 | 0.884762 |
| zgc:174275 | 1.157441819 | -0.400541316 | 1.7643421 | -0.22702 | 0.820408 | NA |
| si:ch211-154o6.3 | 177.3228913 | -0.181958968 | 0.1602432 | -1.135518 | 0.256159 | 0.824633 |
| ebf3a | 301.2118018 | -0.135792757 | 0.1254921 | -1.082082 | 0.279216 | 0.842806 |
| iqsec3a | 861.7003598 | 0.028203337 | 0.095185 | 0.2963004 | 0.767001 | 0.975687 |
| GPR180 | 39.38571579 | 0.244423125 | 0.3035155 | 0.8053069 | 0.420643 | 0.90651 |
| FP103005.1 | 3.817387012 | 0.38285336 | 1.0044972 | 0.3811393 | 0.7031 | NA |
| HTR7 | 9.483353519 | -0.547160225 | 0.631377 | -0.866614 | 0.386153 | NA |
| BX677667.1 | | 0 NA | NA | NA | NA | NA |
| RF01684 | 2.356421422 | 0.450380838 | 1.3913112 | 0.3237096 | 0.746158 | NA |
| pkmb | 4789.264641 | 0.139600642 | 0.1019224 | 1.3696762 | 0.170788 | 0.728307 |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| si:ch73-170d6.2 | 10.53279627 | -0.4566533 | 0.6109773 | -0.747415 | 0.454813 | NA |
| hnrnpabb | 6178.411591 | 0.005706738 | 0.0732479 | 0.0779099 | 0.9379 | 0.99279 |
| si:ch73-103b2.1 | 51.14010998 | -0.383177296 | 0.2741884 | -1.397496 | 0.162264 | 0.716781 |
| traj4 | | 0 NA | NA | NA | NA | NA |
| tnni4a | 93.48181044 | 0.178891971 | 0.2157696 | 0.8290878 | 0.407055 | 0.901305 |
| myo7aa | 215.7863756 | 0.008510649 | 0.1425412 | 0.0597066 | 0.952389 | 0.993904 |
| zgc:163083 | 26.46046472 | -0.33594114 | 0.4055902 | -0.828277 | 0.407513 | 0.901305 |
| agap2 | 635.9680967 | -0.154130693 | 0.099192 | -1.553862 | 0.120217 | 0.645215 |
| CT956056.1 | | 0 NA | NA | NA | NA | NA |
| BX908401.1 | 36.767219 | 0.033047771 | 0.3297214 | 0.1002294 | 0.920162 | 0.992044 |
| si:dkeyp-72e1.6 | 44.85087373 | -0.578087548 | 0.2871671 | -2.01307 | 0.044107 | 0.412803 |
| sp6 | 40.38114839 | -0.204782487 | 0.3184864 | -0.642987 | 0.520233 | 0.939056 |
| CU302200.1 | 1.860572363 | -0.226435781 | 1.3626586 | -0.166172 | 0.868022 | NA |
| trim105 | 95.12252962 | -0.259585088 | 0.2107181 | -1.231907 | 0.217984 | 0.785379 |
| si:ch211-25d12.7 | 0.473170125 | -0.833888596 | 2.9014002 | -0.287409 | 0.773799 | NA |
| snn | 57.58189072 | 0.393544675 | 0.2572029 | 1.5300941 | 0.125993 | 0.654803 |
| CU207221.2 | 21.11340314 | -0.03604632 | 0.4168272 | -0.086478 | 0.931087 | 0.992702 |
| si:ch211-57n23.1 | 39.5577377 | 0.068654908 | 0.3111088 | 0.2206781 | 0.825343 | 0.982196 |
| CU571336.1 | 2.683918177 | -2.803180903 | 1.4392211 | -1.947707 | 0.05145 | NA |
| BX640537.2 | 32.93772574 | 0.112729967 | 0.3735726 | 0.3017619 | 0.762834 | 0.975374 |
| CR388184.1 | 0.840040406 | 1.927209636 | 2.1227864 | 0.9078679 | 0.363948 | NA |
| si:ch211-27e6.1 | 7.005191142 | -0.29150516 | 0.7366964 | -0.395692 | 0.692332 | NA |
| si:dkeyp-51g9.4 | 2.06687758 | 0.027890935 | 1.3936251 | 0.0200132 | 0.984033 | NA |
| twnk | 207.6542715 | -0.300733085 | 0.1490554 | -2.017592 | 0.043634 | 0.410116 |
| il17rc | 286.3189045 | 0.374507686 | 0.1373002 | 2.7276557 | 0.006379 | 0.122178 |
| si:ch211-19312.10 | 23.18646194 | 0.244748782 | 0.403159 | 0.6070775 | 0.543799 | 0.945438 |
| MTFP1 | 204.9169377 | -0.087321815 | 0.1652696 | -0.52836 | 0.59725 | 0.955244 |
| RF00001 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:ch211-208f21.3 | 0.31598276 | 0.005883445 | 3.3523626 | 0.001755 | 0.9986 | NA |
| lrrc8c | 214.5225513 | 0.146985845 | 0.1412989 | 1.0402478 | 0.298225 | 0.85401 |
| snrnp35 | 96.19861313 | -0.503198848 | 0.2004923 | -2.509817 | 0.012079 | 0.193721 |
| BX323064.1 | | 0 NA | NA | NA | NA | NA |
| p2ry2.1 | 7.686238723 | 0.905106639 | 0.7436065 | 1.217185 | 0.223534 | NA |
| BX649345.1 | 6.928321529 | -0.164650584 | 0.7819297 | -0.21057 | 0.833223 | NA |
| znf1005 | 48.52948737 | -0.181945693 | 0.3108744 | -0.585271 | 0.558366 | 0.948478 |
| arl4aa | 137.6379867 | -0.327919682 | 0.1727064 | -1.898712 | 0.057602 | 0.470971 |
| CR407584.1 | 4.452408044 | 0.738780139 | 0.9600981 | 0.769484 | 0.441606 | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| zgc:163040 | 7.217046222 | 0.249912588 | 0.712674 | 0.3506689 | 0.725837 | NA |
| tbce | 235.5415712 | 0.267651974 | 0.1369528 | 1.9543367 | 0.050661 | 0.44139 |
| mir222b | 0 NA | NA | NA | NA | NA | NA |
| zgc:154054 | 639.1282175 | -0.165429788 | 0.1025221 | -1.613601 | 0.106614 | 0.615567 |
| BX072564.1 | 0.339758314 | 0.005883863 | 3.2682461 | 0.0018003 | 0.998564 | NA |
| si:dkey-26m3.1 | 0 NA | NA | NA | NA | NA | NA |
| dpf1 | 175.1724056 | -0.062573269 | 0.1651671 | -0.378848 | 0.7048 | 0.968134 |
| chrn5a | 7.575903096 | -0.251113184 | 0.6779628 | -0.370394 | 0.711089 | NA |
| col27a1b | 71.11189579 | -0.122420672 | 0.2402746 | -0.509503 | 0.6104 | 0.95688 |
| pcdhlg26 | 61.00242111 | -0.043384692 | 0.2811305 | -0.154322 | 0.877356 | 0.987881 |
| BX005245.1 | 0 NA | NA | NA | NA | NA | NA |
| ppala | 202.2198824 | 0.081115681 | 0.1616854 | 0.5016884 | 0.615887 | 0.95688 |
| CU862015.1 | 0.323844819 | -1.825095364 | 3.274639 | -0.557342 | 0.577293 | NA |
| nlrc3l | 95.35066408 | 0.039657778 | 0.2123434 | 0.1867625 | 0.851847 | 0.985174 |
| CABZ01112864.1 | 4.556811079 | 1.584511623 | 1.0617252 | 1.4923934 | 0.135596 | NA |
| pigr13.5 | 0.347458735 | -1.908042286 | 3.4571486 | -0.551912 | 0.581009 | NA |
| mapre2 | 1423.226763 | 0.038923656 | 0.0770332 | 0.5052841 | 0.613359 | 0.95688 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| CU467646.4 | 46.54281291 | -0.417427984 | 0.2809949 | -1.485536 | 0.137402 | 0.674358 |
| fam189a2 | 97.68265608 | 0.116264376 | 0.2037794 | 0.5705404 | 0.568311 | 0.948983 |
| si:ch211-209f23.7 | 0 NA | NA | NA | NA | NA | NA |
| FP236551.1 | 1.624478268 | 0.588556441 | 1.4939716 | 0.3939542 | 0.693615 | NA |
| cldn17 | 9.414033575 | -0.520851077 | 0.6507942 | -0.800331 | 0.423519 | NA |
| PRLHR | 24.30876824 | 0.183873881 | 0.391612 | 0.4695308 | 0.63869 | 0.959628 |
| plekhm1 | 453.179876 | -0.058744852 | 0.1244391 | -0.472077 | 0.636872 | 0.958848 |
| CT955967.1 | 0.341486697 | 1.892317624 | 3.2124068 | 0.5890654 | 0.555817 | NA |
| BX957318.1 | 4.736642882 | 0.23517262 | 0.8760395 | 0.2684498 | 0.788353 | NA |
| smyhc1 | 8939.109754 | 0.257900697 | 0.0743849 | 3.4671131 | 0.000526 | 0.018573 |
| elov11a | 304.9871278 | -0.223122746 | 0.1449279 | -1.539544 | 0.123672 | 0.652129 |
| bnip3 | 190.3322986 | -0.13322257 | 0.1578203 | -0.844141 | 0.398591 | 0.900359 |
| si:dkey-27n6.1 | 3.679362733 | -0.85411697 | 1.0750053 | -0.794524 | 0.426891 | NA |
| BX005073.2 | 0 NA | NA | NA | NA | NA | NA |
| FP085428.1 | 5.450125432 | -1.177132257 | 0.8381374 | -1.404462 | 0.160181 | NA |
| polr2a | 2533.116337 | 0.141598376 | 0.0869292 | 1.6288939 | 0.103335 | 0.609625 |
| CU929143.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| zgc:152863 | 96.26207383 | 0.165294872 | 0.2079429 | 0.7949051 | 0.426669 | 0.910217 |
| CR383676.1 | 34370.01673 | 0.100061954 | 0.0886386 | 1.1288753 | 0.25895 | 0.827219 |
| nup153 | 1344.633717 | 0.098979435 | 0.0885547 | 1.1177214 | 0.263686 | 0.830245 |
| mia2 | 825.3288308 | 0.100300011 | 0.1048809 | 0.9563229 | 0.338909 | 0.87745 |
| ldb3b | 2604.870776 | 0.301696413 | 0.0820937 | 3.6750267 | 0.000238 | 0.009838 |
| tgfbr3 | 19.00748015 | 0.11796851 | 0.4394388 | 0.2684526 | 0.788351 | 0.976703 |
| bpifc1 | 30.58590228 | -0.046569194 | 0.3723347 | -0.125073 | 0.900465 | 0.990121 |
| si:ch1073-228h2.2 | 24.78490701 | -0.130869736 | 0.4160346 | -0.314565 | 0.753092 | 0.97481 |
| ccl39.7 | 10.71462019 | 0.380935245 | 0.5883895 | 0.6474202 | 0.51736 | NA |
| CABZ01023255.1 | 52.25580006 | -0.322945834 | 0.3072165 | -1.051199 | 0.293167 | 0.849017 |
| ccn112 | 217.7383995 | 0.143429477 | 0.1473691 | 0.973267 | 0.330421 | 0.874098 |
| si:ch211-207i20.2 | 34.13036583 | -0.124103375 | 0.3287053 | -0.377552 | 0.705763 | 0.968412 |
| FP236356.2 | 0.5046461 | -2.45370851 | 2.7629627 | -0.888072 | 0.374502 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| creldla | 308.8649357 | -0.021316026 | 0.1242642 | -0.171538 | 0.863801 | 0.985952 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| apbb2b | 131.251511 | -0.167920278 | 0.1820672 | -0.922299 | 0.356373 | 0.883422 |
| rhotla | 1151.026833 | 0.110614563 | 0.0924729 | 1.1961834 | 0.231625 | 0.799752 |
| cox20 | 183.2018039 | 0.059437386 | 0.1699023 | 0.3498328 | 0.726464 | 0.970402 |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| tcf3b | 1781.846181 | -0.012951706 | 0.0773224 | -0.167503 | 0.866975 | 0.986978 |
| CR352226.5 | 0 NA | | NA | NA | NA | NA |
| znf1096 | 9.843824584 | 0.420880813 | 0.6957888 | 0.6048974 | 0.545247 | NA |
| ctbs | 88.17584463 | 0.006064638 | 0.2174718 | 0.027887 | 0.977752 | 0.996762 |
| glulb | 4860.189691 | 0.021889041 | 0.0805195 | 0.2718477 | 0.785739 | 0.97627 |
| si:ch211-76m11.5 | 9.877042991 | -0.274446229 | 0.6275933 | -0.4373 | 0.661894 | NA |
| arhgap39 | 127.786876 | 0.042048365 | 0.1849503 | 0.2273496 | 0.820152 | 0.981594 |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| strn | 165.5128755 | -0.064269826 | 0.1596663 | -0.402526 | 0.687297 | 0.966376 |
| CR855860.1 | 394.3256793 | 0.044174011 | 0.118422 | 0.3730221 | 0.709132 | 0.968664 |
| dhx38 | 324.6350671 | 0.114385308 | 0.1197329 | 0.9553372 | 0.339407 | 0.87805 |
| tradv13.0 | 0 NA | | NA | NA | NA | NA |
| arhgap11a | 198.7287514 | -0.120445302 | 0.1491423 | -0.807586 | 0.419329 | 0.906406 |
| piml | 2272.965472 | 0.118613676 | 0.0769399 | 1.5416402 | 0.123161 | 0.651012 |
| plaat1 | 312.3851483 | -0.048373045 | 0.1348553 | -0.358703 | 0.719817 | 0.969318 |
| histlh2a6 | 6.110358118 | 0.509229993 | 0.8189605 | 0.6218005 | 0.534073 | NA |
| si:ch211-231f6.6 | 167.3541704 | 0.057080137 | 0.1585608 | 0.3599889 | 0.718855 | 0.969092 |
| olfchl | 0 NA | | NA | NA | NA | NA |
| si:dkeyp-13d12.21 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| pole2 | 89.02379485 | -0.304040591 | 0.2238653 | -1.358141 | 0.174419 | 0.734611 |
| TADA1 | 87.64226053 | 0.111437189 | 0.2221703 | 0.5015845 | 0.61596 | 0.95688 |
| GABRB2 (1 of many) | 7.010487842 | 0.576861993 | 0.7216973 | 0.799313 | 0.424109 | NA |
| CU929317.1 | 0 NA | | NA | NA | NA | NA |
| BX901923.1 | 7.395291192 | 0.19907077 | 0.6900843 | 0.2884731 | 0.772985 | NA |
| CU571069.1 | 164.4888233 | -0.005184673 | 0.1793476 | -0.028909 | 0.976938 | 0.996762 |
| CABZ01111454.1 | 28.69321602 | 0.004735797 | 0.3632458 | 0.0130374 | 0.989598 | 0.997612 |
| prtga | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| pimr184 | 0.853245996 | -0.479250517 | 2.1942342 | -0.218414 | 0.827107 | NA |
| si:dkey-206d17.15 | 0 NA | | NA | NA | NA | NA |
| ergic1 | 340.8753067 | 0.124688694 | 0.1200049 | 1.0390301 | 0.298791 | 0.85478 |
| tradv25.0.4 | 0 NA | | NA | NA | NA | NA |
| BX571954.1 | 0 NA | | NA | NA | NA | NA |
| spink2.4 | 0 NA | | NA | NA | NA | NA |
| CABZ01044099.1 | 96.81499681 | 0.12648868 | 0.2166236 | 0.58391 | 0.559281 | 0.948478 |
| tox2 | 423.200705 | -0.015668457 | 0.1113362 | -0.140731 | 0.888082 | 0.989291 |
| CABZ01088109.1 | 1160.823596 | -0.146414048 | 0.0880031 | -1.663737 | 0.096165 | 0.590549 |
| ppfibp1b | 580.321423 | -0.018190765 | 0.1016633 | -0.178931 | 0.857992 | 0.985703 |
| RF00001 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| exosc7 | 232.1062265 | -0.211511625 | 0.1383643 | -1.528657 | 0.126349 | 0.655241 |
| si:dkey-16p6.1 | 6.184096407 | 0.718676014 | 0.7989648 | 0.8995089 | 0.368382 | NA |
| CU467837.1 | 10.234578 | -0.281582702 | 0.6232063 | -0.451829 | 0.651392 | NA |
| RF00001 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| dre-mir-137-2 | 0 NA | | NA | NA | NA | NA |
| mgrn1a | 485.2671909 | -0.034193447 | 0.1165604 | -0.293354 | 0.769252 | 0.975687 |
| BX908757.1 | 0 NA | | NA | NA | NA | NA |
| abcg2a | 751.4292625 | -1.039265093 | 0.1058698 | -9.816447 | 9.57E-23 | 1.35E-19 |
| CU929568.1 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |
| RF00026 | 0 NA | | NA | NA | NA | NA |
| dnail.1 | 1.353015435 | -1.655062633 | 1.8376086 | -0.900661 | 0.367769 | NA |
| ap3bla | 367.3943564 | -0.236680056 | 0.1192767 | -1.984295 | 0.047223 | 0.426582 |
| sugt1 | 491.9141165 | -0.03940381 | 0.1069388 | -0.368471 | 0.712522 | 0.969087 |
| CABZ01084603.1 | 255.1741332 | 0.089192317 | 0.1435684 | 0.6212529 | 0.534433 | 0.943336 |
| AL929114.1 | 1.005718337 | -0.979164561 | 1.8926618 | -0.517348 | 0.604913 | NA |
| adipoqb | 34.16082087 | 0.129042703 | 0.3511856 | 0.3674488 | 0.713284 | 0.96909 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| evx1 | 19.54516434 | 0.586445503 | 0.4360346 | 1.3449516 | 0.178641 | 0.739486 |
| zmp:0000001114 | 670.1084045 | -0.082168058 | 0.1052482 | -0.780707 | 0.434975 | 0.914408 |
| camk2b2 | 38.70318967 | 0.532630067 | 0.3270466 | 1.6286062 | 0.103396 | 0.609625 |
| si:dkey-11d20.1 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| ppp2r2ca | 1316.797304 | -0.052371263 | 0.0795918 | -0.657999 | 0.510539 | 0.936253 |
| anxalb | 1072.46189 | -0.144215037 | 0.1112382 | -1.296453 | 0.19482 | 0.758937 |
| CU855936.1 | 0.491320158 | 0.8528132 | 2.8656354 | 0.2976 | 0.766008 | NA |
| mafgb | 32.43365753 | -0.112565801 | 0.3585206 | -0.313973 | 0.753542 | 0.974981 |
| CR382281.1 | 1.828745373 | -1.411271231 | 1.4320856 | -0.985466 | 0.324395 | NA |
| si:dkey-238o14.1 | 2.718924439 | 0.785042324 | 1.1758509 | 0.6676377 | 0.504365 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| zgc:101785 | 20.82676863 | 0.075058454 | 0.4420575 | 0.1697934 | 0.865173 | 0.986367 |
| imp2b | 5.734970528 | 0.731581719 | 0.8178718 | 0.8944944 | 0.371057 | NA |
| CR385054.1 | 82.49920586 | 0.213680111 | 0.2303095 | 0.9277955 | 0.353514 | 0.881844 |
| cul3b | 971.6626299 | 0.101661285 | 0.0841181 | 1.2085541 | 0.226834 | 0.794528 |
| si:ch211-237a4.2 | 7.615124033 | -0.003840573 | 0.7000084 | -0.005486 | 0.995622 | NA |
| znf1118 | 14.65955055 | 0.120888953 | 0.5097825 | 0.2371383 | 0.812549 | 0.981081 |
| AL935044.2 | 1.497509863 | 1.861276769 | 1.7055995 | 1.0912742 | 0.275152 | NA |
| sf3a3 | 997.2596008 | 0.013628079 | 0.0879765 | 0.154906 | 0.876895 | 0.987881 |
| dnah1 | 64.0122166 | 0.085318459 | 0.2432238 | 0.3507817 | 0.725752 | 0.970402 |
| mrps24 | 306.1593443 | 0.014477272 | 0.1343987 | 0.1077189 | 0.914219 | 0.991119 |
| CR925761.2 | 2.554623875 | 1.013353592 | 1.2467 | 0.8128287 | 0.416316 | NA |
| caskb | 1019.372097 | -0.080445573 | 0.0893633 | -0.900208 | 0.368009 | 0.887482 |
| si:dkey-21c1.8 | 34.55194685 | -0.170373028 | 0.33732 | -0.505078 | 0.613504 | 0.95688 |
| znf1178 | 16.70296231 | 0.281004253 | 0.481877 | 0.5831451 | 0.559796 | 0.948478 |
| CU861477.1 | 94.84539028 | -0.014512351 | 0.2150459 | -0.067485 | 0.946196 | 0.99381 |
| brd3b | 1487.515464 | -0.022445129 | 0.0797764 | -0.28135 | 0.778442 | 0.975942 |
| cdh29 | 25.65717718 | 1.107884363 | 0.4005631 | 2.7658175 | 0.005678 | 0.113103 |
| CU929402.1 | 3.41793168 | 1.638142378 | 1.1414629 | 1.4351254 | 0.151251 | NA |
| cnmd | 3779.694411 | 0.104431578 | 0.0770193 | 1.3559153 | 0.175126 | 0.735545 |
| dre-mir-7146 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| dcpla | 323.4884779 | 0.018129126 | 0.1204287 | 0.1505383 | 0.88034 | 0.987881 |
| il17ra2 | 0 | NA | NA | NA | NA | NA |
| CR749168.3 | 0 | NA | NA | NA | NA | NA |
| si:ch211-113d22.2 | 587.3696536 | 0.080626361 | 0.1063649 | 0.7580165 | 0.448441 | 0.917768 |
| CR626874.1 | 1.127931677 | -2.447047199 | 1.952687 | -1.253169 | 0.210144 | NA |
| znf1083 | 25.64486352 | 0.147627522 | 0.3847376 | 0.3837096 | 0.701194 | 0.968134 |
| lrp6 | 414.3864585 | -0.025313437 | 0.1269737 | -0.19936 | 0.841981 | 0.985174 |
| CR936977.1 | 0 | NA | NA | NA | NA | NA |
| CABZ01092282.1 | 1146.524676 | 0.139117649 | 0.108015 | 1.2879477 | 0.197764 | 0.76301 |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| znf1150 | 0.317831496 | 1.808837541 | 3.5779923 | 0.5055454 | 0.613176 | NA |
| axin2 | 762.9209838 | 0.053555395 | 0.0923836 | 0.5797069 | 0.562112 | 0.948728 |
| FQ377903.1 | 13.81332716 | -0.986820805 | 0.5687519 | -1.735064 | 0.08273 | 0.554784 |
| appl2 | 1012.78214 | -0.010051772 | 0.0875402 | -0.114825 | 0.908584 | 0.990702 |
| C12orf75 | 61.10210875 | 0.064904884 | 0.260097 | 0.2495411 | 0.802942 | 0.979643 |
| FP067440.1 | 0 | NA | NA | NA | NA | NA |
| si:ch211-217i17.1 | 3.888835444 | -0.489446539 | 1.0697469 | -0.457535 | 0.647287 | NA |
| tamm41 | 149.0913474 | 0.011360604 | 0.177558 | 0.0639825 | 0.948984 | 0.99381 |
| tradv6.0.4 | 0 | NA | NA | NA | NA | NA |
| angpt11b | 32.49012908 | 0.373080633 | 0.3542804 | 1.053066 | 0.292311 | 0.848099 |
| si:dkey-205i10.2 | 0.65888811 | -1.481402282 | 2.5795287 | -0.574292 | 0.56577 | NA |
| CR382337.2 | 1.533229493 | -0.971650616 | 1.6564407 | -0.586589 | 0.557479 | NA |

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| CABZ01059120.1 | 71.30608976 | 0.080059506 | 0.2338665 | 0.34233 | 0.732103 | 0.971665 |
| tox4b | 49.25922448 | 0.174650712 | 0.3164606 | 0.5518877 | 0.581025 | 0.951731 |
| si:dkey-16p6.1 | 6.456730677 | -0.3547383 | 0.7515022 | -0.472039 | 0.636899 | NA |
| CR749167.1 | 0 NA | NA | NA | NA | NA | NA |
| si:dkeyp-9d4.3 | 1787.929684 | 0.008161104 | 0.0765459 | 0.1066172 | 0.915093 | 0.991123 |
| CSDC2 (1 of many) | 10.02367344 | -0.377966933 | 0.5994719 | -0.6305 | 0.528368 | NA |
| pam | 2293.968848 | -0.026382608 | 0.0785344 | -0.335937 | 0.736918 | 0.972535 |
| CU638702.1 | 0 NA | NA | NA | NA | NA | NA |
| CT573484.1 | 4.835953136 | 0.510857596 | 0.8913881 | 0.5731035 | 0.566575 | NA |
| gb:ai877918 | 93.70770872 | -0.192535538 | 0.209687 | -0.918204 | 0.358512 | 0.884398 |
| lamp1a | 382.5902499 | 0.042108734 | 0.1301805 | 0.3234643 | 0.746344 | 0.97419 |
| BX908782.1 | 17.90037117 | -0.157945832 | 0.4664721 | -0.338597 | 0.734914 | 0.972117 |
| CU655842.1 | 205.7434152 | 0.220836991 | 0.1561363 | 1.4143856 | 0.157249 | 0.707876 |
| si:ch211-188p14.4 | 147.7455926 | 0.311892072 | 0.1826224 | 1.7078522 | 0.087664 | 0.566637 |
| trgv6 | 2.320976029 | -1.326661722 | 1.2906399 | -1.02791 | 0.303992 | NA |
| znf1155 | 54.54246151 | -0.057983317 | 0.271029 | -0.213938 | 0.830596 | 0.982994 |
| AL953858.1 | 0 NA | NA | NA | NA | NA | NA |
| znf1160 | 25.38853007 | -0.455651904 | 0.3871819 | -1.176842 | 0.239259 | 0.807768 |
| zgc:171929 | 2.933211226 | -0.653480876 | 1.1152832 | -0.585933 | 0.557921 | NA |
| sncaip | 158.8583979 | 0.274365828 | 0.1849982 | 1.483073 | 0.138055 | 0.675718 |
| si:ch1073-185p12.2 | 1.353177072 | -1.582120833 | 1.7185249 | -0.920627 | 0.357245 | NA |
| BX537249.1 | 0.671303554 | -2.865684129 | 2.3396875 | -1.224815 | 0.220645 | NA |
| CABZ01056637.1 | 0.829470442 | -0.541620008 | 2.1123709 | -0.256404 | 0.797639 | NA |
| RF00001 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| klhdc4 | 345.2435287 | -0.031832718 | 0.1264382 | -0.251765 | 0.801223 | 0.979377 |
| prpf39 | 1823.396397 | -0.065908248 | 0.0757504 | -0.870071 | 0.384262 | 0.895192 |
| RF00001 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:dkey-247i3.6 | 2.963590581 | -0.346567885 | 1.1088018 | -0.312561 | 0.754614 | NA |
| si:ch211-117117.7 | 0 NA | NA | NA | NA | NA | NA |
| AL935294.1 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-264f17.1 | 27.97840008 | -0.16639401 | 0.3638447 | -0.457322 | 0.64744 | 0.960581 |
| BX511018.2 | 3.32782198 | 0.279241825 | 1.0160105 | 0.2748415 | 0.783438 | NA |
| utrn | 1590.872021 | -0.100990437 | 0.0878569 | -1.149487 | 0.250355 | 0.820164 |
| gpa33a | 670.3836967 | -0.04437651 | 0.1011532 | -0.438706 | 0.660875 | 0.964022 |
| kif16ba | 237.6232604 | 0.044256514 | 0.1383706 | 0.3198405 | 0.749089 | 0.97419 |
| SLC7A1 (1 of many) | 395.6881252 | -0.138732623 | 0.11781 | -1.177597 | 0.238957 | 0.807768 |
| si:ch211-238e22.5 | 3.989147291 | 0.007523638 | 0.9387223 | 0.0080148 | 0.993605 | NA |
| ccdc135 | 34.82358301 | -0.251284371 | 0.3300903 | -0.761259 | 0.446502 | 0.917154 |
| glis2b | 21.31136374 | -0.164432288 | 0.4265768 | -0.385469 | 0.69989 | 0.967998 |
| CU633762.1 | 0 NA | NA | NA | NA | NA | NA |
| BX511246.1 | 9.835419103 | 0.588048129 | 0.6455741 | 0.9108918 | 0.362352 | NA |
| CU929203.2 | 0 NA | NA | NA | NA | NA | NA |
| csppla | 63.93927409 | -0.008683435 | 0.2510539 | -0.034588 | 0.972408 | 0.996315 |
| tradv23.1.2 | 0 NA | NA | NA | NA | NA | NA |
| CT737123.1 | 2.316570736 | -0.03491942 | 1.3074695 | -0.026708 | 0.978693 | NA |
| dph5 | 239.4641513 | 0.091006765 | 0.1400371 | 0.649876 | 0.515772 | 0.9377 |
| ebf3a | 3697.732232 | -0.080948593 | 0.0701461 | -1.154001 | 0.2485 | 0.817939 |
| FP016234.1 | 101.6871095 | 0.673217265 | 0.2005863 | 3.356248 | 0.00079 | 0.025611 |
| CU929199.1 | 13.67491115 | -0.208312711 | 0.5089144 | -0.409328 | 0.682299 | 0.965476 |
| c1r | 3.937441886 | -0.990111676 | 0.9675049 | -1.023366 | 0.306135 | NA |
| si:ch211-266k2.1 | 20.04734258 | 0.143441055 | 0.4673143 | 0.3069477 | 0.758883 | 0.975374 |
| si:ch211-152c8.2 | 3.266913936 | -1.251468769 | 1.188681 | -1.052821 | 0.292423 | NA |
| capzb | 4132.581408 | 0.077744851 | 0.0727805 | 1.0682093 | 0.285426 | 0.845164 |
| CU571169.1 | 0 NA | NA | NA | NA | NA | NA |

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| si:ch73-29119.1 | 218.2654268 | 0.114710204 | 0.1418301 | 0.808786 | 0.418638 | 0.906406 |
| si:dkey-88e18.8 | 113.1021724 | 0.161352242 | 0.1945047 | 0.8295543 | 0.406791 | 0.901305 |
| zgc:174314 | 0.996248248 | -0.965226587 | 1.8965975 | -0.508925 | 0.610805 | NA |
| si:dkeyp-104b3.2 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| zgc:171759 | 22.92131974 | 0.149121861 | 0.4335132 | 0.3439846 | 0.730858 | 0.971497 |
| them6 | 147.2797219 | 0.14139785 | 0.1682815 | 0.8402458 | 0.400771 | 0.90084 |
| si:ch1073-266p11.2 | 61.15527232 | -0.380888789 | 0.2549623 | -1.493903 | 0.135201 | 0.670689 |
| BX936382.1 | 11.581685 | -0.408241051 | 0.5680881 | -0.718623 | 0.472373 | 0.924838 |
| si:ch211-161c3.5 | 88.72091911 | 0.066063912 | 0.2068987 | 0.3193055 | 0.749495 | 0.97419 |
| thumpd1 | 192.6842601 | 0.084776058 | 0.1616406 | 0.5244725 | 0.59995 | 0.956045 |
| rhcgb | 272.5906642 | 0.421031705 | 0.1445126 | 2.9134594 | 0.003574 | 0.080595 |
| GRM7 | 381.7630063 | 0.007557062 | 0.1136505 | 0.0664939 | 0.946985 | 0.99381 |
| or109-7 | 0 NA | NA | NA | NA | NA | NA |
| FP085414.1 | 877.1003832 | 0.014832829 | 0.0953216 | 0.1556083 | 0.876342 | 0.987881 |
| or109-3 | 0 NA | NA | NA | NA | NA | NA |
| dre-mir-19b | 0 NA | NA | NA | NA | NA | NA |
| WDR7 | 424.2435554 | 0.10290882 | 0.1350989 | 0.7617297 | 0.446221 | 0.917154 |
| CU457819.1 | 3.530753003 | -0.085782296 | 1.0323748 | -0.083092 | 0.933778 | NA |
| znfx1 | 13.39876903 | 0.093225446 | 0.5244067 | 0.1777732 | 0.858901 | 0.985773 |
| si:dkeyp-6a3.1 | 0.633934609 | 1.436045836 | 2.6103598 | 0.5501333 | 0.582228 | NA |
| BX571843.1 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| dnai2a | 5.988316613 | 0.319580571 | 0.7702907 | 0.4148831 | 0.678228 | NA |
| SLA (1 of many) | 1.856287422 | 1.405559207 | 1.4793983 | 0.9500884 | 0.342067 | NA |
| imp2b | 71.3552805 | -0.0631177 | 0.2312419 | -0.272951 | 0.784891 | 0.97627 |
| fam166b | 13.17395232 | 0.239767559 | 0.5686034 | 0.421678 | 0.67326 | 0.965257 |
| arhgef15 | 11.11276253 | 0.091693356 | 0.5930325 | 0.1546178 | 0.877123 | 0.987881 |
| zgc:113209 | 130.4433694 | -0.150080054 | 0.1780852 | -0.842743 | 0.399372 | 0.900683 |
| ccl39.3 | 7.122660549 | -0.938511882 | 0.8097241 | -1.159051 | 0.246435 | NA |
| pja2 | 288.0023274 | 0.015491998 | 0.1259472 | 0.1230039 | 0.902104 | 0.990121 |
| CABZ01065328.2 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-237g15.2 | 18.72540532 | -0.379741482 | 0.4508756 | -0.842231 | 0.399659 | 0.90084 |
| CU638714.1 | 0 NA | NA | NA | NA | NA | NA |
| chdh | 37.92015805 | -0.031859004 | 0.3140259 | -0.101453 | 0.919191 | 0.991623 |
| adamts5 | 34.60198641 | 0.210927522 | 0.3374371 | 0.625087 | 0.531914 | 0.942359 |
| SEMA4F | 75.25698508 | 0.024489506 | 0.2290929 | 0.1068977 | 0.91487 | 0.991119 |
| si:dkey-165e24.1 | 0.522329263 | 0.999930388 | 2.8066578 | 0.3562709 | 0.721638 | NA |
| hoxa13a | 11.60214301 | -0.059252558 | 0.580608 | -0.102053 | 0.918715 | 0.991623 |
| pip5klcb | 728.2454833 | 0.184682976 | 0.1058022 | 1.7455488 | 0.080889 | 0.550801 |
| slc15a1a | 42.78139219 | -0.784105953 | 0.3106105 | -2.524403 | 0.01159 | 0.188618 |
| ahsalb | 588.0730288 | 0.091951577 | 0.0977258 | 0.9409136 | 0.346749 | 0.8794 |
| RF00324 | 6.108135033 | 0.716915284 | 0.7815635 | 0.9172834 | 0.358994 | NA |
| BX248331.1 | 0.325573202 | 0.005883621 | 3.3172783 | 0.0017736 | 0.998585 | NA |
| fut10 | 25.50999217 | 0.11435983 | 0.3828603 | 0.2986986 | 0.76517 | 0.975374 |
| AL627305.1 | 43.47699549 | -0.30198357 | 0.3056223 | -0.988094 | 0.323107 | 0.870607 |
| FQ377896.1 | 2.730002558 | 1.164557975 | 1.2466845 | 0.934124 | 0.35024 | NA |
| CR354444.1 | 0.814656822 | 0.635171646 | 2.1267048 | 0.2986647 | 0.765196 | NA |
| znf1056 | 18.0919475 | -0.021511275 | 0.4570967 | -0.047061 | 0.962465 | 0.995907 |
| SMIM10 | 227.6849449 | -0.411359158 | 0.1417361 | -2.90229 | 0.003704 | 0.082491 |
| lat | 5.323335117 | 0.191773592 | 0.8197107 | 0.2339528 | 0.815022 | NA |
| znf1104 | 3.498376573 | -0.388948229 | 0.9971241 | -0.39007 | 0.696485 | NA |
| pik3r6a | 130.4107144 | -0.035448194 | 0.1768388 | -0.200455 | 0.841125 | 0.985174 |
| RF00001 | 2.953958854 | -0.371730764 | 1.1500285 | -0.323236 | 0.746516 | NA |
| BX936384.1 | 0.979664961 | -1.029240033 | 2.0739984 | -0.496259 | 0.619712 | NA |
| arf4b | 39.39482376 | -0.328170406 | 0.3791276 | -0.865593 | 0.386713 | 0.89551 |

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| si:ch211-196h24.2 | 2.045231758 | -1.513476115 | 1.5521905 | -0.975058 | 0.329531 | NA |
| zgc:158464 | 298.1907307 | -0.16055397 | 0.1294064 | -1.240695 | 0.214718 | 0.782493 |
| tradv24.0.3 | 0 | NA | NA | NA | NA | NA |
| si:dkey-7114.1 | 5.168555971 | -0.290064932 | 0.8601644 | -0.33722 | 0.735951 | NA |
| prkacaa | 341.4517694 | 0.152972774 | 0.1229257 | 1.2444328 | 0.21334 | 0.781631 |
| aglb | 600.8318686 | 0.599873831 | 0.1127465 | 5.3205546 | 1.03E-07 | 1.43E-05 |
| si:ch1073-398f15.1 | 63.78795932 | -0.055607614 | 0.2475232 | -0.224656 | 0.822247 | 0.982186 |
| AL844192.1 | 13.67360522 | 0.175879281 | 0.5175307 | 0.3398432 | 0.733975 | 0.971993 |
| si:ch73-44m9.3 | 115.7118541 | -0.187770395 | 0.1892038 | -0.992424 | 0.320991 | 0.868715 |
| CR382300.2 | 0 | NA | NA | NA | NA | NA |
| AREL1 | 722.9580426 | 0.042009074 | 0.0962762 | 0.4363392 | 0.662591 | 0.964665 |
| si:ch211-125c23.3 | 3.618473728 | -0.751032777 | 1.0632385 | -0.706363 | 0.479962 | NA |
| znf1174 | 24.33863418 | -0.719425702 | 0.3987637 | -1.80414 | 0.071209 | 0.522678 |
| dcun1d5 | 552.3670142 | 0.212974315 | 0.1025138 | 2.0775185 | 0.037754 | 0.380501 |
| F0907110.1 | 1.507608459 | 0.992720806 | 1.5647909 | 0.6344112 | 0.525813 | NA |
| si:dkey-102m7.3 | 116.0278933 | -0.167290192 | 0.199459 | -0.83872 | 0.401627 | 0.90084 |
| BX276088.1 | 0.317831496 | 1.808837541 | 3.5779923 | 0.5055454 | 0.613176 | NA |
| CT955963.1 | 8.691691029 | 0.379288338 | 0.6581911 | 0.5762587 | 0.56444 | NA |
| eef2b | 36670.44012 | -0.223817843 | 0.2018751 | -1.108694 | 0.267562 | 0.833349 |
| alad | 344.171939 | 0.036066689 | 0.1174579 | 0.3070605 | 0.758797 | 0.975374 |
| si:ch211-175l6.1 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| txnrd3 | 2518.362752 | 0.137658006 | 0.0800999 | 1.7185787 | 0.085691 | 0.562009 |
| timm23b | 27.20703105 | -0.01859262 | 0.3702897 | -0.050211 | 0.959954 | 0.995388 |
| amdhd2 | 293.969269 | -0.196452095 | 0.1408094 | -1.395164 | 0.162966 | 0.717875 |
| CABZ01012885.1 | 0 | NA | NA | NA | NA | NA |
| si:dkey-83h2.3 | 1.275370218 | 0.72451682 | 1.7471001 | 0.4146968 | 0.678364 | NA |
| si:dkey-34d22.2 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| rock2bl | 2.158246708 | 1.184029034 | 1.3774349 | 0.8595898 | 0.390015 | NA |
| il10ra | 8.545342319 | 0.5811507 | 0.6673353 | 0.8708526 | 0.383835 | NA |
| CT990567.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| slc25a19 | 84.0406713 | -0.223036373 | 0.2316692 | -0.962737 | 0.33568 | 0.876088 |
| si:dkey-61p9.9 | 2.801287092 | -0.168150196 | 1.1305696 | -0.148731 | 0.881766 | NA |
| si:dkey-78o7.3 | 0 | NA | NA | NA | NA | NA |
| abhd5b | 1.163413857 | -2.485799194 | 1.9161281 | -1.297303 | 0.194527 | NA |
| nitr1la | 0 | NA | NA | NA | NA | NA |
| rps18 | 9979.126698 | -0.409341163 | 0.0731741 | -5.594069 | 2.22E-08 | 3.54E-06 |
| lnpep | 325.0702971 | -0.037377404 | 0.1225936 | -0.304889 | 0.760451 | 0.975374 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| pip5klaa | 128.0981508 | 0.171633107 | 0.1812325 | 0.9470327 | 0.343622 | 0.878434 |
| pde6c | 6011.802827 | 0.438323281 | 0.0855308 | 5.1247395 | 2.98E-07 | 3.57E-05 |
| pax7a | 83.5485484 | -0.156000983 | 0.2348116 | -0.664367 | 0.506456 | 0.935724 |
| F0704610.1 | 326.6743038 | -0.094560177 | 0.1247382 | -0.758069 | 0.44841 | 0.917768 |
| fgd1 | 38.71987558 | -0.294104961 | 0.3263102 | -0.901305 | 0.367426 | 0.887458 |
| CT027704.1 | 0.323844819 | -1.825095364 | 3.274639 | -0.557342 | 0.577293 | NA |
| BX957252.3 | 3.077193001 | -0.154008103 | 1.0912032 | -0.141136 | 0.887762 | NA |
| zgc:112265 | 1723.495788 | 0.167686763 | 0.0974543 | 1.7206709 | 0.085311 | 0.560628 |
| si:ch211-166e11.5 | 340.8490766 | -0.069783208 | 0.1213695 | -0.574965 | 0.565315 | 0.948739 |
| camlg | 360.4179128 | -0.116430778 | 0.1318322 | -0.883174 | 0.377142 | 0.895192 |
| or106-5 | 0 | NA | NA | NA | NA | NA |
| si:ch73-106n3.1 | 1.658751506 | -3.048600777 | 1.7233157 | -1.769032 | 0.076889 | NA |
| si:ch211-171117.14 | 2.703090012 | 0.370984433 | 1.1646911 | 0.318526 | 0.750086 | NA |
| BX323861.2 | 0 | NA | NA | NA | NA | NA |
| si:ch211-227e10.2 | 0 | NA | NA | NA | NA | NA |
| ints1 | 775.8014877 | -0.071906354 | 0.1024695 | -0.701734 | 0.482845 | 0.929133 |

| | | | | | | |
|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| tpcn2 | 131.6225081 | -0.011728757 | 0.1792922 | -0.065417 | 0.947842 | 0.99381 |
| znf1129 | 18.42736756 | 0.039461202 | 0.489447 | 0.0806241 | 0.935741 | 0.992702 |
| ptpro | 702.6627082 | -0.019479434 | 0.1090399 | -0.178645 | 0.858217 | 0.985773 |
| BX323994.2 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:ch73-233f7.8 | 0.837961008 | -3.186152199 | 2.1620582 | -1.473666 | 0.140571 | NA |
| fam167b | 59.30824169 | 0.111294206 | 0.2507295 | 0.4438815 | 0.657128 | 0.962166 |
| BX547934.2 | 168.3461972 | -0.319859399 | 0.2088538 | -1.531499 | 0.125646 | 0.654803 |
| irgf4 | 0.657349104 | 1.487939685 | 2.418178 | 0.6153144 | 0.538347 | NA |
| CU634008.1 | 99.37413701 | -0.525882383 | 0.2026709 | -2.59476 | 0.009466 | 0.163186 |
| CR376738.1 | 2.328478025 | -0.005256243 | 1.2225774 | -0.004299 | 0.99657 | NA |
| znf1091 | 4.879149437 | -0.212744868 | 0.932643 | -0.22811 | 0.819561 | NA |
| sec22bb | 668.3033109 | 0.001271717 | 0.09541 | 0.013329 | 0.989365 | 0.997589 |
| cnga2b | 42.12379177 | -0.33449609 | 0.3161408 | -1.058061 | 0.290028 | 0.846246 |
| zgc:153383 | 174.9449925 | 0.099712911 | 0.1707906 | 0.5838313 | 0.559334 | 0.948478 |
| fastkd3 | 170.2476391 | -0.10134366 | 0.1568105 | -0.646281 | 0.518097 | 0.938592 |
| cfh | 842.9454564 | 0.222621278 | 0.1113192 | 1.9998457 | 0.045517 | 0.41824 |
| CR376766.2 | 148.5505613 | 0.211054032 | 0.1668853 | 1.2646656 | 0.205991 | 0.773798 |
| si:dkeyp-13d12.17 | | 0 NA | NA | NA | NA | NA |
| si:ch211-286o17.1 | 530.739335 | -0.064587759 | 0.1127577 | -0.572802 | 0.566779 | 0.948739 |
| BX322631.1 | 9.197622972 | 0.277755221 | 0.6203236 | 0.4477586 | 0.654327 | NA |
| btr21 | 0.496945679 | -0.834564081 | 2.8549631 | -0.29232 | 0.770042 | NA |
| olfcs2 | 6.86352947 | 0.064782053 | 0.7391502 | 0.087644 | 0.93016 | NA |
| nop53 | 1225.743428 | -0.330898622 | 0.0946542 | -3.495868 | 0.000473 | 0.017082 |
| BX649313.1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| pnkp | 209.3510501 | -0.189187446 | 0.1507979 | -1.254576 | 0.209633 | 0.776996 |
| ptk2aa | 286.7790876 | 0.005520691 | 0.1432143 | 0.0385485 | 0.96925 | 0.996315 |
| si:dkey-217g21.3 | 1.621141855 | -0.556340483 | 1.5189056 | -0.366277 | 0.714158 | NA |
| CABZ01078737.1 | 135.0149027 | -0.001202098 | 0.179601 | -0.006693 | 0.99466 | 0.998694 |
| paqr7a | 3.658498007 | -0.008872829 | 0.9857908 | -0.009001 | 0.992819 | NA |
| BX908799.1 | | 0 NA | NA | NA | NA | NA |
| si:dkey-193i10.1 | 7.566659171 | -0.39566301 | 0.6966114 | -0.567982 | 0.570047 | NA |
| clrn3 | 55.32506765 | -1.361005286 | 0.2797441 | -4.86518 | 1.14E-06 | 0.000112 |
| nrl | 45.33579642 | -0.147178691 | 0.3031034 | -0.485573 | 0.62727 | 0.957354 |
| fkrp | 159.0324325 | 0.226233404 | 0.1694279 | 1.335278 | 0.181785 | 0.743853 |
| znf1182 | 21.65750824 | 0.700874972 | 0.4182495 | 1.675734 | 0.09379 | 0.582661 |
| BX004768.1 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| L0017721.1 | 4.418573093 | 0.111234785 | 0.9310672 | 0.1194702 | 0.904903 | NA |
| fgf10b | 8.710816333 | -0.169329627 | 0.6481616 | -0.261246 | 0.793903 | NA |
| si:dkeyp-110c7.4 | 109.5821498 | 0.15278814 | 0.2194992 | 0.6960762 | 0.486381 | 0.930833 |
| si:dkey-43f9.4 | 50.81171396 | -0.36989569 | 0.2842908 | -1.301118 | 0.193218 | 0.757173 |
| smg6 | 587.299695 | -0.244541672 | 0.1050335 | -2.328225 | 0.0199 | 0.265882 |
| pmt | 310.8553678 | -0.326067087 | 0.1254221 | -2.599758 | 0.009329 | 0.162001 |
| vent | 1.815221005 | 2.20642324 | 1.6004445 | 1.3786315 | 0.168008 | NA |
| CR450808.1 | 8.992305308 | -0.278144435 | 0.6767663 | -0.41099 | 0.68108 | NA |
| foxo6a | 25.48467138 | -0.28952464 | 0.3894308 | -0.743456 | 0.457206 | 0.921679 |
| nploc4 | 816.6587721 | -0.088007307 | 0.0966652 | -0.910434 | 0.362594 | 0.885944 |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| BX511111.1 | 3.742404164 | -0.118445449 | 0.9878159 | -0.119906 | 0.904557 | NA |
| CT025669.1 | 2.420114602 | 0.545754006 | 1.3691689 | 0.3986024 | 0.690186 | NA |
| pbx1a | 1177.859459 | -0.012723985 | 0.0838692 | -0.151712 | 0.879414 | 0.987881 |
| hic2 | 116.4224664 | 0.273060285 | 0.1967728 | 1.387693 | 0.165231 | 0.721223 |
| CABZ01079251.1 | 64.34127833 | -0.975956486 | 0.2508988 | -3.889842 | 0.0001 | 0.004886 |
| cpeb4b | 1194.937762 | 0.042466884 | 0.0837781 | 0.506897 | 0.612227 | 0.95688 |
| CR848025.1 | 3.177360012 | 0.801305058 | 1.0662248 | 0.7515348 | 0.452331 | NA |

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| sos1 | 638.1855155 | -0.099929386 | 0.1126165 | -0.887343 | 0.374894 | 0.894316 |
| ppplr27b | 34.10031871 | -0.22980837 | 0.3514806 | -0.653829 | 0.513222 | 0.936463 |
| ddx52 | 301.9045673 | 0.073925178 | 0.1410721 | 0.5240242 | 0.600262 | 0.956045 |
| crbl | 115.0529746 | 0.317188189 | 0.2003127 | 1.5834654 | 0.113315 | 0.631061 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| ubn2b | 431.3470818 | -0.013148209 | 0.1237133 | -0.10628 | 0.91536 | 0.991171 |
| si:dkey-82i20.2 | 0.473170125 | -0.833888596 | 2.9014002 | -0.287409 | 0.773799 | NA |
| CR855379.2 | 1.000134101 | 0.001091541 | 2.0514706 | 0.0005321 | 0.999575 | NA |
| rps27l | 283.2342147 | -0.420763106 | 0.1488158 | -2.827408 | 0.004693 | 0.098715 |
| cfap20 | 355.1004149 | -0.037043686 | 0.1216072 | -0.304618 | 0.760657 | 0.975374 |
| duspl | 1244.198128 | 0.026944604 | 0.0984473 | 0.2736956 | 0.784319 | 0.97627 |
| tradv5.0.1 | 0 NA | NA | NA | NA | NA | NA |
| CR387919.1 | 33.13524704 | 0.263678307 | 0.3343181 | 0.7887049 | 0.430284 | 0.911945 |
| spop | 1097.077554 | 0.021345974 | 0.0890123 | 0.2398093 | 0.810478 | 0.980868 |
| si:dkey-25o1.7 | 6.846637695 | -0.330464206 | 0.7217227 | -0.457883 | 0.647037 | NA |
| abca3b | 2280.575252 | 0.029804456 | 0.0733777 | 0.4061784 | 0.684612 | 0.966068 |
| map11c3c | 38.99366051 | -1.006405589 | 0.3288713 | -3.060181 | 0.002212 | 0.05751 |
| sh3bp5a | 846.2109856 | 0.082216966 | 0.0898454 | 0.9150936 | 0.360142 | 0.885686 |
| abhd14b | 261.7585128 | -0.353062691 | 0.1353734 | -2.608066 | 0.009106 | 0.159622 |
| CU639471.1 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |
| si:ch1073-178p5.3 | 0.323844819 | -1.825095364 | 3.274639 | -0.557342 | 0.577293 | NA |
| irak4 | 65.14373064 | -0.314762196 | 0.2491143 | -1.263525 | 0.2064 | 0.774011 |
| ecmla | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| nkrf | 712.7417809 | 0.098793546 | 0.1027352 | 0.9616325 | 0.336234 | 0.876088 |
| CR388413.1 | 0 NA | NA | NA | NA | NA | NA |
| si:dkeyp-88h4.2 | 0 NA | NA | NA | NA | NA | NA |
| btr22 | 2.455635807 | 0.556499109 | 1.2090823 | 0.4602657 | 0.645326 | NA |
| si:ch211-106g8.62 | 0 NA | NA | NA | NA | NA | NA |
| zgc:173486 | 15.72191357 | -0.050731347 | 0.488613 | -0.103827 | 0.917306 | 0.991572 |
| or108-2 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CR383680.1 | 2.83913066 | 1.294583975 | 1.1843866 | 1.0930418 | 0.274375 | NA |
| tefm | 94.18064711 | 0.177014902 | 0.2101856 | 0.8421837 | 0.399685 | 0.90084 |
| CABZ01079427.1 | 154.3428208 | 0.02753495 | 0.191873 | 0.1435061 | 0.88589 | 0.988936 |
| si:dkey-112a7.5 | 1.697990138 | 3.090984544 | 1.8204686 | 1.697906 | 0.089526 | NA |
| lsm14ab | 2388.212695 | -0.032460835 | 0.0713757 | -0.454788 | 0.649262 | 0.960708 |
| trgv1 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| aqpl1 | 494.7731868 | 0.396250192 | 0.114115 | 3.4723771 | 0.000516 | 0.018314 |
| si:dkeyp-5g9.1 | 5.617109068 | 0.325561877 | 0.8110909 | 0.4013877 | 0.688135 | NA |
| slbp | 452.3769745 | -0.070060825 | 0.1163532 | -0.602139 | 0.547082 | 0.945526 |
| tor2a | 178.5881269 | 0.082117911 | 0.1574478 | 0.5215565 | 0.601979 | 0.956045 |
| zfp2b | 414.1952054 | -0.228403905 | 0.1207649 | -1.89131 | 0.058583 | 0.473924 |
| BX323453.1 | 13.47752984 | 0.106388568 | 0.5213617 | 0.204059 | 0.838307 | 0.984797 |
| sill | 246.316249 | 0.043467307 | 0.140069 | 0.3103279 | 0.756312 | 0.975374 |
| CR556708.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| CR318647.1 | 1.126983149 | 2.435713293 | 2.0277577 | 1.2011856 | 0.229679 | NA |
| si:ch211-209j12.3 | 9.666056129 | -1.256885077 | 0.6450572 | -1.948486 | 0.051357 | NA |
| BX927122.1 | 1.119429824 | 2.422696301 | 3.9529865 | 0.6128774 | 0.539957 | NA |
| FP085400.1 | 0.507044276 | -2.459587493 | 2.7586536 | -0.89159 | 0.372613 | NA |
| ckap2l | 188.9331285 | -0.182413972 | 0.1529438 | -1.192686 | 0.232992 | 0.80134 |
| CT573787.1 | 1.02226034 | -1.002759318 | 1.9585319 | -0.511995 | 0.608654 | NA |
| CU694481.1 | 134.2015857 | -0.019639704 | 0.1935809 | -0.101455 | 0.919189 | 0.991623 |
| si:dkeyp-90h9.1 | 5.472309408 | -0.267932666 | 0.8095628 | -0.33096 | 0.740675 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-195b11.3 | 2167.050427 | 0.131785043 | 0.0894425 | 1.4734049 | 0.140642 | 0.681252 |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| hid1b | 100.7000491 | 0.076033374 | 0.1995291 | 0.3810641 | 0.703156 | 0.968134 |
| ccdc40 | 112.3922344 | -0.530340148 | 0.1923667 | -2.756923 | 0.005835 | 0.114918 |
| coa3a | 403.1772116 | -0.055622915 | 0.1209932 | -0.459719 | 0.645718 | 0.96029 |
| BX324007.2 | 0.481032184 | -2.398473301 | 2.80721 | -0.854398 | 0.392885 | NA |
| zgc:113886 | 25.9007865 | -0.452703324 | 0.3869001 | -1.170078 | 0.24197 | 0.810713 |
| rpl36 | 6553.69005 | -0.394015298 | 0.1053372 | -3.740513 | 0.000184 | 0.007935 |
| BX649421.1 | 8.19742226 | -0.001960078 | 0.6730096 | -0.002912 | 0.997676 | NA |
| sox32 | 1.339342975 | 0.752240637 | 1.5961401 | 0.4712874 | 0.637436 | NA |
| slc8a2b | 38.22657874 | 0.436833497 | 0.3177211 | 1.3748962 | 0.169164 | 0.726198 |
| gnrhr1 | 2.540435508 | -0.574976222 | 1.2408157 | -0.463386 | 0.643088 | NA |
| sez6l | 465.8527385 | -0.090906445 | 0.1092474 | -0.832116 | 0.405344 | 0.901305 |
| CR626884.1 | 0 | NA | NA | NA | NA | NA |
| si:ch73-43g23.1 | 327.9222289 | 0.348047968 | 0.1538505 | 2.2622485 | 0.023682 | 0.296761 |
| ubxn4 | 0 | NA | NA | NA | NA | NA |
| CABZ01109081.1 | 59.74129373 | -0.096717788 | 0.2649244 | -0.365077 | 0.715054 | 0.96909 |
| cls | 6.526314167 | -0.097054753 | 0.7716841 | -0.12577 | 0.899914 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| CU019562.1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| olfcw1 | 0.500161739 | 2.450146464 | 2.7711133 | 0.8841741 | 0.376602 | NA |
| FP016142.4 | 0 | NA | NA | NA | NA | NA |
| BX539336.1 | 59.66477439 | 0.162753445 | 0.2688966 | 0.6052641 | 0.545003 | 0.945463 |
| zbtb38 | 40.88544185 | 0.455259282 | 0.3232999 | 1.4081639 | 0.159083 | 0.70993 |
| CR812468.1 | 1.322398629 | 0.712714148 | 1.7579146 | 0.4054316 | 0.68516 | NA |
| si:ch211-163c2.1 | 0 | NA | NA | NA | NA | NA |
| CABZ01089777.1 | 155.3335159 | 0.062954652 | 0.1670947 | 0.3767603 | 0.706352 | 0.968459 |
| CU019663.1 | 0.341366344 | 1.891903201 | 3.2128156 | 0.5888614 | 0.555954 | NA |
| si:ch1073-209h18.1 | 0.838899245 | -0.667458734 | 2.2321093 | -0.299026 | 0.76492 | NA |
| taok2b | 28.19662742 | 0.156687787 | 0.3632706 | 0.4313252 | 0.666232 | 0.964736 |
| CABZ01080550.1 | 1.506866387 | -4.033090985 | 1.8271817 | -2.207274 | 0.027295 | NA |
| trrap | 1433.607127 | -0.104836276 | 0.0844531 | -1.241355 | 0.214475 | 0.782493 |
| CABZ01066312.1 | 589.7693586 | -0.102543934 | 0.1018375 | -1.006937 | 0.313965 | 0.865176 |
| si:ch73-197b13.1 | 397.5613995 | 0.179332531 | 0.1145082 | 1.5661114 | 0.117323 | 0.640853 |
| CR354537.1 | 1.461277579 | 2.871418486 | 1.7984467 | 1.5966102 | 0.110353 | NA |
| klhl12 | 113.3158207 | 0.064971075 | 0.1981834 | 0.3278331 | 0.743038 | 0.973486 |
| BX649328.1 | 1.348572358 | 0.736885736 | 1.7227585 | 0.427736 | 0.668843 | NA |
| zgc:114200 | 743.9820455 | 0.063548117 | 0.1000927 | 0.6348924 | 0.525499 | 0.94013 |
| chia.1 | 165.0393604 | -0.225940821 | 0.1842116 | -1.226529 | 0.22 | 0.786668 |
| rbml2 | 669.5712761 | 0.205022206 | 0.1047117 | 1.9579685 | 0.050234 | 0.438746 |
| tradv26.0 | 0 | NA | NA | NA | NA | NA |
| CR847939.1 | 0.966888458 | -0.025960572 | 2.0723413 | -0.012527 | 0.990005 | NA |
| BX321870.2 | 0 | NA | NA | NA | NA | NA |
| plppr1 | 313.0309975 | 0.062729746 | 0.1240229 | 0.5057917 | 0.613003 | 0.95688 |
| BX005454.1 | 18.8058532 | -0.267424605 | 0.4707737 | -0.568053 | 0.569999 | 0.948983 |
| si:dkey-211i20.4 | 0 | NA | NA | NA | NA | NA |
| t1r1 | 1.132058235 | -1.331653689 | 1.8930709 | -0.703436 | 0.481784 | NA |
| znf1147 | 0.813556947 | -1.876896976 | 2.1385771 | -0.877638 | 0.38014 | NA |
| si:dkeyp-82b4.6 | 0 | NA | NA | NA | NA | NA |
| si:dkey-207m2.4 | 6.629899319 | 0.131772318 | 0.7402395 | 0.1780131 | 0.858713 | NA |
| CR356223.2 | 2.111272779 | 2.416399201 | 1.5363602 | 1.5728078 | 0.115763 | NA |
| egf17 | 127.6561539 | -0.28703174 | 0.1757629 | -1.633062 | 0.102456 | 0.608235 |
| si:ch211-51h4.2 | 9.171452651 | 0.734342549 | 0.6600792 | 1.1125067 | 0.26592 | NA |
| si:ch73-252i11.1 | 48.60385955 | 0.077499719 | 0.2963292 | 0.2615326 | 0.793682 | 0.977937 |
| cxcl11.1 | 1.191117544 | 2.514407445 | 1.9963906 | 1.2594767 | 0.207858 | NA |
| or120-1 | 2.021378131 | 0.541898701 | 1.442669 | 0.3756223 | 0.707198 | NA |

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| ep300a | 588.8404502 | 0.006795612 | 0.0970963 | 0.0699884 | 0.944203 | 0.993364 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-61p9.9 | 12.17002414 | -0.339914544 | 0.5465251 | -0.621956 | 0.533971 | 0.943276 |
| pcdh1g31 | 79.5709876 | -0.111307993 | 0.2444331 | -0.455372 | 0.648842 | 0.960708 |
| CR790382.1 | 0.500161739 | 2.450146464 | 2.7711133 | 0.8841741 | 0.376602 | NA |
| FQ311920.1 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| znf974 | 1.018762289 | -3.464169915 | 2.0654717 | -1.677181 | 0.093507 | NA |
| UBE20 | 430.0328767 | -0.070714206 | 0.1113212 | -0.635227 | 0.52528 | 0.94013 |
| tmem205 | 184.6694603 | -0.052768732 | 0.152473 | -0.346086 | 0.729278 | 0.970822 |
| ifnphi4 | 0.641676315 | -0.015027761 | 2.4538215 | -0.006124 | 0.995114 | NA |
| lrch3 | 22.96433599 | 0.074803321 | 0.4029258 | 0.1856504 | 0.852719 | 0.985174 |
| si:ch211-241b2.4 | 20.14962152 | -0.095143002 | 0.4394251 | -0.216517 | 0.828585 | 0.982721 |
| CU929154.1 | 0 NA | NA | NA | NA | NA | NA |
| CR450749.2 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-256e16.11 | 53.29512644 | -0.096930861 | 0.2979187 | -0.32536 | 0.744909 | 0.974094 |
| prss35 | 2234.811141 | 0.03737215 | 0.0776499 | 0.4812907 | 0.63031 | 0.957354 |
| ddr2a | 278.6431696 | -0.015036509 | 0.1282651 | -0.11723 | 0.906678 | 0.990702 |
| tnnt2b | 37.59839272 | -0.00656902 | 0.322352 | -0.020378 | 0.983742 | 0.996944 |
| CR407585.1 | 0 NA | NA | NA | NA | NA | NA |
| FQ323156.1 | 1758.868306 | 0.003193532 | 0.0895224 | 0.035673 | 0.971543 | 0.996315 |
| evalbb | 134.5215184 | -0.052059513 | 0.1735549 | -0.29996 | 0.764208 | 0.975374 |
| BX950868.1 | 0 NA | NA | NA | NA | NA | NA |
| CABZ01066725.1 | 9.163310862 | 0.835238244 | 0.6435203 | 1.2979205 | 0.194315 | NA |
| si:ch211-285j22.3 | 9.671981089 | -0.295536998 | 0.6161668 | -0.479638 | 0.631485 | NA |
| traj26 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-48g21.7 | 7.673186022 | -0.396875829 | 0.7009845 | -0.566169 | 0.571279 | NA |
| jakmip3 | 246.8911747 | -0.052062678 | 0.1418692 | -0.366977 | 0.713636 | 0.96909 |
| agxt2 | 312.865381 | 0.302096785 | 0.1388934 | 2.1750265 | 0.029628 | 0.333089 |
| CR855206.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:dkey-19b23.12 | 546.8272457 | -0.322294249 | 0.1053849 | -3.058259 | 0.002226 | 0.057621 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| tlklb | 1155.814119 | -0.07826267 | 0.0856806 | -0.913424 | 0.36102 | 0.885686 |
| si:dkey-285b23.4 | 3.703502848 | -0.766757156 | 1.0069201 | -0.761488 | 0.446366 | NA |
| socs5a | 223.7552312 | 0.218671362 | 0.1455033 | 1.5028622 | 0.132875 | 0.667546 |
| me2 | 745.4595165 | 0.29236192 | 0.107831 | 2.7112976 | 0.006702 | 0.126215 |
| uraha | 94.15622529 | -0.56034071 | 0.2057555 | -2.723333 | 0.006463 | 0.122855 |
| si:ch211-175l6.2 | 1.028745031 | 0.127773841 | 2.0351529 | 0.0627834 | 0.949939 | NA |
| si:ch211-160f23.7 | 442.634843 | 0.12986139 | 0.1177282 | 1.1030606 | 0.270001 | 0.834705 |
| znf1097 | 5.424800581 | 0.434930788 | 0.8075269 | 0.5385961 | 0.590166 | NA |
| ephb4a | 693.4733636 | 0.037330538 | 0.0965789 | 0.386529 | 0.699105 | 0.967998 |
| mkrn2os.2 | 37.78681213 | -0.173618617 | 0.3199979 | -0.542562 | 0.587432 | 0.953319 |
| tln1 | 1908.273875 | 0.07539457 | 0.0855351 | 0.8814458 | 0.378077 | 0.895192 |
| zgc:101540 | 127.4017434 | -0.288866874 | 0.1816733 | -1.590035 | 0.111827 | 0.627242 |
| si:dkeyp-93h6.1 | 2.235143064 | 0.230725426 | 1.3313809 | 0.1732978 | 0.862417 | NA |
| epob | 9.235655075 | 0.640890358 | 0.6300552 | 1.0171971 | 0.30906 | NA |
| osmr | 1.644089234 | 3.056281618 | 1.7682725 | 1.7283997 | 0.083917 | NA |
| CABZ01052573.1 | 229.0777071 | -0.134817027 | 0.1567297 | -0.860188 | 0.389685 | 0.896421 |
| CU179702.2 | 2.659436043 | -0.335456283 | 1.1470138 | -0.292461 | 0.769935 | NA |
| cdc20 | 469.9429745 | -0.036549549 | 0.1169023 | -0.31265 | 0.754546 | 0.975114 |
| reep5 | 1849.640514 | -0.065080743 | 0.0868585 | -0.749273 | 0.453692 | 0.920041 |
| si:dkey-190j3.4 | 14.93399311 | -0.034993869 | 0.5194323 | -0.067369 | 0.946288 | 0.99381 |
| RF00415 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-103a14.5 | 45.76343282 | 0.698684317 | 0.2970883 | 2.3517732 | 0.018684 | 0.2548 |
| rab21 | 804.0354767 | -0.2369663 | 0.1075041 | -2.204253 | 0.027507 | 0.320429 |

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| CR450764.1 | | 0 NA | NA | NA | NA | NA |
| CU074330.1 | 28.44520639 | 0.16742036 | 0.4060196 | 0.4123455 | 0.680086 | 0.965331 |
| RF00003 | | 0 NA | NA | NA | NA | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| BX293993.1 | | 0 NA | NA | NA | NA | NA |
| zfyve9b | 39.92133004 | 0.118092752 | 0.3250952 | 0.3632559 | 0.716414 | 0.96909 |
| traj37 | | 0 NA | NA | NA | NA | NA |
| ube2ql | 712.2245731 | -0.06033157 | 0.110319 | -0.546883 | 0.584459 | 0.952406 |
| BX248131.1 | | 0 NA | NA | NA | NA | NA |
| si:ch211-160d14.15 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:ch211-154c21.1 | 14.68557843 | 0.210739702 | 0.4928123 | 0.4276267 | 0.668923 | 0.964961 |
| zmynd19 | 468.1233801 | 0.249328532 | 0.1157541 | 2.1539492 | 0.031244 | 0.342094 |
| cmc4 | 23.94795621 | -0.449495864 | 0.3951171 | -1.137627 | 0.255276 | 0.823868 |
| si:ch211-238e22.7 | 1.680829672 | 1.242412219 | 1.4825682 | 0.8380135 | 0.402023 | NA |
| slcole1 | 11.15217734 | 0.921467692 | 0.5974786 | 1.5422606 | 0.12301 | 0.65095 |
| col28a2b | 224.6891812 | 0.47497441 | 0.1438548 | 3.3017617 | 0.000961 | 0.029926 |
| f71 | 90.55393717 | 0.363193311 | 0.2150628 | 1.6887776 | 0.091262 | 0.578443 |
| PLCB4 | 6.531976599 | 0.893196276 | 0.7889672 | 1.1321082 | 0.257589 | NA |
| CR855274.1 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| trip10b | 110.6973868 | -0.044537869 | 0.2014396 | -0.221098 | 0.825016 | 0.982196 |
| plgrkt | 462.7983712 | -0.29164148 | 0.1101309 | -2.648135 | 0.008094 | 0.1451 |
| tril | 71.26534662 | 0.096742872 | 0.2359639 | 0.4099902 | 0.681813 | 0.965476 |
| zgc:154142 | 30.87997779 | 0.053933847 | 0.3463011 | 0.1557426 | 0.876236 | 0.987881 |
| CR450785.1 | 18.85843333 | 0.084238221 | 0.436109 | 0.1931586 | 0.846835 | 0.985174 |
| mmp13b | 5.18175701 | 1.588831081 | 0.9774405 | 1.6255016 | 0.104056 | NA |
| timp4.3 | 10.10092007 | -0.709311138 | 0.6350411 | -1.116953 | 0.264014 | NA |
| CABZ01076996.1 | 53.96473592 | -0.029991543 | 0.2805981 | -0.106884 | 0.914881 | 0.991119 |
| CR381540.1 | 2.646497902 | -0.005451569 | 1.1656753 | -0.004677 | 0.996269 | NA |
| si:ch211-106g8.20 | | 0 NA | NA | NA | NA | NA |
| zgc:173517 | 17.49918323 | -1.124594608 | 0.4688383 | -2.398683 | 0.016454 | 0.236409 |
| st6galnac4 | 2.533714609 | 0.630839066 | 1.2641073 | 0.4990392 | 0.617752 | NA |
| si:ch1073-209e23.1 | 89.7392689 | -0.135748047 | 0.227282 | -0.597267 | 0.550329 | 0.946549 |
| si:ch211-213c4.5 | | 0 NA | NA | NA | NA | NA |
| znf1183 | 21.32012133 | 0.039126798 | 0.4267206 | 0.0916918 | 0.926943 | 0.992702 |
| g6fl | 3.35183824 | 0.29056966 | 1.0520932 | 0.2761824 | 0.782408 | NA |
| BX927130.2 | | 0 NA | NA | NA | NA | NA |
| nudt12 | 191.9549302 | -0.134412157 | 0.1520326 | -0.884101 | 0.376642 | 0.895051 |
| srsf3a | 2.622533967 | 0.334388798 | 1.1757394 | 0.2844072 | 0.776098 | NA |
| CT990625.1 | 2.344982245 | 0.055434299 | 1.2917961 | 0.0429126 | 0.965771 | NA |
| si:ch73-97h19.2 | 48.26338246 | 0.223504716 | 0.2808121 | 0.7959228 | 0.426077 | 0.909755 |
| BX548164.1 | 1.187499141 | 0.431586902 | 1.7362295 | 0.2485771 | 0.803688 | NA |
| RF00003 | | 0 NA | NA | NA | NA | NA |
| scrtla | 327.6801824 | -0.028454098 | 0.1301537 | -0.218619 | 0.826947 | 0.982518 |
| mapk15 | 7.999461254 | 0.365740822 | 0.6696199 | 0.5461917 | 0.584934 | NA |
| selenok | 880.2364875 | -0.031842236 | 0.0932585 | -0.34144 | 0.732772 | 0.971719 |
| calm3a | 2577.827277 | 0.116673114 | 0.0692867 | 1.6839189 | 0.092197 | 0.57849 |
| hif1al | 5500.10604 | 0.035456092 | 0.0679357 | 0.5219068 | 0.601735 | 0.956045 |
| CU929150.2 | 2.455048585 | 1.034123345 | 1.2639487 | 0.8181688 | 0.413261 | NA |
| pcdhlg32 | 23.57203339 | -0.309440635 | 0.3975133 | -0.778441 | 0.436309 | 0.914408 |
| RF00001 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:dkey-269i1.4 | 1.143686789 | 2.463114996 | 1.9467244 | 1.2652613 | 0.205778 | NA |
| FP016208.1 | 0.317831496 | 1.808837541 | 3.5779923 | 0.5055454 | 0.613176 | NA |
| RGS13 (1 of many) | 1.922390063 | -0.012641986 | 1.4123258 | -0.008951 | 0.992858 | NA |
| CR790380.1 | 77.178954 | 0.144013135 | 0.2294213 | 0.6277236 | 0.530185 | 0.942209 |

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| BX649384.3 | 1.934017622 | -0.025627301 | 1.4611735 | -0.017539 | 0.986007 | NA |
| RF00003 | 0 NA | | NA | NA | NA | NA |
| si:ch211-223a21.4 | 9.626831812 | -0.241742217 | 0.6434391 | -0.375703 | 0.707137 | NA |
| cldn151b | 232.880962 | -0.692801366 | 0.1399092 | -4.951793 | 7.35E-07 | 7.73E-05 |
| esrrb | 93.21269207 | -0.328009353 | 0.2142931 | -1.530658 | 0.125854 | 0.654803 |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| rnf103 | 604.5257214 | -0.054235628 | 0.110351 | -0.491483 | 0.623085 | 0.957354 |
| gphnb | 748.5224677 | 0.006247808 | 0.1127694 | 0.0554034 | 0.955817 | 0.994543 |
| ago4 | 967.916136 | 0.100934804 | 0.1081697 | 0.9331152 | 0.35076 | 0.880195 |
| BX640584.1 | 0 NA | | NA | NA | NA | NA |
| FP101914.1 | 419.1926138 | -0.083010884 | 0.1149873 | -0.721914 | 0.470348 | 0.924838 |
| zgc:171695 | 0 NA | | NA | NA | NA | NA |
| BX465868.2 | 0 NA | | NA | NA | NA | NA |
| gprc5c | 64.18570479 | 0.143106813 | 0.2796729 | 0.5116936 | 0.608865 | 0.956718 |
| BX004873.1 | 0.356300316 | 0.005884122 | 3.214964 | 0.0018302 | 0.99854 | NA |
| si:dkey-269o24.1 | 2.279318887 | -0.448209836 | 1.2764297 | -0.351143 | 0.725481 | NA |
| rictora | 200.1724112 | -0.042574735 | 0.1529799 | -0.278303 | 0.78078 | 0.97627 |
| adc9 | 91.89979605 | 0.051026197 | 0.2097813 | 0.2432352 | 0.807823 | 0.980642 |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| otud1 | 46.66940173 | 0.146613081 | 0.2879085 | 0.509235 | 0.610588 | 0.95688 |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| GAN | 31.69396989 | 0.00648878 | 0.3441644 | 0.0188537 | 0.984958 | 0.996944 |
| sez6a | 188.0664925 | 0.115421085 | 0.1510082 | 0.7643367 | 0.444667 | 0.916777 |
| dre-mir-19d | 0 NA | | NA | NA | NA | NA |
| znf1154 | 32.79470973 | 0.076165218 | 0.3447722 | 0.2209146 | 0.825159 | 0.982196 |
| CU896630.1 | 38.60233556 | -0.068869111 | 0.3156438 | -0.218186 | 0.827284 | 0.982682 |
| si:ch211-285j22.5 | 0 NA | | NA | NA | NA | NA |
| si:dkeyp-97a10.1 | 9.063080045 | -0.218060678 | 0.6824405 | -0.319531 | 0.749324 | NA |
| si:dkey-11f4.20 | 4.031987873 | 1.079149535 | 1.1518444 | 0.9368883 | 0.348816 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| galnt18a | 68.2911904 | 0.156746233 | 0.2358801 | 0.6645167 | 0.50636 | 0.935724 |
| si:zfos-1069f5.1 | 0.476626891 | 2.395187592 | 2.815932 | 0.8505843 | 0.395 | NA |
| CR589944.2 | 0.809151653 | 1.852283317 | 2.2398915 | 0.8269523 | 0.408264 | NA |
| cfap53 | 26.08291809 | 0.321078549 | 0.3823251 | 0.839805 | 0.401018 | 0.90084 |
| znf973 | 14.48297192 | 0.329102781 | 0.5167472 | 0.6368739 | 0.524207 | 0.939336 |
| pdgfrb | 573.2737846 | -0.000555907 | 0.110652 | -0.005024 | 0.995992 | 0.998888 |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| si:ch211-241b2.5 | 12.41698906 | 0.191988259 | 0.5387261 | 0.3563745 | 0.72156 | 0.969747 |
| si:ch211-183d5.2 | 1.156023166 | 1.375970216 | 1.8668212 | 0.7370659 | 0.461082 | NA |
| FP085399.1 | 0.316103113 | 0.005883447 | 3.3519121 | 0.0017553 | 0.9986 | NA |
| histlh2a11 | 1.129151905 | -0.35374975 | 1.9619968 | -0.180301 | 0.856916 | NA |
| lcor | 15.28075797 | -0.182298015 | 0.4837199 | -0.376867 | 0.706273 | 0.968459 |
| zgc:173581 | 12.34901872 | 0.15646468 | 0.5868072 | 0.2666373 | 0.789748 | 0.977238 |
| si:ch211-195p4.4 | 0.473290478 | -0.833892061 | 2.901156 | -0.287434 | 0.77378 | NA |
| BX294383.1 | 0.538871265 | 0.999144257 | 2.7784799 | 0.359601 | 0.719146 | NA |
| zgc:162297 | 13.06072819 | -0.823616398 | 0.5705081 | -1.443654 | 0.148836 | 0.69636 |
| arhgef12b | 827.7810385 | -0.007116986 | 0.0927402 | -0.076741 | 0.938829 | 0.992857 |
| si:ch211-255f4.7 | 217.2495634 | -0.287345991 | 0.1414396 | -2.03158 | 0.042196 | 0.403671 |
| uvssa | 181.3868126 | -0.150918853 | 0.1511089 | -0.998742 | 0.31792 | 0.867746 |
| slc30a8 | 232.6708335 | 0.325162205 | 0.1425723 | 2.2806832 | 0.022567 | 0.286638 |
| prcla | 400.3699808 | -0.122566273 | 0.115299 | -1.06303 | 0.287768 | 0.845979 |
| slc5a2 | 59.39313144 | 0.330549514 | 0.2580062 | 1.2811687 | 0.200134 | 0.766207 |
| AL831768.1 | 0 NA | | NA | NA | NA | NA |
| CU104709.1 | 0 NA | | NA | NA | NA | NA |

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| nfatc2a | 8.010868441 | -0.852626941 | 0.7234991 | -1.178477 | 0.238607 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| BX088583.1 | 0 | NA | NA | NA | NA | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| CR790368.1 | 1.488196914 | -1.045346379 | 1.5889719 | -0.657876 | 0.510618 | NA |
| hint2 | 199.4475569 | -0.04390785 | 0.1631518 | -0.269123 | 0.787835 | 0.976596 |
| CABZ01117603.1 | 0.657349104 | 1.487939685 | 2.418178 | 0.6153144 | 0.538347 | NA |
| nr5a2 | 111.367589 | -0.311206901 | 0.1902922 | -1.635416 | 0.101962 | 0.606922 |
| clcal | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |
| zgc:194655 | 0.837961008 | -3.186152199 | 2.1620582 | -1.473666 | 0.140571 | NA |
| RF00001 | 4.162638213 | -0.11198752 | 0.9757587 | -0.11477 | 0.908628 | NA |
| glrx2 | 200.6276183 | -0.140563221 | 0.1516857 | -0.926674 | 0.354096 | 0.882044 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| si:ch211-212k18.9 | 98.25837929 | 0.123468635 | 0.1985931 | 0.6217165 | 0.534128 | 0.943276 |
| mafk | 10.82740915 | 0.615486208 | 0.5946735 | 1.0349986 | 0.30067 | NA |
| si:ch73-47f2.1 | 1.17940642 | -1.3941422 | 1.9835011 | -0.702869 | 0.482137 | NA |
| vap | 0 | NA | NA | NA | NA | NA |
| CU468012.4 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| tradv22.0 | 0 | NA | NA | NA | NA | NA |
| wu:fj16a03 | 585.4352291 | 0.062147988 | 0.1428331 | 0.4351091 | 0.663483 | 0.964736 |
| si:dkeyp-93a5.2 | 0.471562095 | -2.373056629 | 3.0645586 | -0.774355 | 0.438721 | NA |
| wars | 184.7657002 | -0.002181525 | 0.1747397 | -0.012484 | 0.990039 | 0.997679 |
| stk24a | 42.25884034 | -0.802296918 | 0.3166673 | -2.533564 | 0.011291 | 0.184823 |
| si:ch211-276i12.4 | 198.2656219 | 0.278486691 | 0.1653485 | 1.684241 | 0.092135 | 0.57849 |
| si:ch211-188f17.1 | 90.78790155 | 0.023421535 | 0.217778 | 0.1075478 | 0.914354 | 0.991119 |
| si:dkey-3p4.7 | 0.347458735 | -1.908042286 | 3.4571486 | -0.551912 | 0.581009 | NA |
| si:ch211-155m12.5 | 7.403273451 | 0.028860364 | 0.7435764 | 0.0388129 | 0.96904 | NA |
| zgc:174653 | 2.768244125 | 1.226401688 | 1.2028557 | 1.0195751 | 0.30793 | NA |
| ttc39b | 108.2446032 | 0.004401305 | 0.1985626 | 0.0221658 | 0.982316 | 0.996944 |
| CU468826.2 | 0 | NA | NA | NA | NA | NA |
| si:ch211-57b15.2 | 0 | NA | NA | NA | NA | NA |
| ep400 | 1310.349102 | 0.013051598 | 0.2051127 | 0.0636313 | 0.949264 | 0.99381 |
| BX569788.1 | 7.345720509 | 0.967186097 | 0.7162866 | 1.350278 | 0.176927 | NA |
| si:ch211-1a19.3 | 122.4590754 | -0.223705081 | 0.1941123 | -1.152452 | 0.249135 | 0.818463 |
| tmprss13a | 67.39009411 | -0.129350234 | 0.2427885 | -0.532769 | 0.594193 | 0.954434 |
| pimr197 | 0.531799352 | 0.999478841 | 2.790358 | 0.3581902 | 0.720201 | NA |
| fxyd6 | 230.6378279 | 0.092653319 | 0.1536957 | 0.602836 | 0.546618 | 0.945526 |
| myh11b | 31.34259856 | 0.041018772 | 0.3482603 | 0.1177819 | 0.90624 | 0.990702 |
| arhgap24 | 123.3298309 | 0.026015044 | 0.1811201 | 0.1436342 | 0.885789 | 0.988936 |
| CCDC39 | 227.9960882 | 0.35596053 | 0.1486957 | 2.3938861 | 0.016671 | 0.2379 |
| dre-mir-93 | 0 | NA | NA | NA | NA | NA |
| zbtb7c | 3.27980159 | 0.509587859 | 1.1117609 | 0.458361 | 0.646693 | NA |
| INHBC | 18.30429015 | 0.868580385 | 0.4622928 | 1.8788535 | 0.060265 | 0.47916 |
| CR388413.2 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0.635662991 | 2.808056561 | 2.7492814 | 1.0213784 | 0.307075 | NA |
| nme3 | 370.7673857 | -0.130789772 | 0.1216538 | -1.075098 | 0.282331 | 0.843666 |
| chrna3 | 117.4170407 | -0.114032284 | 0.1860328 | -0.612969 | 0.539897 | 0.944206 |
| dre-mir-725 | 1.355136117 | 1.617314819 | 1.7203144 | 0.9401275 | 0.347152 | NA |
| si:dkey-16b10.1 | 3.043088036 | -0.960301471 | 1.1631965 | -0.825571 | 0.409047 | NA |
| BX901898.2 | 0.476747244 | 2.393381959 | 3.0525537 | 0.7840589 | 0.433006 | NA |
| traj11 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| soul4 | 390.2039273 | -0.262373911 | 0.118062 | -2.222339 | 0.02626 | 0.312439 |

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| cited4b | 894.4586835 | -0.205005717 | 0.0875798 | -2.340789 | 0.019243 | 0.25973 |
| hpd1 | 59.20190159 | 0.350673367 | 0.2685497 | 1.3058044 | 0.191619 | 0.755886 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| slcolf4 | 1.473235202 | -2.880156828 | 1.9014466 | -1.514719 | 0.129844 | NA |
| CT583642.1 | 6.452884867 | -0.527399154 | 0.7356705 | -0.716896 | 0.473438 | NA |
| ptdss2 | 705.3793392 | 0.007069474 | 0.0968689 | 0.0729798 | 0.941822 | 0.993099 |
| ext1b | 23.25880606 | 0.340477005 | 0.3980066 | 0.8554557 | 0.392299 | 0.897688 |
| slc22a5 | 35.41296992 | -0.21943314 | 0.349486 | -0.627874 | 0.530087 | 0.942209 |
| msx2b | 122.9178388 | 0.433553849 | 0.1895 | 2.287883 | 0.022144 | 0.283074 |
| nufip1 | 96.03909144 | -0.155742776 | 0.1987226 | -0.783719 | 0.433205 | 0.913654 |
| fnbplb | 33.96446273 | 0.090984382 | 0.3367736 | 0.2701648 | 0.787033 | 0.976596 |
| si:ch73-347e22.4 | 194.3336647 | -0.100030848 | 0.1573336 | -0.635788 | 0.524914 | 0.939846 |
| si:ch73-158p21.3 | 10.99822878 | 0.273765978 | 0.56968 | 0.4805609 | 0.630829 | NA |
| iqcbl | 98.97276872 | 0.266640359 | 0.2095791 | 1.2722658 | 0.203279 | 0.77034 |
| tradv4.0.3 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-206d17.12 | 30.29316928 | -0.16423339 | 0.3571805 | -0.459805 | 0.645656 | 0.96029 |
| CU655870.1 | 0.330916733 | -1.849579229 | 3.2489867 | -0.569279 | 0.569167 | NA |
| traf2b | 53.91637874 | -0.026897527 | 0.2719465 | -0.098907 | 0.921212 | 0.992138 |
| asflba | 274.0437927 | -0.05675321 | 0.1271097 | -0.44649 | 0.655243 | 0.961614 |
| zdhhc15a | 19.55106318 | -0.048786864 | 0.4636938 | -0.105214 | 0.916206 | 0.991314 |
| ccl20a.3 | 15.37936886 | -0.698215304 | 0.5349564 | -1.305182 | 0.191831 | 0.75597 |
| ccl39.1 | 0 NA | NA | NA | NA | NA | NA |
| ppl | 2400.296811 | -0.309062543 | 0.0774534 | -3.990302 | 6.60E-05 | 0.003443 |
| si:ch73-138e16.6 | 233.818119 | -0.101050396 | 0.1417736 | -0.712759 | 0.475995 | 0.926338 |
| si:dkeyp-107f9.1 | 0.830889095 | -3.176772812 | 2.1868507 | -1.45267 | 0.146315 | NA |
| rtcb | 484.9842598 | -0.082703522 | 0.1095065 | -0.755239 | 0.450106 | 0.918761 |
| FQ790208.1 | 32.97222769 | 0.630117882 | 0.336788 | 1.8709631 | 0.06135 | 0.482931 |
| CABZ01075274.1 | 17.01082108 | -0.674483555 | 0.5247409 | -1.285365 | 0.198665 | 0.763777 |
| tmc8 | 31.16593264 | -0.016273057 | 0.3517926 | -0.046258 | 0.963105 | 0.995927 |
| ctsbb | 33.76902075 | -4.128556977 | 0.5436084 | -7.594726 | 3.08E-14 | 1.42E-11 |
| RF02041 | 0.323844819 | -1.825095364 | 3.274639 | -0.557342 | 0.577293 | NA |
| syn2b | 905.2436371 | 0.03622704 | 0.1281099 | 0.2827809 | 0.777345 | 0.975826 |
| trim35-25 | 1.658042689 | -2.037176549 | 1.7532519 | -1.161942 | 0.245259 | NA |
| BX890539.1 | 18.56128334 | -0.444707073 | 0.4805428 | -0.925426 | 0.354744 | 0.882105 |
| srsf7b | 248.0836362 | -0.182701101 | 0.1527078 | -1.19641 | 0.231537 | 0.799752 |
| traj3 | 0 NA | NA | NA | NA | NA | NA |
| dhx36 | 536.3604806 | -0.024584357 | 0.1039588 | -0.236482 | 0.813059 | 0.981081 |
| gcna | 83.67590469 | -0.325701377 | 0.2213796 | -1.471235 | 0.141228 | 0.681968 |
| eif2a | 607.8517545 | -0.077435468 | 0.1001174 | -0.773446 | 0.439258 | 0.916082 |
| fdft1 | 198.5874451 | 0.056460306 | 0.1622777 | 0.3479241 | 0.727897 | 0.970402 |
| CABZ01058650.1 | 328.4416594 | -0.197560431 | 0.1387216 | -1.424151 | 0.154403 | 0.70398 |
| BX511223.1 | 1.797297137 | 0.789432102 | 1.4750128 | 0.5352036 | 0.592509 | NA |
| CR812471.1 | 0 NA | NA | NA | NA | NA | NA |
| shoc1 | 1.000684536 | 3.450436576 | 2.0457121 | 1.6866678 | 0.091667 | NA |
| CU651669.1 | 24.42523225 | -0.056435023 | 0.4200741 | -0.134345 | 0.893129 | 0.989291 |
| si:dkeyp-80d11.14 | 7.118186384 | -0.888662708 | 0.7380837 | -1.204013 | 0.228584 | NA |
| cnot6b | 170.3062581 | 0.118539021 | 0.162839 | 0.7279521 | 0.466643 | 0.924218 |
| si:zfos-1011f11.2 | 37.81750236 | 0.035238188 | 0.3286285 | 0.107228 | 0.914608 | 0.991119 |
| glud1b | 9841.557643 | -0.207082488 | 0.0761855 | -2.718136 | 0.006565 | 0.124228 |
| irx3a | 1266.177276 | -0.044144789 | 0.0859787 | -0.513439 | 0.607644 | 0.956718 |
| sctr | 7.829359338 | -0.185166325 | 0.6859811 | -0.269929 | 0.787215 | NA |
| HECTD4 | 126.2896304 | 0.081876592 | 0.185366 | 0.4417024 | 0.658705 | 0.96255 |
| pwpp2b | 716.9707793 | -0.071954524 | 0.0925893 | -0.777137 | 0.437078 | 0.914408 |
| ptprub | 330.9530333 | 0.277901785 | 0.1210558 | 2.2956509 | 0.021696 | 0.278761 |

| | | | | | | |
|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| EIF3S6IP | 3199.448091 | -0.129496438 | 0.0776822 | -1.667002 | 0.095514 | 0.588012 |
| OLFCG2 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| SS1812 | 134.9866696 | 0.155568465 | 0.2026182 | 0.7677912 | 0.442611 | 0.916336 |
| SI:DKEYP-80D11.1 | 1.530635153 | 1.862695235 | 1.6702162 | 1.115242 | 0.264747 | NA |
| SI:CH73-359M17.5 | 2.154077869 | -1.175092161 | 1.3631788 | -0.862023 | 0.388675 | NA |
| GART | 414.386537 | -0.259985424 | 0.1245002 | -2.088233 | 0.036777 | 0.374858 |
| PAPPAA | 15.13380452 | -0.638814831 | 0.5507132 | -1.159977 | 0.246058 | 0.816231 |
| RF00001 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| ZGC:162971 | 20.87475611 | -0.490671033 | 0.4246465 | -1.155481 | 0.247893 | 0.81711 |
| ATP11B | 607.0803948 | 0.00866829 | 0.1163965 | 0.0744721 | 0.940635 | 0.992857 |
| CPNE4A | 575.9985553 | 0.005216082 | 0.0992835 | 0.0525373 | 0.958101 | 0.99467 |
| CEBPL | 5.588441643 | -0.657239963 | 0.8454698 | -0.777367 | 0.436943 | NA |
| RF00017 | | 0 NA | NA | NA | NA | NA |
| TPRN | 73.11300575 | -0.106202171 | 0.2290145 | -0.463736 | 0.642837 | 0.959994 |
| FP102192.1 | 1.018133782 | -2.22061609 | 2.0917676 | -1.061598 | 0.288418 | NA |
| SI:CH73-109D9.3 | 169.5174471 | 0.002785225 | 0.156679 | 0.0177766 | 0.985817 | 0.996944 |
| CLDN15B | 120.1385998 | 0.149556623 | 0.197593 | 0.7568925 | 0.449114 | 0.91823 |
| SI:CH211-152C8.4 | 51.52113308 | -0.181693409 | 0.2885658 | -0.629643 | 0.528928 | 0.942109 |
| F0704777.1 | 21.79231293 | 0.103594046 | 0.4310419 | 0.2403341 | 0.810071 | 0.980789 |
| MED30 | 195.0095546 | -0.262884693 | 0.1556307 | -1.689157 | 0.091189 | 0.578312 |
| VPS33A | 533.4755006 | -0.005533402 | 0.1076059 | -0.051423 | 0.958989 | 0.995095 |
| CABZ01066813.1 | 163.9801468 | 0.113814569 | 0.1769565 | 0.6431781 | 0.520109 | 0.939056 |
| KIF3B | 359.6975461 | 0.055001347 | 0.1185411 | 0.4639854 | 0.642658 | 0.959994 |
| SI:DKEY-161111.62 | | 0 NA | NA | NA | NA | NA |
| BX649345.2 | | 0 NA | NA | NA | NA | NA |
| CR854945.1 | 90.15617186 | 0.003795528 | 0.2081594 | 0.0182338 | 0.985452 | 0.996944 |
| ATAD5B | 83.43702217 | -0.027944057 | 0.2126109 | -0.131433 | 0.895433 | 0.989814 |
| MAP11C3B | 2253.006418 | -0.079969057 | 0.0749916 | -1.066373 | 0.286255 | 0.845942 |
| SI:DKEY-211F22.5 | 248.5366063 | 0.037450323 | 0.1432077 | 0.2615106 | 0.793699 | 0.977937 |
| SI:DKEYP-104B3.18 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |
| COQ8B | 328.9573847 | 0.142805354 | 0.1248968 | 1.1433868 | 0.252878 | 0.822436 |
| PBX1B | 17.4226488 | -0.072256947 | 0.4637935 | -0.155796 | 0.876194 | 0.987881 |
| BX510960.1 | 10.34889702 | -0.598583326 | 0.6331996 | -0.945331 | 0.34449 | NA |
| CABZ01064859.2 | 51.75211133 | -0.005014348 | 0.2763801 | -0.018143 | 0.985525 | 0.996944 |
| SI:DKEY-85K7.7 | 2708.642239 | -0.258028506 | 0.1149641 | -2.244427 | 0.024805 | 0.303335 |
| BX927317.1 | | 0 NA | NA | NA | NA | NA |
| ZNF999 | 23.55836167 | 0.001114398 | 0.3928919 | 0.0028364 | 0.997737 | 0.999174 |
| BX323596.1 | | 0 NA | NA | NA | NA | NA |
| AGPAT2 | 590.5544218 | 0.09808833 | 0.0973723 | 1.0073536 | 0.313765 | 0.865132 |
| ZGC:114173 | 72.59094906 | -0.167365261 | 0.2546533 | -0.657228 | 0.511034 | 0.936253 |
| ZDHHC13 | 716.321576 | -0.027782428 | 0.0955226 | -0.290847 | 0.771169 | 0.975687 |
| LIPEB | 55.66481605 | 0.126773227 | 0.2667061 | 0.4753293 | 0.634552 | 0.9578 |
| CR293511.1 | 25.92512207 | 0.135251407 | 0.4045158 | 0.3343539 | 0.738113 | 0.972535 |
| RAB19 | 26.61774897 | -0.707941996 | 0.3879189 | -1.824974 | 0.068005 | 0.51014 |
| SI:DKEYP-110C7.8 | | 0 NA | NA | NA | NA | NA |
| SLCOLF2 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| SI:CH73-338A16.3 | 13.18323998 | -0.479414828 | 0.5268721 | -0.909926 | 0.362861 | 0.885944 |
| APOA4A | 280.7663968 | 0.322419555 | 0.1749812 | 1.8425952 | 0.065388 | 0.500198 |
| ORC4 | 281.6815341 | -0.153337313 | 0.1374961 | -1.115212 | 0.26476 | 0.830616 |
| BX001023.2 | 11.30811674 | 0.41703016 | 0.5887382 | 0.7083457 | 0.478731 | 0.926978 |
| NANSB | 123.5816504 | 0.425275125 | 0.1803698 | 2.3577961 | 0.018384 | 0.25227 |
| SI:DKEY-157E10.8 | 0.332524763 | 0.005883742 | 3.292841 | 0.0017868 | 0.998574 | NA |
| BX005396.3 | | 0 NA | NA | NA | NA | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |

| | | | | | | |
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| grap2b | 27.41074677 | -0.344395625 | 0.4361378 | -0.789649 | 0.429733 | 0.911615 |
| rab42b | 29.46014041 | 0.21076753 | 0.3629327 | 0.5807344 | 0.561419 | 0.948728 |
| FO704786.1 | 114.4424552 | 0.105503318 | 0.194663 | 0.5419794 | 0.587833 | 0.953319 |
| TMEM200C | 22.33445631 | 0.144055414 | 0.4319676 | 0.3334866 | 0.738767 | 0.972722 |
| RF00001 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX649556.1 | 0.341486697 | 1.892317624 | 3.2124068 | 0.5890654 | 0.555817 | NA |
| mcu | 35.41806174 | 0.157053584 | 0.3229753 | 0.4862712 | 0.626775 | 0.957354 |
| ugt1b7 | 32.63426525 | 0.047195405 | 0.3436233 | 0.1373463 | 0.890757 | 0.989291 |
| sh3rf2 | 113.4096887 | -0.136306872 | 0.1890022 | -0.721192 | 0.470791 | 0.924838 |
| mcm7 | 943.1669546 | -0.250083915 | 0.0937777 | -2.666775 | 0.007658 | 0.139512 |
| s100w | 155.2394643 | 0.097887333 | 0.1625243 | 0.6022934 | 0.546979 | 0.945526 |
| CR855860.2 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX510922.1 | 25.89091093 | -0.166568162 | 0.3732618 | -0.44625 | 0.655417 | 0.961632 |
| CABZ01095001.1 | 48.89442125 | 0.115446718 | 0.292826 | 0.3942502 | 0.693396 | 0.96736 |
| CABZ01087566.1 | 20.84967615 | 0.271728788 | 0.4623087 | 0.5877648 | 0.55669 | 0.94812 |
| CABZ01048053.1 | 36.65247721 | -0.109661437 | 0.3208653 | -0.341768 | 0.732526 | 0.971719 |
| CR589947.2 | 9.088785067 | -0.920907836 | 0.6457665 | -1.426069 | 0.153848 | NA |
| cyp2k8 | 75.13946709 | 0.267936122 | 0.2237223 | 1.1976284 | 0.231062 | 0.79927 |
| si:ch211-255f4.13 | 5.924382728 | 0.275353184 | 0.8154067 | 0.3376882 | 0.735598 | NA |
| BX855614.3 | 24.92014112 | -0.046185632 | 0.3894012 | -0.118607 | 0.905587 | 0.990702 |
| si:dkey-238d18.15 | | 0 NA | NA | NA | NA | NA |
| BX927181.3 | 1.641539711 | -1.960494552 | 1.6347132 | -1.19929 | 0.230415 | NA |
| rbp4 | 12316.72024 | 0.462897719 | 0.0773868 | 5.9816089 | 2.21E-09 | 4.12E-07 |
| zgc:112964 | 555.0321121 | -0.278895415 | 0.1099498 | -2.53657 | 0.011194 | 0.183548 |
| si:dkey-207b20.2 | 4.10201415 | 0.600689696 | 0.9750146 | 0.6160828 | 0.53784 | NA |
| CU302413.1 | 0.31598276 | 0.005883445 | 3.3523626 | 0.001755 | 0.9986 | NA |
| znf513b | 27.27920475 | 0.0283368 | 0.3838044 | 0.0738314 | 0.941145 | 0.992857 |
| mbd1a | 356.3174574 | -0.005760995 | 0.118015 | -0.048816 | 0.961066 | 0.995659 |
| zgc:113363 | 40.68142518 | 0.009660974 | 0.3197085 | 0.0302181 | 0.975893 | 0.996762 |
| lambla | 2615.12481 | 0.031298967 | 0.0709903 | 0.4408907 | 0.659292 | 0.962839 |
| glglb | 102.6140257 | 0.164483077 | 0.1934617 | 0.85021 | 0.395208 | 0.899244 |
| BX537130.1 | 1.300203366 | -0.766968169 | 1.8665374 | -0.410904 | 0.681143 | NA |
| CU681841.1 | 319.0878575 | -0.200159307 | 0.1387898 | -1.442176 | 0.149253 | 0.696454 |
| CU278559.1 | 3.143014494 | 0.159721013 | 1.0405673 | 0.1534942 | 0.878009 | NA |
| pkd112b | 11.63018879 | -0.069026481 | 0.5959521 | -0.115826 | 0.907791 | 0.990702 |
| sgiplb | 373.2213097 | -0.134123932 | 0.1240114 | -1.081545 | 0.279455 | 0.842882 |
| meaf6 | 723.9166919 | 0.030948777 | 0.0934355 | 0.3312315 | 0.74047 | 0.973154 |
| fam78aa | 11.35280413 | 0.552413982 | 0.5655492 | 0.9767743 | 0.328681 | 0.872945 |
| si:ch73-345f18.3 | 26.90923874 | -0.565317602 | 0.4100641 | -1.378608 | 0.168016 | 0.725719 |
| BX511128.1 | | 0 NA | NA | NA | NA | NA |
| polrmt | 224.7967325 | -0.030726308 | 0.1454144 | -0.211302 | 0.832652 | 0.983557 |
| tradv3.0.3 | | 0 NA | NA | NA | NA | NA |
| osepla | 1.292152926 | 0.695481366 | 1.7999758 | 0.3863837 | 0.699212 | NA |
| si:ch211-229110.11 | 0.497574187 | -2.437446738 | 2.6012773 | -0.937019 | 0.348749 | NA |
| cngb3.1 | 84.97488537 | 0.027216701 | 0.2315184 | 0.1175574 | 0.906418 | 0.990702 |
| CR790382.2 | | 0 NA | NA | NA | NA | NA |
| pedh1g2 | 41.24976779 | -0.312137378 | 0.2956352 | -1.055819 | 0.291051 | 0.846568 |
| nsmfb | 634.2438002 | 0.047101264 | 0.1053091 | 0.4472667 | 0.654683 | 0.961305 |
| ccdc166 | 0.888099668 | 0.661432581 | 2.1930638 | 0.3016021 | 0.762955 | NA |
| cep83 | 163.6726718 | 0.020780436 | 0.1585558 | 0.1310607 | 0.895727 | 0.989814 |
| hsd17b4 | 819.3601542 | -0.185447548 | 0.089933 | -2.062064 | 0.039202 | 0.388753 |
| CU651662.1 | 13.60627156 | 0.110815814 | 0.5351033 | 0.2070924 | 0.835938 | 0.984089 |
| zcchc14 | 136.8920509 | 0.234898269 | 0.1749543 | 1.3426267 | 0.179393 | 0.740258 |
| CABZ01049825.1 | 1.450168466 | -3.989344051 | 1.8554429 | -2.150076 | 0.031549 | NA |

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| gli1 | 311.9270061 | 0.082088233 | 0.1324893 | 0.619584 | 0.535532 | 0.943336 |
| znf1063 | 10.63942348 | 0.026637704 | 0.6132902 | 0.0434341 | 0.965355 | NA |
| hist1h41 | 2.204526259 | 1.767998486 | 1.3785694 | 1.2824878 | 0.199672 | NA |
| ldha | 6384.582335 | 0.048789419 | 0.0648431 | 0.7524226 | 0.451797 | 0.918761 |
| si:dkey-238n5.3 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| BX649411.1 | 17.41191079 | -0.687797969 | 0.4603783 | -1.493984 | 0.13518 | 0.670689 |
| ghl1 | 142.783738 | -0.021756271 | 0.1730103 | -0.125751 | 0.899929 | 0.990121 |
| GPATCH2 | 532.7350034 | 0.110713582 | 0.1126031 | 0.9832197 | 0.325499 | 0.871896 |
| BX927317.2 | 1.553431184 | 0.388620861 | 1.576361 | 0.2465304 | 0.805272 | NA |
| trim35-12 | 46.28588413 | 0.302032528 | 0.2841453 | 1.062951 | 0.287804 | 0.845979 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| klh18 | 342.030473 | -0.029134069 | 0.1280949 | -0.227441 | 0.820081 | 0.981594 |
| si:ch211-227n13.3 | 41.59679629 | -0.022060769 | 0.3164758 | -0.069708 | 0.944426 | 0.993364 |
| si:dkey-29j8.1 | 7.74350229 | -0.033937959 | 0.7161917 | -0.047387 | 0.962205 | NA |
| dre-mir-365-3 | 0 | NA | NA | NA | NA | NA |
| si:dkey-16p6.4 | 0.349228403 | 0.005884014 | 3.2372587 | 0.0018176 | 0.99855 | NA |
| BX936433.1 | 4.77216876 | 0.303125721 | 0.8956867 | 0.3384283 | 0.73504 | NA |
| znf207b | 958.3663024 | 0.044715725 | 0.0919803 | 0.4861444 | 0.626865 | 0.957354 |
| ndr2 | 7.657228829 | -0.594760244 | 0.7804607 | -0.762063 | 0.446022 | NA |
| vat11 | 7.717942526 | -0.315175384 | 0.7438681 | -0.423698 | 0.671786 | NA |
| corin | 107.4628596 | 0.162652314 | 0.1961763 | 0.8291128 | 0.407041 | 0.901305 |
| zswim6 | 320.8334225 | 0.024288664 | 0.1465994 | 0.1656805 | 0.868408 | 0.987245 |
| CT737129.1 | 6.747962459 | 0.458722706 | 0.7867273 | 0.5830772 | 0.559841 | NA |
| anapc15 | 253.4053914 | -0.029888134 | 0.1358028 | -0.220085 | 0.825805 | 0.982196 |
| RF00001 | 6.211676486 | 0.901383567 | 0.7981628 | 1.129323 | 0.258762 | NA |
| slc29a1a | 1975.608278 | -0.128556471 | 0.0827735 | -1.553112 | 0.120396 | 0.645215 |
| spink2.5 | 0 | NA | NA | NA | NA | NA |
| txndc11 | 239.5928369 | 0.268652573 | 0.1486306 | 1.8075183 | 0.070682 | 0.520155 |
| si:dkey-201g16.1 | 5.833497425 | -0.074592897 | 0.8463654 | -0.088133 | 0.929771 | NA |
| PKN2 (1 of many) | 518.433719 | 0.102237951 | 0.1022086 | 1.0002872 | 0.317172 | 0.867335 |
| psmd4a | 388.1065815 | -0.014788823 | 0.1335964 | -0.110698 | 0.911856 | 0.991066 |
| si:ch211-170p16.1 | 0 | NA | NA | NA | NA | NA |
| tmem266 | 266.8404442 | -0.067738882 | 0.1308031 | -0.517869 | 0.60455 | 0.95651 |
| CABZ01064248.1 | 0.330916733 | -1.849579229 | 3.2489867 | -0.569279 | 0.569167 | NA |
| ssnal | 81.93944516 | -0.09025809 | 0.233166 | -0.387098 | 0.698684 | 0.967998 |
| si:dkey-261o4.1 | 0.341366344 | 1.891903201 | 3.2128156 | 0.5888614 | 0.555954 | NA |
| CR388172.1 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| mrpl15 | 531.2776387 | 0.015779748 | 0.1048161 | 0.150547 | 0.880333 | 0.987881 |
| pcdh1gb2 | 40.36991962 | 0.084500872 | 0.3222704 | 0.2622049 | 0.793163 | 0.977937 |
| smug1 | 158.713545 | -0.075433956 | 0.1742993 | -0.432784 | 0.665172 | 0.964736 |
| si:ch73-100122.3 | 377.5175463 | -0.301958746 | 0.11735 | -2.573146 | 0.010078 | 0.17135 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| si:dkey-31n13.4 | 5.968836044 | -0.666475929 | 0.8071083 | -0.825758 | 0.408942 | NA |
| ppp4r1 | 324.4209062 | -0.081974764 | 0.1267559 | -0.646714 | 0.517817 | 0.938592 |
| grinaa | 292.3613165 | 0.097318854 | 0.1333282 | 0.7299193 | 0.46544 | 0.923865 |
| pcdh2ab9 | 5.520091178 | 0.289896252 | 0.8267292 | 0.3506544 | 0.725848 | NA |
| si:ch73-299h12.6 | 54.61003317 | 0.161830779 | 0.2809703 | 0.5759711 | 0.564635 | 0.948739 |
| si:dkey-50i6.5 | 50.08723087 | -0.487331962 | 0.2970915 | -1.640343 | 0.100934 | 0.604004 |
| CR376800.1 | 0 | NA | NA | NA | NA | NA |
| tfr1a | 48.25163154 | 0.071561472 | 0.2925639 | 0.2446012 | 0.806765 | 0.980254 |
| trnaulapa | 186.9117019 | -0.098785509 | 0.1513075 | -0.652879 | 0.513834 | 0.936778 |
| apoalb | 34300.49465 | 0.369037004 | 0.1097477 | 3.3625933 | 0.000772 | 0.025195 |
| znf1076 | 8.585390189 | 0.21975353 | 0.6728078 | 0.3266215 | 0.743954 | NA |

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| CR382300.3 | 3.616304972 | 0.011985817 | 0.9860463 | 0.0121554 | 0.990302 | NA |
| tekt1 | 21.84095191 | 0.682414759 | 0.4162941 | 1.639261 | 0.101159 | 0.604409 |
| uba2 | 1604.312005 | 0.000377857 | 0.0868682 | 0.0043498 | 0.996529 | 0.998936 |
| AL928808.1 | 1.664444809 | -1.276834427 | 1.6078081 | -0.794146 | 0.42711 | NA |
| ctsc | 509.4449221 | -0.017324583 | 0.1224056 | -0.141534 | 0.887448 | 0.989291 |
| BX088728.1 | 0.330916733 | -1.849579229 | 3.2489867 | -0.569279 | 0.569167 | NA |
| CR450808.2 | 0.633814256 | 1.438196278 | 2.4434004 | 0.5886044 | 0.556127 | NA |
| BX005294.1 | 4.444678794 | 0.329994906 | 0.9042936 | 0.3649201 | 0.715171 | NA |
| CR589882.1 | 2.982848519 | -1.77430278 | 1.3068585 | -1.357685 | 0.174564 | NA |
| si:ch211-262i1.6 | 244.9874444 | -0.124705425 | 0.1503244 | -0.829575 | 0.406779 | 0.901305 |
| CR293511.2 | 1.377650158 | -0.016994729 | 1.8073416 | -0.009403 | 0.992497 | NA |
| CU468723.1 | 4.124157088 | 0.85071956 | 1.0295598 | 0.8262945 | 0.408637 | NA |
| plppr5b | 49.89732744 | -0.065383361 | 0.270988 | -0.241278 | 0.80934 | 0.980642 |
| arhgap28 | 134.0575819 | 0.039156606 | 0.1774807 | 0.2206246 | 0.825385 | 0.982196 |
| si:dkey-16p6.1 | 6.134583 | -0.570080055 | 0.7767485 | -0.733931 | 0.462991 | NA |
| si:dkey-34d22.3 | 0 | NA | NA | NA | NA | NA |
| f13b | 0.316103113 | 0.005883447 | 3.3519121 | 0.0017553 | 0.9986 | NA |
| CABZ01044156.1 | 1.856328707 | 1.455520298 | 1.4825802 | 0.9817481 | 0.326224 | NA |
| pard3aa | 4.79232591 | -0.094213416 | 0.8642133 | -0.109016 | 0.913189 | NA |
| si:ch211-215e19.6 | 0.484368597 | 0.855487352 | 2.7040894 | 0.316368 | 0.751723 | NA |
| znf644a | 367.7866319 | -0.041772831 | 0.1207885 | -0.345835 | 0.729467 | 0.970888 |
| mibp | 827.5173644 | -0.167002537 | 0.0942884 | -1.771188 | 0.076529 | 0.538876 |
| ano2b | 352.6092247 | -0.006416059 | 0.1158258 | -0.055394 | 0.955825 | 0.994543 |
| wfikn1 | 0.99129252 | -1.049504824 | 2.0876813 | -0.502713 | 0.615166 | NA |
| si:cabz01021430.2 | 83.96522543 | 0.205911199 | 0.2142066 | 0.9612738 | 0.336415 | 0.876088 |
| gpr1 | 65.12633897 | 0.022569156 | 0.2550106 | 0.0885028 | 0.929477 | 0.992702 |
| si:ch73-193i22.1 | 120.9300908 | 0.105799033 | 0.1949538 | 0.5426876 | 0.587345 | 0.953319 |
| cngb3.2 | 346.7007097 | 0.323697641 | 0.1314115 | 2.4632359 | 0.013769 | 0.210896 |
| BX321912.1 | 0 | NA | NA | NA | NA | NA |
| si:dkey-11n14.1 | 25.54903805 | -0.899971128 | 0.4503144 | -1.998539 | 0.045658 | 0.41876 |
| ccdc142 | 297.5452589 | -0.017063932 | 0.1313026 | -0.129959 | 0.896599 | 0.989971 |
| nadsyn1 | 141.5484556 | -0.030658538 | 0.1700872 | -0.180252 | 0.856955 | 0.985597 |
| mfsd1 | 60.96151817 | 0.111586325 | 0.2484515 | 0.4491272 | 0.65334 | 0.96096 |
| cryabb | 21.57307512 | -0.205585831 | 0.4284296 | -0.479859 | 0.631328 | 0.957356 |
| CU019562.2 | 0 | NA | NA | NA | NA | NA |
| CR388148.1 | 0.648627875 | -0.032651702 | 2.3257531 | -0.014039 | 0.988799 | NA |
| BX088524.1 | 0 | NA | NA | NA | NA | NA |
| f8 | 81.79186799 | -0.150060763 | 0.2269487 | -0.66121 | 0.508478 | 0.93575 |
| CAMK2N1 | 572.1068358 | 0.156777733 | 0.0984652 | 1.5922149 | 0.111336 | 0.627048 |
| si:ch211-171117.14 | 7.927605487 | -0.742730414 | 0.6731386 | -1.103384 | 0.26986 | NA |
| zgc:174180 | 3.231081583 | -1.086826693 | 1.1388527 | -0.954317 | 0.339923 | NA |
| pimr168 | 0 | NA | NA | NA | NA | NA |
| si:dkey-31g6.6 | 805.1901823 | 0.132581447 | 0.1398065 | 0.9483212 | 0.342966 | 0.878434 |
| CR788226.1 | 11.26879594 | -0.576031674 | 0.5890022 | -0.977979 | 0.328085 | 0.872701 |
| BX908401.2 | 0 | NA | NA | NA | NA | NA |
| RF00003 | 0.681753165 | 0.003445546 | 2.2907653 | 0.0015041 | 0.9988 | NA |
| CR376730.1 | 0.808333769 | -0.605422531 | 2.2351432 | -0.270865 | 0.786495 | NA |
| CABZ01065131.1 | 322.3004978 | -0.163216885 | 0.1265043 | -1.290208 | 0.196978 | 0.761944 |
| rplp2 | 2668.382523 | -0.34323925 | 0.1135645 | -3.022418 | 0.002508 | 0.063006 |
| tgm114 | 19.04417081 | -0.634684887 | 0.4332444 | -1.464958 | 0.142932 | 0.685174 |
| CABZ01012957.1 | 0.489712128 | -0.887840729 | 2.693685 | -0.329601 | 0.741702 | NA |
| wbp11 | 329.4979286 | -0.134930683 | 0.1273704 | -1.059356 | 0.289438 | 0.846147 |
| FP102969.1 | 0 | NA | NA | NA | NA | NA |
| dusp7 | 674.5537247 | 0.102260238 | 0.1037854 | 0.9853046 | 0.324474 | 0.871051 |

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| drp2 | 10.03175087 | -0.725082801 | 0.620088 | -1.169322 | 0.242274 | NA |
| si:dkeyp-80d11.10 | 3.707588121 | -0.523771471 | 0.9926133 | -0.527669 | 0.597729 | NA |
| hdac12 | 38.25781347 | -0.085148615 | 0.3263622 | -0.260902 | 0.794168 | 0.977937 |
| cyp2y3 | 2115.210413 | -0.605956106 | 0.081137 | -7.468311 | 8.12E-14 | 3.35E-11 |
| BX901974.2 | 0 | NA | NA | NA | NA | NA |
| si:dkey-1b17.5 | 16.36388082 | -0.411197047 | 0.4898442 | -0.839444 | 0.40122 | 0.90084 |
| si:ch73-208h1.1 | 0 | NA | NA | NA | NA | NA |
| gas8 | 115.5631338 | -0.027688671 | 0.1927316 | -0.143664 | 0.885766 | 0.988936 |
| rab11fip2 | 57.01035382 | -0.104453181 | 0.2742276 | -0.3809 | 0.703278 | 0.968134 |
| AL831745.3 | 0 | NA | NA | NA | NA | NA |
| fsbp | 21.45815431 | 0.13767106 | 0.4286837 | 0.3211483 | 0.748098 | 0.97419 |
| lonp2 | 408.7448509 | -0.126832543 | 0.1162962 | -1.090599 | 0.275449 | 0.839541 |
| limala | 1075.568828 | 0.018754685 | 0.0985925 | 0.1902243 | 0.849133 | 0.985174 |
| relch | 588.2781815 | 0.0112978 | 0.1040917 | 0.108537 | 0.91357 | 0.991119 |
| CU856523.1 | 0 | NA | NA | NA | NA | NA |
| klhl7 | 219.2964859 | 0.000960533 | 0.1579179 | 0.0060825 | 0.995147 | 0.998694 |
| si:dkey-46i9.1 | 4598.6371 | 0.115575117 | 0.0713398 | 1.6200642 | 0.105218 | 0.613382 |
| BX511066.2 | 0.507044276 | -2.459587493 | 2.7586536 | -0.89159 | 0.372613 | NA |
| grik5 | 409.0448358 | 0.05218742 | 0.1265111 | 0.4125127 | 0.679964 | 0.965311 |
| si:ch211-215p11.3 | 4.992476501 | -1.720205335 | 0.9134381 | -1.883221 | 0.05967 | NA |
| SUSD2 | 38.52961489 | 0.111064237 | 0.3152363 | 0.3523205 | 0.724598 | 0.970402 |
| si:ch211-284k5.2 | 9.274410437 | -0.638425435 | 0.6418004 | -0.994741 | 0.319862 | NA |
| acp5b | 33.86496623 | -0.251273089 | 0.3322818 | -0.756205 | 0.449526 | 0.918468 |
| cdc42ep4a | 222.4617786 | 0.137424904 | 0.147135 | 0.9340056 | 0.350301 | 0.880195 |
| r3hdml | 2453.699767 | -0.070719027 | 0.0853575 | -0.828504 | 0.407385 | 0.901305 |
| si:dkey-279j5.1 | 7.946349499 | -0.241645659 | 0.6744672 | -0.358276 | 0.720137 | NA |
| emp3b | 12.72040276 | -0.25702307 | 0.5254701 | -0.48913 | 0.62475 | 0.957354 |
| si:dkey-176f19.1 | 0.990502374 | -0.071540256 | 2.0571985 | -0.034776 | 0.972259 | NA |
| orc2 | 84.86894117 | -0.152954364 | 0.2159823 | -0.70818 | 0.478833 | 0.926978 |
| si:dkey-56m15.2 | 15.59425934 | -0.731237454 | 0.5063106 | -1.444247 | 0.14867 | 0.69636 |
| CR749168.4 | 0 | NA | NA | NA | NA | NA |
| fgd4a | 173.0872959 | -0.054053281 | 0.1545205 | -0.349813 | 0.726479 | 0.970402 |
| pop4 | 106.1738138 | 0.245708339 | 0.1960016 | 1.2536037 | 0.209986 | 0.777432 |
| snpc3 | 178.753979 | -0.07245888 | 0.1517962 | -0.477343 | 0.633118 | 0.957356 |
| BX649328.2 | 0.959026399 | 0.97633837 | 2.1323734 | 0.4578646 | 0.64705 | NA |
| si:dkey-65j4.2 | 3.166041188 | 0.499010073 | 1.075106 | 0.4641497 | 0.642541 | NA |
| plppr2a | 76.40376692 | 0.128155426 | 0.2329957 | 0.5500335 | 0.582296 | 0.95207 |
| BX908782.2 | 49.91328075 | 0.327608741 | 0.2878527 | 1.1381126 | 0.255073 | 0.82375 |
| rbp5 | 783.1488559 | 0.051871228 | 0.1068627 | 0.4854007 | 0.627392 | 0.957354 |
| hk2 | 423.9519442 | -0.089342146 | 0.1289078 | -0.69307 | 0.488266 | 0.93189 |
| CT027586.1 | 0 | NA | NA | NA | NA | NA |
| si:dkey-264f17.2 | 30.87131552 | -0.675743817 | 0.4027956 | -1.677634 | 0.093418 | 0.581264 |
| si:ch1073-469d17.2 | 352.3476891 | 0.256664567 | 0.1249578 | 2.0540094 | 0.039975 | 0.391511 |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| si:ch73-281i18.6 | 25.90215822 | -0.223876933 | 0.3895362 | -0.574727 | 0.565476 | 0.948739 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| BX511128.2 | 0.873286049 | 1.965740061 | 2.217103 | 0.8866255 | 0.375281 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| ugt5b2 | 126.2689268 | 0.068214786 | 0.1967293 | 0.3467445 | 0.728783 | 0.970631 |
| znf1047 | 1.140978884 | -0.45099068 | 1.8431693 | -0.244682 | 0.806703 | NA |
| si:ch73-305o9.3 | 134.1268564 | -0.133240503 | 0.1845034 | -0.722157 | 0.470198 | 0.924787 |
| ATG2A | 318.8396549 | 0.092008039 | 0.1535423 | 0.5992358 | 0.549016 | 0.946312 |
| nr6ala | 1.640790851 | -1.137862397 | 1.6540431 | -0.687928 | 0.491498 | NA |
| cetn2 | 401.6401573 | 0.082303873 | 0.117943 | 0.6978274 | 0.485285 | 0.930188 |

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| CU972516.1 | | 0 NA | NA | NA | NA | NA |
| tmx4 | 29.75069716 | 0.034607326 | 0.3523376 | 0.0982221 | 0.921756 | 0.992138 |
| ftr64 | 15.74936604 | -0.759943999 | 0.5065086 | -1.500357 | 0.133522 | 0.667982 |
| CT583728.4 | 10.2941565 | 0.080593672 | 0.6042802 | 0.1333714 | 0.8939 | NA |
| CR854829.1 | 0.523937293 | 2.50362281 | 2.7291625 | 0.9173594 | 0.358954 | NA |
| CR786582.2 | | 0 NA | NA | NA | NA | NA |
| UBE2M | 1315.32621 | -0.091997572 | 0.0848359 | -1.084418 | 0.27818 | 0.841891 |
| FO907089.1 | 38.62508917 | 0.083306183 | 0.3251753 | 0.2561885 | 0.797805 | 0.978695 |
| arxb | 33.88710591 | 0.431788977 | 0.3467698 | 1.2451748 | 0.213068 | 0.781631 |
| znf1080 | 8.155139867 | 0.832126978 | 0.7254383 | 1.1470679 | 0.251354 | NA |
| si:dkey-82o10.4 | 62.9087452 | 0.138896172 | 0.2666597 | 0.5208742 | 0.602454 | 0.956045 |
| CU855885.1 | 0.838940531 | -0.561526863 | 2.0217856 | -0.277738 | 0.781213 | NA |
| si:ch211-194h1.2 | 6.942201162 | 0.532859385 | 0.7999079 | 0.666151 | 0.505315 | NA |
| prrl6 | 19.26381588 | 0.343753261 | 0.4409535 | 0.779568 | 0.435645 | 0.914408 |
| si:ch211-1f22.3 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| rab3db | 63.27500691 | -0.565130319 | 0.2489724 | -2.269852 | 0.023217 | 0.292411 |
| col10a1b | 33.85950043 | 0.784938513 | 0.335916 | 2.3367109 | 0.019454 | 0.261725 |
| rpp25a | 52.03231229 | 0.32565878 | 0.2851966 | 1.1418749 | 0.253506 | 0.82326 |
| fgf3 | 98.13525793 | 0.120896069 | 0.2012742 | 0.6006536 | 0.548071 | 0.945768 |
| si:dkeyp-53d3.5 | 53.06119656 | -0.074960971 | 0.2710268 | -0.276581 | 0.782102 | 0.97627 |
| washc5 | 446.3921099 | -0.132622684 | 0.1207731 | -1.098115 | 0.272154 | 0.837242 |
| CR354395.1 | 2.675067547 | 0.00734289 | 1.1451584 | 0.0064121 | 0.994884 | NA |
| nkx2.2b | 35.84168545 | -0.359710402 | 0.3284533 | -1.095164 | 0.273445 | 0.838214 |
| si:dkey-261j11.2 | 4.858463921 | -0.711126844 | 0.8674526 | -0.819788 | 0.412337 | NA |
| CABZ01111555.1 | 0.31759079 | 1.807926197 | 3.579045 | 0.5051421 | 0.613459 | NA |
| or106-8 | 9.159223176 | 0.706592247 | 0.6230224 | 1.1341361 | 0.256737 | NA |
| BX088583.2 | 11.62786291 | 0.156025924 | 0.5883126 | 0.2652092 | 0.790848 | 0.977402 |
| si:ch1073-475a24.1 | 14.0095587 | 0.059573607 | 0.5982069 | 0.099587 | 0.920672 | 0.992118 |
| scarb1 | 245.6678588 | 0.042841929 | 0.1419817 | 0.3017425 | 0.762848 | 0.975374 |
| dre-mir-7149 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| zhx2b | 37.22990864 | 0.091382539 | 0.3264759 | 0.2799059 | 0.77955 | 0.976146 |
| psmal | 2025.404715 | -0.078347891 | 0.1087047 | -0.720741 | 0.471069 | 0.924838 |
| dbt | 1149.477199 | -0.06605353 | 0.0885185 | -0.746212 | 0.455539 | 0.921215 |
| znf1014 | 261.0287909 | -0.011398732 | 0.1343014 | -0.084874 | 0.932361 | 0.992702 |
| CR354430.4 | 6.118511369 | -0.71200158 | 0.7616424 | -0.934824 | 0.349879 | NA |
| si:dkey-226n24.1 | | 0 NA | NA | NA | NA | NA |
| CU468917.1 | 18.15631309 | -0.683156773 | 0.4518788 | -1.511814 | 0.130581 | 0.662797 |
| CR769772.4 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| gucale | 37.97254343 | 0.07319769 | 0.3539677 | 0.206792 | 0.836172 | 0.984209 |
| CR352338.1 | 4.091591282 | -0.121939567 | 0.9278756 | -0.131418 | 0.895445 | NA |
| ppargc1b | 1062.09859 | 0.119103941 | 0.0828873 | 1.4369384 | 0.150735 | 0.698912 |
| si:ch211-106j21.4 | 3.384445331 | 1.634672587 | 1.1123507 | 1.4695658 | 0.141679 | NA |
| CU928046.2 | | 0 NA | NA | NA | NA | NA |
| tbxta | 103.2246662 | 0.020857807 | 0.223381 | 0.0933733 | 0.925607 | 0.992676 |
| si:ch211-17218.4 | 30.26264454 | -0.290042208 | 0.3603589 | -0.80487 | 0.420894 | 0.90651 |
| e2f4 | 486.0710527 | -0.009966175 | 0.1185125 | -0.084094 | 0.932982 | 0.992702 |
| epcla | 537.8543935 | 0.043301831 | 0.1258411 | 0.3440993 | 0.730772 | 0.971497 |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| CU927920.1 | 0.365141898 | 1.973577737 | 3.3927314 | 0.5817076 | 0.560764 | NA |
| CU467822.1 | 1219.236608 | -0.071993691 | 0.0838018 | -0.859095 | 0.390288 | 0.897286 |
| tecrea | 105.1456978 | 0.458410619 | 0.1923592 | 2.383097 | 0.017168 | 0.242176 |
| si:ch73-389b16.1 | 37.03367772 | -0.205573126 | 0.3126522 | -0.657514 | 0.510851 | 0.936253 |
| or109-13 | 0.499972362 | -2.44370697 | 3.0013188 | -0.814211 | 0.415524 | NA |
| cacnaldb | 45.34683888 | 0.135378894 | 0.2993505 | 0.452242 | 0.651095 | 0.960708 |

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| CU695215.1 | | 0 NA | NA | NA | NA | NA |
| zgc:163077 | 72.76355457 | -0.242789574 | 0.2311222 | -1.050481 | 0.293497 | 0.84935 |
| tgm112 | 168.5181908 | -0.037763924 | 0.1689119 | -0.223572 | 0.823091 | 0.982189 |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| si:dkeyp-57d7.4 | 325.6263741 | 0.42750814 | 0.1368576 | 3.1237448 | 0.001786 | 0.049384 |
| si:ch211-215p11.1 | 6.295189348 | -0.301531137 | 0.7408403 | -0.407012 | 0.683999 | NA |
| BX640576.1 | 5.074355205 | 0.843388053 | 0.8560393 | 0.9852212 | 0.324515 | NA |
| preb | 564.9226902 | -0.116553298 | 0.1026646 | -1.135283 | 0.256257 | 0.824633 |
| rim2a | 618.5945568 | 0.156977118 | 0.1113625 | 1.4096042 | 0.158657 | 0.709303 |
| si:dkey-109a10.2 | 1.474053087 | -1.032610686 | 1.6163206 | -0.638865 | 0.522911 | NA |
| zgc:112966 | 5.400637225 | 0.62087875 | 0.8287907 | 0.7491381 | 0.453774 | NA |
| si:dkey-238i5.2 | 44.80055558 | -0.418083961 | 0.2945105 | -1.419589 | 0.155727 | 0.705963 |
| BX469901.1 | | 0 NA | NA | NA | NA | NA |
| arfgap1 | 1056.649036 | 0.134958616 | 0.0939723 | 1.4361538 | 0.150959 | 0.698912 |
| BX530032.1 | 9.433121967 | 1.004610324 | 0.6223893 | 1.6141188 | 0.106502 | NA |
| ube2c | 231.6573938 | -0.220490521 | 0.1394108 | -1.581589 | 0.113743 | 0.632292 |
| micos10 | 729.8118268 | -0.176677802 | 0.0948364 | -1.862974 | 0.062466 | 0.487868 |
| RF00001 | 0.999076506 | 2.235847428 | 2.1027645 | 1.0632895 | 0.287651 | NA |
| mrps7 | 368.6624914 | -0.109768502 | 0.1156898 | -0.948817 | 0.342713 | 0.878434 |
| znf1109 | 1.981957527 | 1.5673283 | 1.4368427 | 1.0908141 | 0.275355 | NA |
| lmnb2 | 1658.963664 | 0.105357281 | 0.090114 | 1.1691555 | 0.242341 | 0.811298 |
| si:ch73-208h1.2 | | 0 NA | NA | NA | NA | NA |
| arf6a | 587.1773698 | 0.089331375 | 0.1020799 | 0.8751124 | 0.381513 | 0.895192 |
| ssr1 | 2173.772398 | -0.070877118 | 0.1080912 | -0.655716 | 0.512007 | 0.936253 |
| ascl1b | 242.0117035 | -0.248893025 | 0.1368034 | -1.819348 | 0.068858 | 0.513259 |
| CABZ01079192.1 | 293.6225418 | -0.425165642 | 0.1395802 | -3.046031 | 0.002319 | 0.059626 |
| si:dkey-8113.5 | 17.66659051 | -0.314741241 | 0.4596709 | -0.68471 | 0.493527 | 0.931926 |
| etfa | 2026.327539 | 0.033551956 | 0.0977569 | 0.3432183 | 0.731434 | 0.971557 |
| cyp2k20 | 0.340386822 | -1.882368278 | 3.2159502 | -0.585323 | 0.558331 | NA |
| L0017682.1 | 12.70102984 | -0.228493376 | 0.5448607 | -0.419361 | 0.674952 | 0.965257 |
| si:ch211-209j12.1 | 1.345435366 | -0.749161695 | 1.66238 | -0.450656 | 0.652237 | NA |
| dact1 | 473.4731641 | -0.030936595 | 0.1109467 | -0.278842 | 0.780366 | 0.97627 |
| zgc:64201 | 61.24960122 | -0.095460269 | 0.2477296 | -0.385341 | 0.699985 | 0.967998 |
| ccnd1 | 2206.610805 | 0.037690283 | 0.0736232 | 0.5119346 | 0.608697 | 0.956718 |
| trpm2 | 27.13186049 | 0.213431099 | 0.3813192 | 0.5597176 | 0.575672 | 0.950373 |
| si:ch211-155m12.1 | 1.538376859 | 1.065825427 | 1.6585191 | 0.6426368 | 0.52046 | NA |
| ARHGEF17 | 494.1950088 | 0.180059142 | 0.115044 | 1.5651333 | 0.117552 | 0.641232 |
| myrfl | 192.9018043 | -1.22584878 | 0.1602634 | -7.648961 | 2.03E-14 | 9.54E-12 |
| si:ch73-359m17.8 | 0.317831496 | 1.808837541 | 3.5779923 | 0.5055454 | 0.613176 | NA |
| RF00003 | | 0 NA | NA | NA | NA | NA |
| CU929240.1 | 44.27193187 | 0.026886768 | 0.2928726 | 0.0918036 | 0.926854 | 0.992702 |
| si:zfos-1056e6.1 | 26.5044441 | -0.071318308 | 0.3785342 | -0.188407 | 0.850558 | 0.985174 |
| haus6 | 254.9433097 | 0.010778967 | 0.1357715 | 0.0793905 | 0.936722 | 0.992702 |
| zgc:110171 | 3.342835021 | -0.037964433 | 1.0887772 | -0.034869 | 0.972184 | NA |
| si:ch211-188c18.1 | 1.642360851 | 2.008941093 | 1.6388739 | 1.2258058 | 0.220272 | NA |
| sstr5 | 156.3988214 | -0.074728429 | 0.1688053 | -0.44269 | 0.65799 | 0.962545 |
| BX323882.1 | | 0 NA | NA | NA | NA | NA |
| BX005396.4 | 0.31759079 | 1.807926197 | 3.579045 | 0.5051421 | 0.613459 | NA |
| RF00560 | 0.650235905 | 1.438231835 | 2.4251649 | 0.593045 | 0.553151 | NA |
| sntg2 | 98.28111544 | 0.128855307 | 0.201951 | 0.6380523 | 0.52344 | 0.939336 |
| ulk3 | 79.80807207 | -0.473437525 | 0.2295569 | -2.062397 | 0.03917 | 0.388646 |
| CABZ01078663.1 | 1.529535277 | 0.361682652 | 1.5565073 | 0.2323681 | 0.816252 | NA |
| BX957361.1 | 0.530029684 | -0.939524117 | 2.7937867 | -0.336291 | 0.736652 | NA |
| pcdhlg11 | 9.084361523 | 0.906753248 | 0.6495903 | 1.3958847 | 0.162749 | NA |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| si:ch73-233f7.6 | 0.948309339 | 0.013153536 | 2.2227673 | 0.0059176 | 0.995278 | NA |
| BX681417.2 | 0.50625413 | -0.940106488 | 2.8357787 | -0.331516 | 0.740255 | NA |
| elmod2 | 434.7441433 | -0.096721897 | 0.1160753 | -0.833268 | 0.404693 | 0.901305 |
| kntc1 | 462.8200179 | -0.041168701 | 0.1168305 | -0.35238 | 0.724553 | 0.970402 |
| zgc:158417 | 26.81562232 | -1.292718191 | 0.3806962 | -3.395669 | 0.000685 | 0.02277 |
| trgv7 | 0.325573202 | 0.005883621 | 3.3172783 | 0.0017736 | 0.998585 | NA |
| RF00001 | 0.31759079 | 1.807926197 | 3.579045 | 0.5051421 | 0.613459 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| zgc:123107 | 7.382037406 | -0.153254527 | 0.7366082 | -0.208054 | 0.835187 | NA |
| KLHL28 | 136.6290436 | -0.290176009 | 0.1775332 | -1.634488 | 0.102156 | 0.607531 |
| chrnb4 | 67.22478616 | -0.215192798 | 0.2479253 | -0.867974 | 0.385408 | 0.89551 |
| cfap52 | 27.87350032 | -0.092717365 | 0.3713296 | -0.24969 | 0.802827 | 0.979643 |
| arll | 939.6762458 | 0.004731371 | 0.0855034 | 0.0553355 | 0.955871 | 0.994543 |
| tradv7.0 | 0 NA | NA | NA | NA | NA | NA |
| CT990567.2 | 2.446286071 | 0.563230481 | 1.2616599 | 0.4464202 | 0.655294 | NA |
| FP340292.1 | 0 NA | NA | NA | NA | NA | NA |
| tradv16.0 | 0 NA | NA | NA | NA | NA | NA |
| si:ch73-171o20.2 | 0 NA | NA | NA | NA | NA | NA |
| CU929259.1 | 69.03247678 | 0.045461381 | 0.2348945 | 0.1935396 | 0.846536 | 0.985174 |
| si:dkey-207124.2 | 54.26040765 | 0.091181705 | 0.271629 | 0.3356847 | 0.737109 | 0.972535 |
| si:dkey-16p6.1 | 1.977562524 | -0.451836437 | 1.3294431 | -0.339869 | 0.733955 | NA |
| si:ch73-158p21.2 | 21.34977547 | -0.08385696 | 0.4313231 | -0.194418 | 0.845849 | 0.985174 |
| znf1184 | 42.25780046 | -0.079736257 | 0.3116031 | -0.25589 | 0.798035 | 0.978793 |
| si:dkey-26m3.3 | 16.67888782 | -0.535884024 | 0.4846328 | -1.105753 | 0.268834 | 0.834131 |
| zgc:158316 | 240.4002538 | 0.092751338 | 0.1409264 | 0.6581544 | 0.510439 | 0.936253 |
| si:dkey-30e9.7 | 124.9597297 | 0.019591939 | 0.1831369 | 0.1069797 | 0.914805 | 0.991119 |
| si:ch1073-181h11.1 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| bmp5 | 303.4947518 | 0.008137727 | 0.1296265 | 0.0627783 | 0.949943 | 0.99381 |
| chrna7 | 20.56307651 | -0.017192618 | 0.4464437 | -0.03851 | 0.969281 | 0.996315 |
| zgc:158260 | 6.235250206 | 0.883249013 | 0.9116389 | 0.9688584 | 0.332616 | NA |
| lrrc24 | 10.93260997 | 0.530583135 | 0.5954083 | 0.8911249 | 0.372862 | NA |
| csrp3 | 33.83711745 | 0.418206334 | 0.3392148 | 1.232866 | 0.217626 | 0.784993 |
| si:ch211-156b7.4 | 326.7185776 | -0.201206178 | 0.1368079 | -1.47072 | 0.141367 | 0.681968 |
| si:ch211-106g8.56 | 0 NA | NA | NA | NA | NA | NA |
| arid1aa | 2557.172053 | -0.036217188 | 0.0934763 | -0.387448 | 0.698425 | 0.967998 |
| scn2b | 47.09791527 | 0.344467403 | 0.2925526 | 1.1774546 | 0.239014 | 0.807768 |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| arsg | 58.10699816 | -0.150993316 | 0.2658429 | -0.567979 | 0.570049 | 0.948983 |
| bacel | 221.0575971 | 0.224482468 | 0.1443815 | 1.5547873 | 0.119997 | 0.645215 |
| sox17 | 3.290893408 | 0.043594092 | 1.0702357 | 0.0407332 | 0.967509 | NA |
| CR394556.1 | 0.688945432 | -0.015421672 | 2.3988056 | -0.006429 | 0.994871 | NA |
| pargl | 89.70024655 | -0.131453404 | 0.2065285 | -0.63649 | 0.524457 | 0.939537 |
| CU459186.3 | 15.24707521 | 0.306413543 | 0.4900016 | 0.6253317 | 0.531753 | 0.942359 |
| L0018584.1 | 2.141182009 | 1.160553506 | 1.3143096 | 0.8830138 | 0.377229 | NA |
| larpl | 1087.508151 | 0.093646992 | 0.1177783 | 0.7951123 | 0.426548 | 0.910189 |
| parietopsin | 194.5016952 | 0.289022247 | 0.1509687 | 1.9144514 | 0.055562 | 0.461579 |
| si:ch211-93f2.1 | 953.6196466 | -0.872108276 | 0.0892022 | -9.776752 | 1.42E-22 | 1.75E-19 |
| CU467822.2 | 4.304741254 | -0.653460528 | 0.9163997 | -0.713074 | 0.4758 | NA |
| si:dkeyp-80d11.12 | 3.487178102 | -0.660857547 | 1.0223259 | -0.646426 | 0.518004 | NA |
| BX649341.1 | 0.973692923 | 1.03885578 | 2.0977565 | 0.4952223 | 0.620443 | NA |
| fam168b | 1243.094633 | -0.069198032 | 0.0853026 | -0.811206 | 0.417247 | 0.906237 |
| chn1 | 1390.580539 | -0.062734723 | 0.0836696 | -0.749791 | 0.453381 | 0.920041 |
| BX842687.1 | 0 NA | NA | NA | NA | NA | NA |
| tradv24.0.5 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| gb:eh456644 | 5.188635049 | 0.098945652 | 0.8283744 | 0.1194456 | 0.904922 | NA |
| elav11b | 2013.509203 | 0.090146143 | 0.079489 | 1.1340706 | 0.256765 | 0.824902 |
| AL953886.1 | 7.600646886 | 0.368840699 | 0.6860051 | 0.5376647 | 0.590809 | NA |
| si:ch211-24o8.4 | 2.327849517 | 0.435137741 | 1.238135 | 0.3514461 | 0.725254 | NA |
| zgc:92161 | 79.31848139 | -0.140254481 | 0.2276884 | -0.615993 | 0.537899 | 0.943336 |
| si:ch211-196p9.1 | 263.0988243 | 0.170557355 | 0.1325565 | 1.2866762 | 0.198207 | 0.76333 |
| plekhg5b | 61.81497909 | -0.23918554 | 0.2521731 | -0.948498 | 0.342876 | 0.878434 |
| CABZ01085195.1 | 15.60698613 | 0.902673999 | 0.4963165 | 1.8187467 | 0.06895 | 0.513259 |
| prkarlab | 25.61673443 | -0.410351006 | 0.4176835 | -0.982445 | 0.325881 | 0.871896 |
| im:7141269 | 61.53870394 | -0.139764721 | 0.2544437 | -0.549295 | 0.582803 | 0.952214 |
| si:dkey-27n6.4 | 12.51550527 | -1.189129029 | 0.6724228 | -1.768425 | 0.07699 | 0.540058 |
| traj41 | 0 NA | NA | NA | NA | NA | NA |
| homer1b | 712.2877956 | 0.050163133 | 0.0965928 | 0.5193256 | 0.603534 | 0.956045 |
| znf1016 | 3.239565514 | 0.568724502 | 1.0666325 | 0.5331963 | 0.593898 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| fah | 199.8216812 | 0.30663833 | 0.162514 | 1.886843 | 0.059181 | 0.475427 |
| CU467646.5 | 0 NA | NA | NA | NA | NA | NA |
| ptmab | 23022.02933 | -0.131234423 | 0.0785488 | -1.670738 | 0.094773 | 0.585466 |
| si:dkey-183i3.6 | 5.619236539 | -0.1732644 | 0.8082848 | -0.214361 | 0.830266 | NA |
| trgv3 | 0 NA | NA | NA | NA | NA | NA |
| cysltr3 | 3.298778708 | -0.64084565 | 1.1492922 | -0.5576 | 0.577117 | NA |
| CT956002.1 | 0.347458735 | -1.908042286 | 3.4571486 | -0.551912 | 0.581009 | NA |
| si:ch211-241j8.2 | 0.31759079 | 1.807926197 | 3.579045 | 0.5051421 | 0.613459 | NA |
| zgc:172014 | 7.962901793 | -1.118584348 | 0.7097929 | -1.575931 | 0.115042 | NA |
| syt12 | 497.5342477 | -0.003469478 | 0.112668 | -0.030794 | 0.975434 | 0.996762 |
| pdlim5a | 48.10407894 | 0.010281494 | 0.27644 | 0.0371925 | 0.970332 | 0.996315 |
| ca5a | 570.1357694 | -0.03531686 | 0.114293 | -0.309003 | 0.757319 | 0.975374 |
| pimr181 | 0.471562095 | -2.373056629 | 3.0645586 | -0.774355 | 0.438721 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| laptm5 | 40.20091757 | -0.414833797 | 0.3319914 | -1.249532 | 0.211471 | 0.778917 |
| si:ch211-134a4.6 | 0.507044276 | -2.459587493 | 2.7586536 | -0.89159 | 0.372613 | NA |
| zgc:162592 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX784032.1 | 0 NA | NA | NA | NA | NA | NA |
| cyplc2 | 81.70306317 | 0.151599017 | 0.2243353 | 0.6757699 | 0.499187 | 0.934006 |
| si:ch73-299h12.3 | 14.96662845 | 0.148162474 | 0.4910909 | 0.3017007 | 0.76288 | 0.975374 |
| kyat3 | 393.7240078 | 0.065017623 | 0.1136727 | 0.5719723 | 0.567341 | 0.948739 |
| si:dkey-237i9.1 | 191.5628929 | -0.011614992 | 0.1656985 | -0.070097 | 0.944116 | 0.993364 |
| atp6v0e1 | 277.5721762 | 0.208552833 | 0.1430301 | 1.4581044 | 0.144812 | 0.688986 |
| CABZ01033394.1 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| or130-1 | 4.351932298 | 0.264082756 | 0.9429325 | 0.2800654 | 0.779427 | NA |
| si:ch1073-82119.1 | 44.14773578 | 0.434604071 | 0.3009756 | 1.4439844 | 0.148743 | 0.69636 |
| L0018493.1 | 1.219644908 | -1.278066794 | 1.9287071 | -0.662655 | 0.507552 | NA |
| tradv36.2.12 | 0 NA | NA | NA | NA | NA | NA |
| or104-1 | 0.515885857 | -0.89611015 | 2.8190897 | -0.317872 | 0.750582 | NA |
| si:ch211-120c15.3 | 23.90136299 | -0.448220887 | 0.4211301 | -1.064329 | 0.28718 | 0.845979 |
| si:ch211-271b14.1 | 1102.716579 | -0.004631363 | 0.0830027 | -0.055798 | 0.955503 | 0.994543 |
| zgc:114120 | 17.58352486 | 0.131311241 | 0.4969665 | 0.2642255 | 0.791606 | 0.977715 |
| nap111 | 5268.362043 | -0.026636823 | 0.0707159 | -0.376674 | 0.706416 | 0.968459 |
| lpar3 | 96.53629704 | 0.010522245 | 0.2075174 | 0.0507054 | 0.95956 | 0.995193 |
| col5a3b | 3358.28821 | 0.20764624 | 0.0986726 | 2.1043958 | 0.035344 | 0.36572 |
| si:dkey-5i16.5 | 10.43828661 | 0.142902716 | 0.5793691 | 0.2466523 | 0.805177 | NA |
| BX294178.1 | 18.25096896 | 0.153761206 | 0.4853185 | 0.3168254 | 0.751376 | 0.97419 |
| CU984583.1 | 0.332524763 | 0.005883742 | 3.292841 | 0.0017868 | 0.998574 | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| traj51 | | 0 NA | NA | NA | NA | NA |
| si:ch211-243p7.3 | 53.31996236 | -0.063042777 | 0.2678182 | -0.235394 | 0.813903 | 0.981081 |
| AL929114.2 | 3.39404823 | 0.684184024 | 1.1379472 | 0.6012441 | 0.547677 | NA |
| zwi | 516.0072203 | 0.196820171 | 0.1098037 | 1.792473 | 0.073057 | 0.527239 |
| pimr59 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:dkey-16p6.1 | 33.87747984 | 0.195045124 | 0.3567113 | 0.5467871 | 0.584525 | 0.952406 |
| si:dkey-16b10.2 | 1.531504366 | 1.015713721 | 1.6492385 | 0.6158683 | 0.537981 | NA |
| si:dkeyp-13d12.22 | 0.330916733 | -1.849579229 | 3.2489867 | -0.569279 | 0.569167 | NA |
| irx1a | 548.5577536 | -0.090970507 | 0.1032996 | -0.880647 | 0.378509 | 0.895192 |
| AL627305.2 | 4.630624185 | 0.021955728 | 0.8674984 | 0.0253092 | 0.979808 | NA |
| RF00003 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CR788237.2 | 0.52295777 | -0.916487494 | 2.6406233 | -0.347072 | 0.728537 | NA |
| znf1085 | 9.930636578 | -0.523616164 | 0.6421978 | -0.81535 | 0.414872 | NA |
| znf1106 | 4.18669591 | -0.002022946 | 0.9802106 | -0.002064 | 0.998353 | NA |
| mibp2 | 5875.977367 | -0.230090841 | 0.0979803 | -2.348339 | 0.018857 | 0.255927 |
| FP016142.5 | 0.323844819 | -1.825095364 | 3.274639 | -0.557342 | 0.577293 | NA |
| BX088718.1 | 0.853245996 | -0.479250517 | 2.1942342 | -0.218414 | 0.827107 | NA |
| dydc2 | 24.74484918 | 0.116480978 | 0.3898231 | 0.2988047 | 0.765089 | 0.975374 |
| adipor2 | 1674.567671 | 0.020076198 | 0.0797006 | 0.2518953 | 0.801122 | 0.979377 |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| FQ311894.1 | 2809.922229 | 0.052854143 | 0.0793444 | 0.6661357 | 0.505324 | 0.935724 |
| mmta | 616.0323265 | -0.155153521 | 0.101482 | -1.528877 | 0.126295 | 0.655241 |
| cyp2k19 | 182.6360832 | -0.58444165 | 0.1647562 | -3.547313 | 0.000389 | 0.014493 |
| CR382337.3 | 1.595998977 | -1.215473901 | 1.7197136 | -0.706789 | 0.479698 | NA |
| pcdh1g30 | 242.6645477 | -0.180711212 | 0.1449708 | -1.246535 | 0.212568 | 0.780627 |
| asic1b | 239.8640631 | 0.010086685 | 0.1467254 | 0.0687453 | 0.945192 | 0.993474 |
| si:ch1073-416d2.4 | 88.90325082 | -0.1006027 | 0.2081197 | -0.483389 | 0.62882 | 0.957354 |
| dennd1b | 9.981418781 | 0.583735088 | 0.6055372 | 0.9639954 | 0.335048 | NA |
| magi3a | 492.8649776 | 0.003547115 | 0.1248908 | 0.0284017 | 0.977342 | 0.996762 |
| CR854963.1 | | 0 NA | NA | NA | NA | NA |
| BX842701.1 | 5.087987469 | 0.20746288 | 0.86533 | 0.23975 | 0.810524 | NA |
| dtwd2 | 17.66525471 | -1.056860716 | 0.4855538 | -2.176609 | 0.02951 | 0.332709 |
| rbm34 | 203.6039825 | 0.082979217 | 0.1683725 | 0.4928311 | 0.622132 | 0.957354 |
| kdf1b | 42.76116766 | -0.280272797 | 0.3227083 | -0.868502 | 0.38512 | 0.89551 |
| traj58 | | 0 NA | NA | NA | NA | NA |
| zgc:172128 | 52.57429825 | -0.236536735 | 0.2761677 | -0.856497 | 0.391723 | 0.897688 |
| si:dkey-20i20.11 | 6.082001593 | 0.087313807 | 0.7648484 | 0.1141583 | 0.909112 | NA |
| pdxcl | 654.6921684 | 0.035355026 | 0.0931716 | 0.3794614 | 0.704345 | 0.968134 |
| OSCP1 (1 of many) | 262.5066462 | 0.183113487 | 0.1385824 | 1.321333 | 0.18639 | 0.750788 |
| dre-mir-25 | 0.895171582 | 0.645196995 | 2.3062791 | 0.2797567 | 0.779664 | NA |
| pigr | 78.46529522 | 0.456105764 | 0.2239728 | 2.0364336 | 0.041707 | 0.400593 |
| aridlab | 2858.713271 | -0.035364371 | 0.081901 | -0.431794 | 0.665891 | 0.964736 |
| ino80e | 335.617815 | 0.118627493 | 0.1368334 | 0.8669482 | 0.38597 | 0.89551 |
| CR388178.1 | 2.252787355 | 1.278499495 | 1.3608565 | 0.9394815 | 0.347484 | NA |
| stk10 | 258.0169994 | -0.020032999 | 0.1324604 | -0.151238 | 0.879788 | 0.987881 |
| kncn | 8.108989462 | -0.076204328 | 0.695501 | -0.109568 | 0.912752 | NA |
| xrn2 | 1476.719588 | 0.035202014 | 0.0791504 | 0.4447486 | 0.656501 | 0.961833 |
| zgc:193711 | 56.75705408 | -0.329874063 | 0.2707242 | -1.218488 | 0.223039 | 0.789115 |
| CR376730.2 | 0.656489935 | -1.4754824 | 2.3018704 | -0.640993 | 0.521527 | NA |
| zfyve9a | 440.3177725 | 0.068325056 | 0.1150692 | 0.5937737 | 0.552663 | 0.947265 |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| zgc:113442 | 19.42642284 | -0.11738085 | 0.4301087 | -0.27291 | 0.784923 | 0.97627 |
| CR848667.2 | | 0 NA | NA | NA | NA | NA |
| rab3ip | 979.1458235 | -0.058168007 | 0.0907893 | -0.640692 | 0.521723 | 0.939056 |

| | | | | | | |
|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| pcdh20 | 173.7994691 | 0.076857325 | 0.1614922 | 0.4759198 | 0.634132 | 0.95776 |
| si:dkeyp-86d6.2 | 17.82773291 | -0.103354223 | 0.4457856 | -0.231847 | 0.816657 | 0.981594 |
| si:dkey-65l23.2 | 0 NA | | NA | NA | NA | NA |
| metrnla | 527.0073807 | -0.057295939 | 0.1124581 | -0.509487 | 0.610411 | 0.95688 |
| pinl | 980.9488338 | -0.151726344 | 0.1099014 | -1.380568 | 0.167412 | 0.724535 |
| si:dkeyp-44d3.5 | 17.82408189 | 0.256953038 | 0.4762211 | 0.5395667 | 0.589496 | 0.953498 |
| pmfbpl | 47.58151384 | -0.093492012 | 0.3055494 | -0.30598 | 0.75962 | 0.975374 |
| si:ch211-111e20.1 | 6.533643866 | -2.767388365 | 0.919632 | -3.009235 | 0.002619 | NA |
| foxjla | 188.3965842 | 0.096126815 | 0.1479241 | 0.6498387 | 0.515796 | 0.9377 |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| si:dkey-65b13.13 | 106.8156256 | 0.8769248 | 0.201462 | 4.352805 | 1.34E-05 | 0.000916 |
| si:ch1073-204b8.1 | 0.968187754 | 2.173022767 | 2.1450023 | 1.0130632 | 0.31103 | NA |
| zgc:101130 | 101.6869945 | 0.107352475 | 0.1966441 | 0.5459226 | 0.585119 | 0.952487 |
| FQ377605.1 | 16.96946199 | -0.038716402 | 0.4784959 | -0.080913 | 0.935511 | 0.992702 |
| gorasp1b | 9.289145142 | -0.694496019 | 0.6932033 | -1.001865 | 0.316409 | NA |
| CU914622.1 | 23.05858104 | 0.0223547 | 0.4695331 | 0.0476105 | 0.962027 | 0.995907 |
| si:dkey-205h23.2 | 7.296451063 | 0.39361518 | 0.68977 | 0.570647 | 0.568239 | NA |
| si:ch73-358j7.2 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| BX088707.1 | 1.138580709 | -0.449151772 | 1.929806 | -0.232745 | 0.81596 | NA |
| tmem106ba | 926.3178188 | -0.080349882 | 0.0937427 | -0.857132 | 0.391372 | 0.897688 |
| RF02209 | 0 NA | | NA | NA | NA | NA |
| BX324216.1 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |
| si:dkey-260j18.2 | 625.3333354 | 0.092029174 | 0.0974662 | 0.944216 | 0.345059 | 0.878434 |
| BX511111.2 | 7.146064906 | 0.071163196 | 0.734397 | 0.0969002 | 0.922806 | NA |
| si:dkey-92j16.2 | 3.840958647 | -0.661235096 | 0.9808908 | -0.674117 | 0.500237 | NA |
| ptbp2a | 418.1171837 | -0.13929682 | 0.1156879 | -1.204074 | 0.228561 | 0.796028 |
| si:ch211-223g7.6 | 4.160549767 | 0.591090525 | 0.924439 | 0.6394046 | 0.52256 | NA |
| numbl | 59.0102959 | -0.057046551 | 0.2502076 | -0.227997 | 0.819649 | 0.981594 |
| pigv | 71.55502986 | -0.533234323 | 0.2309655 | -2.308719 | 0.020959 | 0.273382 |
| hoxc6b | 53.1413069 | -0.430827713 | 0.2896646 | -1.487333 | 0.136927 | 0.673303 |
| znf1159 | 23.98907544 | -0.120824452 | 0.4155869 | -0.290732 | 0.771256 | 0.975687 |
| CU571315.2 | 8.333956194 | 0.459795666 | 0.7080606 | 0.6493733 | 0.516097 | NA |
| etvl | 336.9667171 | -0.232469595 | 0.1184515 | -1.962572 | 0.049696 | 0.437138 |
| si:dkeyp-44d3.3 | 10.6835733 | 0.386463808 | 0.588603 | 0.656578 | 0.511452 | NA |
| abhd18 | 288.9712121 | 0.079629531 | 0.1318821 | 0.6037935 | 0.545981 | 0.945526 |
| tmem141 | 57.71468995 | 0.096891802 | 0.2535539 | 0.382135 | 0.702361 | 0.968134 |
| zgc:171592 | 0.63196552 | 0.01215153 | 2.613686 | 0.0046492 | 0.99629 | NA |
| BX664606.2 | 0 NA | | NA | NA | NA | NA |
| sult4a1 | 888.9888297 | -0.026313763 | 0.0913413 | -0.288082 | 0.773284 | 0.975687 |
| si:ch211-227p7.1 | 0 NA | | NA | NA | NA | NA |
| CABZ01084347.1 | 4.537559929 | 0.776779417 | 0.9484456 | 0.8190026 | 0.412785 | NA |
| RF00026 | 0 NA | | NA | NA | NA | NA |
| si:dkey-225f5.4 | 189.9376008 | -0.051473045 | 0.1527174 | -0.337048 | 0.736081 | 0.972535 |
| si:ch211-209n20.59 | 2.683599399 | -0.714200784 | 1.150094 | -0.620993 | 0.534604 | NA |
| eps813a | 307.0326637 | -0.422449538 | 0.1395597 | -3.027017 | 0.00247 | 0.062293 |
| bmpcr | 609.8823605 | 0.07654539 | 0.1110735 | 0.6891418 | 0.490734 | 0.931926 |
| spryd3 | 98.62889768 | -0.332980608 | 0.2057634 | -1.618269 | 0.105605 | 0.614545 |
| pkn2 | 107.2966314 | 0.293648714 | 0.1947129 | 1.5081111 | 0.131526 | 0.664995 |
| pde6gb | 847.8286246 | 0.126148957 | 0.0876428 | 1.439354 | 0.15005 | 0.69814 |
| socs9 | 59.20503974 | -0.187622379 | 0.2555711 | -0.73413 | 0.46287 | 0.922698 |
| irf6 | 262.1678772 | -0.127057699 | 0.1641879 | -0.773855 | 0.439016 | 0.916082 |
| CU633987.1 | 0 NA | | NA | NA | NA | NA |
| thrap3a | 206.3886113 | 0.069935441 | 0.1450072 | 0.4822896 | 0.6296 | 0.957354 |
| CU571315.3 | 9.204068463 | 0.830665285 | 0.7343064 | 1.1312243 | 0.257961 | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| si:dkey-238k10.3 | 28.40376596 | 0.443113876 | 0.3815021 | 1.1614979 | 0.245439 | 0.815388 |
| CR354398.1 | 0 NA | NA | NA | NA | NA | NA |
| gabrgl | 10.5961783 | -0.368437185 | 0.596871 | -0.617281 | 0.537049 | NA |
| cxxcla | 519.7378268 | -0.135930984 | 0.1045602 | -1.300026 | 0.193592 | 0.757219 |
| si:dkey-191j3.2 | 4.674947947 | 0.22351411 | 0.8656309 | 0.2582095 | 0.796245 | NA |
| si:dkey-1b17.2 | 14.62066731 | -0.703922962 | 0.5260246 | -1.338194 | 0.180833 | 0.741776 |
| cog3 | 532.921386 | -0.140004093 | 0.1104599 | -1.267466 | 0.204989 | 0.772822 |
| si:dkeyp-13d12.24 | 0 NA | NA | NA | NA | NA | NA |
| CU695215.2 | 6.645235635 | -4.33E-05 | 0.7177161 | -6.03E-05 | 0.999952 | NA |
| apoea | 3336.946193 | 0.272319023 | 0.2005723 | 1.3577103 | 0.174556 | 0.734625 |
| RF00001 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:dkey-72117.6 | 6.609984116 | 0.460802706 | 0.7531831 | 0.611807 | 0.540665 | NA |
| ppp2r2d | 403.6811311 | 0.119310503 | 0.1144708 | 1.0422789 | 0.297282 | 0.853945 |
| ppplcbl | 1299.46477 | -0.11362546 | 0.0926605 | -1.226255 | 0.220103 | 0.786751 |
| FP009765.1 | 0 NA | NA | NA | NA | NA | NA |
| CABZ01037298.1 | 57.58551107 | 0.104531542 | 0.2636053 | 0.3965456 | 0.691703 | 0.967305 |
| trpc4b | 26.11552906 | -0.100232591 | 0.3724392 | -0.269125 | 0.787834 | 0.976596 |
| btr25 | 11.4163178 | 0.389639422 | 0.6247277 | 0.6236948 | 0.532828 | 0.942805 |
| AL627305.3 | 24.76675313 | 0.12109669 | 0.4258143 | 0.2843885 | 0.776113 | 0.975826 |
| pnpla3 | 204.4307951 | -0.147284736 | 0.1528015 | -0.963896 | 0.335098 | 0.875906 |
| C14orf28 | 32.04651109 | -0.132796263 | 0.334786 | -0.39666 | 0.691618 | 0.967305 |
| phf13 | 197.5060806 | -0.001442919 | 0.1542061 | -0.009357 | 0.992534 | 0.998239 |
| chmp6b | 1027.272893 | 0.015110409 | 0.0838758 | 0.1801522 | 0.857033 | 0.985597 |
| znf644b | 156.5552613 | 0.19929519 | 0.1633818 | 1.2198124 | 0.222536 | 0.788748 |
| gpsm21 | 69.98037257 | 0.128727541 | 0.2300346 | 0.5596008 | 0.575752 | 0.950373 |
| si:dkey-172k15.11 | 107.7747348 | -0.252190935 | 0.2018022 | -1.249694 | 0.211411 | 0.778917 |
| si:dkey-183c6.7 | 11.46245505 | -0.709215018 | 0.5699946 | -1.244249 | 0.213408 | 0.781631 |
| BX950220.1 | 0 NA | NA | NA | NA | NA | NA |
| zgc:193790 | 40.40865724 | -0.14477129 | 0.3101651 | -0.466756 | 0.640675 | 0.959994 |
| si:ch211-214k5.3 | 0.524057646 | 2.503896172 | 2.7289583 | 0.9175282 | 0.358866 | NA |
| slc52a2 | 86.72194254 | -0.046607678 | 0.207645 | -0.224458 | 0.822401 | 0.982189 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| CR356236.1 | 65.35823802 | -0.175458562 | 0.2850688 | -0.615496 | 0.538227 | 0.943336 |
| FP326652.1 | 0.365141898 | 1.973577737 | 3.3927314 | 0.5817076 | 0.560764 | NA |
| mab2111 | 3114.473593 | 0.001300346 | 0.0808002 | 0.0160934 | 0.98716 | 0.997136 |
| slc25a43 | 380.1281328 | 0.090648612 | 0.1190706 | 0.7613015 | 0.446477 | 0.917154 |
| CU550719.1 | 0 NA | NA | NA | NA | NA | NA |
| MCOLN3 | 154.4363726 | 0.186552545 | 0.1703169 | 1.0953263 | 0.273374 | 0.838214 |
| mtbl | 437.8606999 | 0.015058127 | 0.1405892 | 0.1071073 | 0.914704 | 0.991119 |
| tradv28.0 | 0 NA | NA | NA | NA | NA | NA |
| znf1164 | 30.31302789 | -0.282803249 | 0.3523214 | -0.802685 | 0.422157 | 0.90651 |
| CR848705.1 | 0.840160759 | 1.928602366 | 2.2195536 | 0.8689145 | 0.384894 | NA |
| hadhb | 2920.567172 | -0.038881844 | 0.0740761 | -0.52489 | 0.599659 | 0.956045 |
| svild | 632.2689989 | 0.050164666 | 0.1010551 | 0.4964089 | 0.619606 | 0.957354 |
| si:dkeyp-11e3.1 | 165.1464662 | 0.065372686 | 0.1684685 | 0.3880411 | 0.697986 | 0.967998 |
| RGS13 (1 of many) | 14.8612223 | 0.174967765 | 0.5023809 | 0.3482771 | 0.727632 | 0.970402 |
| zgc:92873 | 314.5654978 | 0.015475372 | 0.1269797 | 0.1218728 | 0.903 | 0.990121 |
| b3galt2 | 1371.382862 | 0.134777392 | 0.0807123 | 1.6698486 | 0.094949 | 0.585629 |
| si:dkeyp-82h4.3 | 8.308656504 | 0.398986918 | 0.6863914 | 0.5812819 | 0.56105 | NA |
| kcna2b | 18.37865406 | -0.346756513 | 0.4559468 | -0.76052 | 0.446944 | 0.917154 |
| ntn4 | 61.67434235 | -0.22454104 | 0.2488503 | -0.902314 | 0.36689 | 0.88734 |
| grm5b | 6.567611246 | 0.204250822 | 0.7890366 | 0.258861 | 0.795742 | NA |
| shcbp1 | 211.5223827 | -0.102604493 | 0.1451049 | -0.707105 | 0.479501 | 0.927091 |
| neolb | 0 NA | NA | NA | NA | NA | NA |

| | | | | | | |
|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| tbcl1d10aa | 346.5520937 | -0.146870378 | 0.1482813 | -0.990485 | 0.321937 | 0.869551 |
| slc25a47b | 61.31317812 | 0.094884688 | 0.2489643 | 0.3811176 | 0.703116 | 0.968134 |
| RNF122 | 137.198266 | 0.037341302 | 0.1718604 | 0.2172769 | 0.827993 | 0.982721 |
| spink2.1 | 30.99643026 | 0.108418731 | 0.4217843 | 0.2570478 | 0.797142 | 0.978577 |
| CABZ01072548.1 | 53.48352786 | 0.112272064 | 0.2624048 | 0.4278583 | 0.668754 | 0.964829 |
| mif4gda | 93.60331349 | -0.219167336 | 0.2128626 | -1.029619 | 0.303189 | 0.85729 |
| mprip | 1369.13949 | 0.067206247 | 0.0827342 | 0.8123153 | 0.416611 | 0.906237 |
| nr3c2 | 19.38236011 | -0.667007619 | 0.4375674 | -1.524354 | 0.12742 | 0.657518 |
| CT573793.2 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| popl | 81.5177496 | 0.15509231 | 0.2192304 | 0.7074399 | 0.479293 | 0.927091 |
| CABZ01052576.1 | 215.8523296 | -0.203909602 | 0.1402361 | -1.454045 | 0.145934 | 0.691682 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| wu:fd46c06 | 0.316103113 | 0.005883447 | 3.3519121 | 0.0017553 | 0.9986 | NA |
| si:ch73-233f7.5 | 0.647019846 | -1.455099716 | 2.4289208 | -0.599073 | 0.549125 | NA |
| adra2b | 47.84434174 | 0.281677068 | 0.2859412 | 0.9850872 | 0.324581 | 0.871063 |
| nfbkiz | 272.2019983 | -0.068762031 | 0.1436072 | -0.47882 | 0.632066 | 0.957356 |
| CR954226.1 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:ch211-255f4.11 | 36.20707998 | 0.095180104 | 0.3376905 | 0.281856 | 0.778054 | 0.975942 |
| mrcla | 118.5386197 | -0.017694522 | 0.2016636 | -0.087743 | 0.930081 | 0.992702 |
| si:ch73-174h16.5 | 21.5239033 | 0.039696227 | 0.439632 | 0.0902942 | 0.928053 | 0.992702 |
| CU855889.1 | 0 | NA | NA | NA | NA | NA |
| dad1 | 1926.827312 | -0.217572476 | 0.2166661 | -1.004183 | 0.31529 | 0.866511 |
| tgm111 | 929.6539593 | 0.183493507 | 0.0903433 | 2.0310685 | 0.042248 | 0.403776 |
| tradv2.0.4 | 0 | NA | NA | NA | NA | NA |
| zbtb49 | 146.652191 | 0.10972577 | 0.1886486 | 0.581641 | 0.560808 | 0.948728 |
| ptdss1b | 5.775915749 | -0.072332246 | 0.7952314 | -0.090957 | 0.927526 | NA |
| ndufc2 | 1268.894547 | -0.00410256 | 0.0912264 | -0.044971 | 0.96413 | 0.995927 |
| sfl1 | 80.73369772 | -0.088221106 | 0.22134 | -0.398577 | 0.690205 | 0.966922 |
| si:ch73-359m17.2 | 35.63511907 | -0.338099788 | 0.3578183 | -0.944892 | 0.344714 | 0.878434 |
| RF00090 | 0 | NA | NA | NA | NA | NA |
| phtf2 | 239.8115031 | -0.038157035 | 0.1624388 | -0.234901 | 0.814286 | 0.981081 |
| BX000696.1 | 0.473290478 | -0.833892061 | 2.901156 | -0.287434 | 0.77378 | NA |
| iqsec2a | 207.7467525 | 0.021648358 | 0.1651586 | 0.1310762 | 0.895715 | 0.989814 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| NHLRC3 | 435.6524713 | -0.026029426 | 0.1106906 | -0.235155 | 0.814089 | 0.981081 |
| eps8a | 542.0579533 | 0.141612293 | 0.1070085 | 1.3233746 | 0.185711 | 0.749744 |
| crygn1 | 90.53509458 | -0.143359506 | 0.2139285 | -0.670128 | 0.502776 | 0.935304 |
| BX666065.2 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| AL954698.2 | 1.496022185 | 1.07752978 | 1.7500704 | 0.6157065 | 0.538088 | NA |
| foxal | 206.7203847 | -0.071679878 | 0.1494998 | -0.479465 | 0.631608 | 0.957356 |
| ptpn12 | 196.5505885 | -0.074752103 | 0.1658352 | -0.450761 | 0.652162 | 0.960708 |
| ece2b | 30.13545302 | 0.307877043 | 0.3555147 | 0.8660036 | 0.386488 | 0.89551 |
| btr24 | 2.338299129 | 1.347013405 | 1.2702671 | 1.0604174 | 0.288955 | NA |
| eef1akmt2 | 114.3238077 | -0.092622324 | 0.2123101 | -0.43626 | 0.662648 | 0.964665 |
| ccdc77 | 139.1171852 | 0.173477016 | 0.1703169 | 1.0185541 | 0.308415 | 0.861088 |
| si:ch211-69b7.6 | 66.76898406 | -0.05095925 | 0.2439872 | -0.20886 | 0.834557 | 0.983992 |
| femlc | 149.3138228 | -0.076021388 | 0.1694158 | -0.448727 | 0.653629 | 0.961112 |
| si:ch211-249o11.5 | 0.48448895 | 0.85344211 | 2.878836 | 0.2964539 | 0.766883 | NA |
| nrpla | 1139.89276 | -0.07848043 | 0.0876622 | -0.89526 | 0.370648 | 0.890626 |
| si:dkey-262g12.10 | 99.1957586 | -0.120170613 | 0.2080588 | -0.57758 | 0.563548 | 0.948739 |
| si:dkey-264f17.4 | 12.2720255 | -0.080341721 | 0.5366794 | -0.149702 | 0.881 | 0.988111 |
| si:ch211-117i20.2 | 0.817013712 | 0.525058354 | 2.1207741 | 0.2475786 | 0.80446 | NA |
| ly6m6 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:dkeyp-61b2.1 | 11.57423573 | -0.869407051 | 0.6245369 | -1.392083 | 0.163897 | 0.71945 |

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| SDK2 (1 of many) | 66.14360774 | -0.119583373 | 0.2450986 | -0.487899 | 0.625621 | 0.957354 |
| BX005043.1 | 11.61860112 | -0.111744316 | 0.5717685 | -0.195436 | 0.845051 | 0.985174 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| ppox | 62.87460618 | 0.053033671 | 0.2435982 | 0.2177097 | 0.827655 | 0.982721 |
| fnipl | 763.8458382 | 0.009174526 | 0.090066 | 0.1018645 | 0.918864 | 0.991623 |
| CABZ01065425.1 | 0 NA | NA | NA | NA | NA | NA |
| CR381700.1 | 1.16600141 | 0.393120273 | 1.8307582 | 0.2147309 | 0.829977 | NA |
| hamp | 267.9921157 | 0.106316754 | 0.1548972 | 0.6863699 | 0.49248 | 0.931926 |
| plala | 55.59483021 | 0.36777123 | 0.2610687 | 1.4087144 | 0.15892 | 0.709613 |
| emilin2b | 307.4403812 | 0.360443894 | 0.1249032 | 2.8857849 | 0.003904 | 0.085637 |
| shroom3 | 101.2117576 | 0.166676378 | 0.2077158 | 0.8024251 | 0.422307 | 0.906561 |
| mibl | 1177.857426 | -0.033150377 | 0.0831263 | -0.398795 | 0.690044 | 0.966857 |
| PCDH8 | 278.854054 | -0.127961424 | 0.1347081 | -0.949916 | 0.342155 | 0.878434 |
| CU694264.1 | 2.411284307 | -1.005654629 | 1.3114965 | -0.766799 | 0.443201 | NA |
| tradv20.0 | 0 NA | NA | NA | NA | NA | NA |
| CPNE8 | 241.7340916 | -0.034237141 | 0.1456142 | -0.235122 | 0.814114 | 0.981081 |
| zc3h7a | 638.8050371 | -0.040825185 | 0.0985421 | -0.414292 | 0.678661 | 0.965257 |
| si:ch73-233f7.3 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| SIKE1 | 664.6669223 | 0.199237089 | 0.0943308 | 2.1121116 | 0.034677 | 0.362421 |
| man2a1 | 11.3719383 | -0.140524031 | 0.5824619 | -0.241259 | 0.809355 | 0.980642 |
| phospho2 | 166.6215914 | 0.30712721 | 0.1641695 | 1.870793 | 0.061374 | 0.482931 |
| jph3 | 543.8159084 | 0.157282641 | 0.1075255 | 1.4627473 | 0.143537 | 0.686804 |
| stc2b | 18.58119172 | -0.632118053 | 0.5049469 | -1.251851 | 0.210624 | 0.778338 |
| L0018612.1 | 0 NA | NA | NA | NA | NA | NA |
| csf3a | 20.05316394 | -0.078694854 | 0.4234315 | -0.18585 | 0.852562 | 0.985174 |
| si:dkey-16p6.1 | 16.5213468 | 0.235367767 | 0.46308 | 0.5082659 | 0.611267 | 0.95688 |
| si:ch211-227e10.6 | 8.117960422 | -0.286485845 | 0.6766225 | -0.423406 | 0.671999 | NA |
| d1g11 | 1491.02152 | 0.050400351 | 0.076349 | 0.6601312 | 0.50917 | 0.936123 |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-31g6.4 | 2.874032406 | -0.83422186 | 1.1453618 | -0.728348 | 0.466401 | NA |
| si:ch211-12p12.2 | 1.56223148 | 1.028403293 | 1.650785 | 0.6229783 | 0.533299 | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| HACD4 | 19.76005776 | -0.350299739 | 0.4354743 | -0.80441 | 0.42116 | 0.90651 |
| BX511079.2 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-205a14.7 | 3.604009881 | 0.275896284 | 1.0202682 | 0.2704155 | 0.786841 | NA |
| gpr19 | 171.2361517 | -0.072798079 | 0.1672104 | -0.435368 | 0.663295 | 0.964736 |
| CR450749.3 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-171c9.3 | 14.79334174 | -0.819852081 | 0.4990047 | -1.642975 | 0.100388 | 0.602451 |
| mapk8ipla | 879.5630853 | 0.07572615 | 0.0882239 | 0.8583408 | 0.390704 | 0.897617 |
| si:ch211-8c17.3 | 0.524057646 | 2.503896172 | 2.7289583 | 0.9175282 | 0.358866 | NA |
| si:ch211-71n6.4 | 61.72520153 | 0.26113512 | 0.2514644 | 1.0384577 | 0.299057 | 0.855178 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| CR559945.1 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| CU695223.1 | 91.27981927 | 0.263873327 | 0.2127224 | 1.2404587 | 0.214806 | 0.782493 |
| zgc:136410 | 327.5157571 | -0.019825851 | 0.1674453 | -0.118402 | 0.905749 | 0.990702 |
| si:ch211-180m24.3 | 4.466821733 | 0.552610044 | 0.9474087 | 0.5832858 | 0.559701 | NA |
| tkl | 521.548379 | -0.117750627 | 0.1085181 | -1.085078 | 0.277887 | 0.84162 |
| traj42 | 0 NA | NA | NA | NA | NA | NA |
| CU463038.2 | 12.01073063 | -0.54968821 | 0.6095426 | -0.901804 | 0.367161 | 0.887458 |
| pepd | 361.1749349 | -0.264844588 | 0.12167 | -2.176746 | 0.0295 | 0.332709 |
| traj44 | 0 NA | NA | NA | NA | NA | NA |
| pdzph1 | 2.896312405 | 1.332635899 | 1.254742 | 1.0620796 | 0.2882 | NA |
| USP34 | 555.8038729 | -0.04136661 | 0.1118883 | -0.369713 | 0.711596 | 0.969006 |
| pycrla | 117.1863688 | -0.21265477 | 0.1939422 | -1.096486 | 0.272866 | 0.838096 |

| | | | | | | |
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| si:dkey-157e10.6 | 1.736981655 | 2.082942382 | 1.654932 | 1.2586272 | 0.208165 | NA |
| soul3 | 468.6916516 | -0.055820837 | 0.1046775 | -0.533265 | 0.59385 | 0.954434 |
| si:dkey-1b17.1 | 45.37761292 | 0.319932397 | 0.2868808 | 1.1152104 | 0.26476 | 0.830616 |
| tradv40.0 | 0 | NA | NA | NA | NA | NA |
| RSPH1 | 90.15463972 | 0.24064575 | 0.2093869 | 1.1492876 | 0.250437 | 0.820164 |
| si:dkey-179k24.5 | 1.860531078 | -0.27038751 | 1.3850158 | -0.195223 | 0.845218 | NA |
| trim35-22 | 0 | NA | NA | NA | NA | NA |
| smarcall | 83.14603228 | -0.102994644 | 0.2143808 | -0.480428 | 0.630923 | 0.957354 |
| isg2012 | 114.6433542 | 0.037883551 | 0.2146739 | 0.1764702 | 0.859925 | 0.985773 |
| znf750 | 42.6293366 | 0.131255702 | 0.3236897 | 0.4054985 | 0.685111 | 0.966146 |
| si:dkey-203a12.2 | 0.341366344 | 1.891903201 | 3.2128156 | 0.5888614 | 0.555954 | NA |
| coro6 | 35.37891007 | 0.084820455 | 0.3248865 | 0.2610772 | 0.794033 | 0.977937 |
| si:ch211-229110.9 | 1.17979872 | 1.405194507 | 1.8768877 | 0.7486833 | 0.454048 | NA |
| aaas | 273.2298652 | -0.149737051 | 0.1291029 | -1.159827 | 0.246119 | 0.816291 |
| lamal | 216.754102 | -0.238321105 | 0.1678353 | -1.41997 | 0.155616 | 0.705771 |
| CR388413.3 | 0 | NA | NA | NA | NA | NA |
| zmizlb | 99.8901455 | -0.122954513 | 0.2020216 | -0.608621 | 0.542776 | 0.944974 |
| CR391937.1 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |
| slcolfl | 0 | NA | NA | NA | NA | NA |
| CABZ01056321.1 | 257.9008859 | 0.036094797 | 0.1426871 | 0.2529648 | 0.800295 | 0.979377 |
| eef1da | 5032.069636 | -0.19105373 | 0.0858505 | -2.225422 | 0.026053 | 0.311101 |
| CU013526.1 | 0.349228403 | 0.005884014 | 3.2372587 | 0.0018176 | 0.99855 | NA |
| fbxolla | 1081.825073 | 0.052478316 | 0.0854905 | 0.6138497 | 0.539315 | 0.943836 |
| dnaja3b | 230.0878963 | 0.020753394 | 0.1454553 | 0.1426788 | 0.886544 | 0.988936 |
| zgc:175177 | 5.141781473 | 0.449330973 | 0.8425479 | 0.5333002 | 0.593826 | NA |
| CU929307.1 | 0 | NA | NA | NA | NA | NA |
| excl8b.1 | 44.19031497 | -0.379729486 | 0.354255 | -1.07191 | 0.28376 | 0.84466 |
| ca9 | 46.26541644 | -0.030560481 | 0.2844165 | -0.10745 | 0.914432 | 0.991119 |
| CR855379.3 | 0.63518158 | 2.807133192 | 2.749971 | 1.0207865 | 0.307356 | NA |
| trim35-21 | 1.146871855 | -2.468097658 | 1.9212996 | -1.284598 | 0.198933 | NA |
| svbp | 157.0944959 | -0.184066324 | 0.1764014 | -1.043452 | 0.296739 | 0.853798 |
| taf2 | 628.8077581 | -0.023450385 | 0.0969786 | -0.24181 | 0.808927 | 0.980642 |
| ttc39c | 674.602573 | 0.16681372 | 0.0953265 | 1.7499204 | 0.080132 | 0.549631 |
| si:ch211-156118.8 | 25.90909496 | 0.290646727 | 0.3940326 | 0.7376209 | 0.460745 | 0.921978 |
| scn5lab | 13.86991549 | 0.141654917 | 0.5417846 | 0.2614598 | 0.793738 | 0.977937 |
| si:dkey-237m9.2 | 0 | NA | NA | NA | NA | NA |
| rpl26 | 2.514065613 | 1.01440179 | 1.2390597 | 0.8186868 | 0.412965 | NA |
| il6 | 9.439670568 | -1.114509848 | 0.6346051 | -1.756226 | 0.07905 | NA |
| si:dkey-196h17.9 | 3.185928651 | -1.123887219 | 1.1211858 | -1.002409 | 0.316146 | NA |
| mobla | 519.956345 | -0.01952816 | 0.1181041 | -0.165347 | 0.868671 | 0.987245 |
| si:ch73-299h12.1 | 39.99798499 | -0.110902005 | 0.3443393 | -0.322072 | 0.747398 | 0.97419 |
| ehmt2 | 303.1124738 | -0.198539949 | 0.1329331 | -1.493533 | 0.135298 | 0.670689 |
| rafla | 0 | NA | NA | NA | NA | NA |
| or106-11 | 1.981637754 | 1.614243472 | 1.4549645 | 1.1094728 | 0.267226 | NA |
| spintla | 1621.493057 | -0.029486224 | 0.0844147 | -0.349302 | 0.726863 | 0.970402 |
| fcfl | 460.4295159 | 0.029480294 | 0.1363211 | 0.2162563 | 0.828788 | 0.982721 |
| SH3RF3 | 10.78408175 | -0.197512719 | 0.6297483 | -0.313638 | 0.753796 | NA |
| anol | 250.2418957 | 0.010674248 | 0.149539 | 0.071381 | 0.943095 | 0.993364 |
| SLC5A7 | 19.74626229 | -0.033347505 | 0.4386571 | -0.076022 | 0.939402 | 0.992857 |
| ptarl | 158.8435652 | 0.074046194 | 0.1808199 | 0.4095026 | 0.682171 | 0.965476 |
| si:dkey-5n7.2 | 2.163857688 | 0.21442682 | 1.2786875 | 0.1676929 | 0.866825 | NA |
| ptn | 1332.771513 | 0.114297805 | 0.0804383 | 1.4209367 | 0.155335 | 0.705142 |
| sugct | 19.26044847 | -0.097769643 | 0.4307062 | -0.226998 | 0.820425 | 0.981594 |
| CR925800.1 | 0 | NA | NA | NA | NA | NA |

| | | | | | | |
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| si:dkey-243k1.3 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| cep551 | 130.9092226 | -0.105682766 | 0.1807804 | -0.584592 | 0.558822 | 0.948478 |
| ddx47 | 319.5458706 | -0.228772598 | 0.1304265 | -1.754034 | 0.079425 | 0.547489 |
| scp2b | 668.7364804 | -0.103298312 | 0.0956389 | -1.080087 | 0.280104 | 0.843423 |
| CR854899.1 | 0 | NA | NA | NA | NA | NA |
| si:dkey-261o4.9 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:ch211-11p18.6 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| slc25a12 | 1874.34695 | 0.096075633 | 0.0871858 | 1.101964 | 0.270477 | 0.835266 |
| si:ch73-138e16.4 | 62.90377591 | 0.11759707 | 0.2560272 | 0.4593147 | 0.646008 | 0.96029 |
| si:dkey-202122.6 | 642.2011422 | -0.004394853 | 0.2350579 | -0.018697 | 0.985083 | 0.996944 |
| eloa | 770.1087179 | -0.067915655 | 0.0965101 | -0.703715 | 0.48161 | 0.928386 |
| micall2a | 96.21241506 | -0.173033582 | 0.2037023 | -0.849443 | 0.395635 | 0.899378 |
| ndfip11 | 479.9716132 | 0.023008046 | 0.1109479 | 0.207377 | 0.835715 | 0.984089 |
| trim35-23 | 0.530029684 | -0.939524117 | 2.7937867 | -0.336291 | 0.736652 | NA |
| znf1094 | 4.539151659 | -0.179604214 | 0.9456443 | -0.189928 | 0.849366 | NA |
| CU570769.1 | 104.9366179 | 0.082972321 | 0.1933551 | 0.429119 | 0.667837 | 0.964736 |
| col4a3bpb | 476.3123429 | -0.05361275 | 0.114632 | -0.467694 | 0.640003 | 0.959994 |
| si:dkeyp-13d12.20 | 0 | NA | NA | NA | NA | NA |
| si:ch211-204c21.1 | 1.273641835 | -0.001638802 | 1.7360344 | -0.000944 | 0.999247 | NA |
| slc6a16b | 70.20777747 | 0.03016185 | 0.2393755 | 0.1260023 | 0.89973 | 0.990121 |
| si:zfos-80g12.1 | 241.290107 | 0.015104007 | 0.1392668 | 0.1084538 | 0.913636 | 0.991119 |
| cnm4a | 11.92360819 | 0.649873893 | 0.549819 | 1.1819779 | 0.237214 | 0.806236 |
| slc44a4 | 135.7594466 | -0.09001285 | 0.1768456 | -0.508991 | 0.610758 | 0.95688 |
| CR774179.2 | 7.356261892 | 0.336150166 | 0.7487369 | 0.4489563 | 0.653463 | NA |
| slc39a14 | 24.1746809 | 0.065015684 | 0.401294 | 0.1620151 | 0.871294 | 0.987754 |
| ved | 7.472238877 | -0.448339444 | 0.6846652 | -0.65483 | 0.512577 | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| CU062645.1 | 0.481032184 | -2.398473301 | 2.80721 | -0.854398 | 0.392885 | NA |
| ap1g1 | 689.4344768 | -0.074492764 | 0.099763 | -0.746698 | 0.455246 | 0.921207 |
| CU658285.1 | 0 | NA | NA | NA | NA | NA |
| cnm1b | 41.22718979 | -0.114322276 | 0.3250132 | -0.351747 | 0.725028 | 0.970402 |
| znf1001 | 2.424319057 | 0.919528807 | 1.3334844 | 0.6895685 | 0.490466 | NA |
| fut11 | 108.9025503 | 0.243992569 | 0.1985124 | 1.2291052 | 0.219032 | 0.785734 |
| cry2 | 889.969349 | -0.023019643 | 0.0917858 | -0.250797 | 0.801971 | 0.979492 |
| si:ch211-165e15.1 | 47.5308834 | 0.295435776 | 0.2959316 | 0.9983244 | 0.318122 | 0.867746 |
| cep97 | 228.9760982 | 0.058468905 | 0.1421648 | 0.4112755 | 0.680871 | 0.965476 |
| traj46 | 0 | NA | NA | NA | NA | NA |
| CR381540.2 | 0 | NA | NA | NA | NA | NA |
| CR847850.1 | 4.299140718 | -1.791931195 | 1.1343514 | -1.579697 | 0.114176 | NA |
| eci2 | 1235.180945 | -0.143131465 | 0.0830516 | -1.723403 | 0.084816 | 0.560519 |
| myhz1.1 | 3335.504462 | -0.036738768 | 0.0676327 | -0.54321 | 0.586985 | 0.953319 |
| scinla | 2855.236578 | 0.11938279 | 0.0968088 | 1.2331806 | 0.217508 | 0.784786 |
| psmd7 | 836.4392112 | -0.074534331 | 0.1086986 | -0.685697 | 0.492904 | 0.931926 |
| enc2 | 97.18652481 | 0.106970419 | 0.2208108 | 0.4844437 | 0.628071 | 0.957354 |
| azi2 | 105.1520958 | 0.071086963 | 0.2124754 | 0.3345656 | 0.737953 | 0.972535 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| si:ch211-114m9.1 | 22.8253219 | 0.079167672 | 0.4019784 | 0.1969451 | 0.843871 | 0.985174 |
| zgc:165519 | 2.599899573 | 1.145129811 | 1.2328342 | 0.9288595 | 0.352962 | NA |
| BX088544.1 | 20.70432187 | -0.382795555 | 0.4175299 | -0.91681 | 0.359242 | 0.884762 |
| opn6a | 292.2771256 | 0.308234521 | 0.1427569 | 2.159157 | 0.030838 | 0.33998 |
| CT027744.2 | 16.95670649 | -0.300047788 | 0.4832828 | -0.620853 | 0.534696 | 0.943336 |
| si:dkey-261j11.3 | 1.617365069 | 0.545179 | 1.5109235 | 0.360825 | 0.71823 | NA |
| syt14 | 112.5607279 | 0.1652836 | 0.1923477 | 0.8592959 | 0.390177 | 0.89724 |
| si:dkey-13m1.2 | 1.173983821 | -0.423780316 | 1.7585267 | -0.240986 | 0.809566 | NA |

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| plekhf1 | 244.4950324 | -0.78858166 | 0.1527646 | -5.162072 | 2.44E-07 | 3.04E-05 |
| si:ch211-194b1.1 | 24.74921053 | 0.130960869 | 0.384334 | 0.3407476 | 0.733294 | 0.97199 |
| CABZ01080434.1 | 2.370162906 | 0.398747524 | 1.2679669 | 0.3144779 | 0.753158 | NA |
| ctnnal | 1717.449379 | -0.103272167 | 0.0862021 | -1.198023 | 0.230908 | 0.799177 |
| folr | 144.7126827 | -0.708682449 | 0.18603 | -3.809505 | 0.000139 | 0.006418 |
| shank2a | 285.8858533 | 0.189934276 | 0.1353167 | 1.4036274 | 0.16043 | 0.71328 |
| si:dkey-22o22.2 | 202.3229295 | -0.209370214 | 0.1527661 | -1.370528 | 0.170522 | 0.728116 |
| BX511025.1 | 0 | NA | NA | NA | NA | NA |
| gdpd4a | 6.112134727 | -0.39463125 | 0.8319523 | -0.474344 | 0.635255 | NA |
| BX322657.1 | 6.009652954 | -0.282435232 | 0.8330079 | -0.339055 | 0.734569 | NA |
| CU571328.1 | 0.471562095 | -2.373056629 | 3.0645586 | -0.774355 | 0.438721 | NA |
| EIF3ha | 2191.936558 | -0.183306664 | 0.1110257 | -1.651029 | 0.098733 | 0.598327 |
| slcla2b | 14054.44954 | 0.113371642 | 0.067283 | 1.6849964 | 0.091989 | 0.57849 |
| FP016142.6 | 0.341486697 | 1.892317624 | 3.2124068 | 0.5890654 | 0.555817 | NA |
| znf1133 | 10.26707252 | -0.178718234 | 0.5965085 | -0.299607 | 0.764477 | NA |
| cfhl4 | 1192.438376 | 0.241140612 | 0.1236759 | 1.9497784 | 0.051203 | 0.443542 |
| hip1rb | 350.265208 | -0.085395489 | 0.1299632 | -0.657074 | 0.511133 | 0.936253 |
| olfcg5 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:ch73-170d6.4 | 1.862300746 | 0.281439365 | 1.362817 | 0.2065129 | 0.83639 | NA |
| CR354372.1 | 125.9453922 | -0.116618875 | 0.196679 | -0.59294 | 0.553221 | 0.947265 |
| BX088535.1 | 0 | NA | NA | NA | NA | NA |
| cox18 | 169.9374464 | 0.018170468 | 0.1733079 | 0.104845 | 0.916499 | 0.991349 |
| wnt5b | 269.3563784 | 0.133562413 | 0.1295145 | 1.0312547 | 0.302421 | 0.85729 |
| tradv24.0.1 | 0 | NA | NA | NA | NA | NA |
| si:dkey-7114.5 | 6.173907734 | -1.059992448 | 0.8469011 | -1.251613 | 0.210711 | NA |
| mpp7a | 375.492352 | 0.201844574 | 0.1152974 | 1.7506427 | 0.080007 | 0.54952 |
| trak2 | 103.0803603 | -0.127628562 | 0.1973954 | -0.646563 | 0.517915 | 0.938592 |
| btbd17b | 164.5590393 | 0.322081862 | 0.1715385 | 1.8776072 | 0.060435 | 0.480058 |
| zgc:171673 | 135.3803624 | 0.275886721 | 0.2056317 | 1.3416544 | 0.179708 | 0.741062 |
| dusp16 | 376.0283619 | 0.01549753 | 0.1387505 | 0.1116935 | 0.911066 | 0.991066 |
| si:dkey-3p4.1 | 9.218494456 | 0.396151359 | 0.6581843 | 0.6018851 | 0.547251 | NA |
| stard4 | 165.7568912 | -0.205060922 | 0.1577031 | -1.300297 | 0.193499 | 0.757219 |
| ADAMTS7 | 37.14095191 | 0.587409266 | 0.3175097 | 1.8500512 | 0.064306 | 0.496087 |
| BX005417.2 | 7.824333568 | -0.538017462 | 0.6795058 | -0.791778 | 0.42849 | NA |
| zgc:165573 | 252.6696956 | -0.283774022 | 0.136019 | -2.086283 | 0.036953 | 0.376072 |
| numal | 353.7648084 | -0.267371352 | 0.1238447 | -2.158924 | 0.030856 | 0.33998 |
| si:ch73-359m17.11 | 1.155833789 | -1.281252378 | 1.8785909 | -0.682028 | 0.495221 | NA |
| FO704745.1 | 1.569973187 | 0.368412993 | 1.6311592 | 0.2258596 | 0.821311 | NA |
| asb2b | 183.2687925 | 0.030539544 | 0.1630792 | 0.1872682 | 0.85145 | 0.985174 |
| gpr142 | 3.303736697 | -0.612063836 | 1.0547521 | -0.580292 | 0.561718 | NA |
| ticaml | 118.8333237 | -0.23499142 | 0.2000356 | -1.174748 | 0.240096 | 0.808111 |
| CR847898.4 | 5.734852341 | 1.503745231 | 0.8579203 | 1.7527796 | 0.07964 | NA |
| BX511227.1 | 0.5046461 | -2.45370851 | 2.7629627 | -0.888072 | 0.374502 | NA |
| hoxa5a | 106.8741816 | 0.147721872 | 0.2037354 | 0.7250673 | 0.468411 | 0.924328 |
| lrp2a | 1123.479084 | -0.027788268 | 0.0857042 | -0.324235 | 0.74576 | 0.97419 |
| cript | 460.8620638 | -0.055610947 | 0.1116247 | -0.498196 | 0.618346 | 0.957354 |
| kdm8 | 52.81768983 | -0.229388405 | 0.2740524 | -0.837024 | 0.402579 | 0.90084 |
| FO704822.1 | 15.01967548 | -0.211082599 | 0.5265123 | -0.400907 | 0.688488 | 0.966672 |
| BX323596.2 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CR847504.1 | 0 | NA | NA | NA | NA | NA |
| crtac1b | 30.25922794 | 0.014325707 | 0.3479191 | 0.0411754 | 0.967156 | 0.996315 |
| CR855206.2 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| cc133.2 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:dkey-225f23.4 | 7.017761589 | 0.603193514 | 0.7301794 | 0.8260894 | 0.408753 | NA |

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| si:dkey-161111.74 | | 0 NA | NA | NA | NA | NA |
| lck | 3.369830137 | 0.61733776 | 1.0644415 | 0.579964 | 0.561939 | NA |
| AL935126.1 | 8.012210017 | -0.106631478 | 0.6670317 | -0.15986 | 0.872992 | NA |
| pimr182 | 5.514634083 | -0.794441338 | 0.8360437 | -0.950239 | 0.341991 | NA |
| anapc11 | 156.2433985 | -0.234167817 | 0.1625806 | -1.440318 | 0.149777 | 0.697935 |
| homer3a | 11.77610388 | 0.451557115 | 0.5505448 | 0.8202004 | 0.412102 | 0.904328 |
| si:ch73-281i18.4 | 29.24055148 | 0.252981102 | 0.3842427 | 0.6583888 | 0.510288 | 0.936253 |
| si:cabz01007816.2 | 2.137416509 | 0.683965003 | 1.3227642 | 0.5170725 | 0.605106 | NA |
| mccc1 | 1034.969838 | -0.019326132 | 0.0850397 | -0.22726 | 0.820222 | 0.981594 |
| CR450832.1 | 5.967341578 | 0.326211787 | 0.793886 | 0.410905 | 0.681142 | NA |
| si:ch211-268b14.2 | 10.67568905 | -0.454168228 | 0.5820522 | -0.780288 | 0.435221 | NA |
| CR762475.2 | | 0 NA | NA | NA | NA | NA |
| AL928951.1 | 0.341366344 | 1.891903201 | 3.2128156 | 0.5888614 | 0.555954 | NA |
| cdk11b | 1249.44874 | -0.026292921 | 0.0949526 | -0.276906 | 0.781852 | 0.97627 |
| jazfla | 41.06725013 | -0.018948502 | 0.31037 | -0.061051 | 0.951318 | 0.99381 |
| traj6 | | 0 NA | NA | NA | NA | NA |
| zgc:112433 | 18.74043606 | -0.125683781 | 0.4365199 | -0.287922 | 0.773406 | 0.975687 |
| si:dkey-33i11.9 | 337.5139682 | -0.578580235 | 0.1258044 | -4.599046 | 4.24E-06 | 0.000353 |
| nfat5b | 16.57070874 | -0.372634041 | 0.4726884 | -0.788329 | 0.430504 | 0.912117 |
| ftr87 | 13.85156017 | 0.622165571 | 0.5318742 | 1.1697607 | 0.242097 | 0.810733 |
| pde6ha | 4228.785303 | 0.366025772 | 0.0788958 | 4.6393586 | 3.49E-06 | 0.000298 |
| si:dkey-16p19.5 | 6.684807586 | 0.743488909 | 0.751525 | 0.989307 | 0.322513 | NA |
| AL645691.1 | 0.951525399 | 2.173186616 | 2.1269879 | 1.0217203 | 0.306913 | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| gfal1b | 89.36925173 | 0.425528134 | 0.216663 | 1.964009 | 0.049529 | 0.436253 |
| vasnb | 477.7669712 | 0.096893986 | 0.1072569 | 0.9033826 | 0.366323 | 0.887239 |
| fam102aa | 29.26980302 | 0.280485012 | 0.349347 | 0.8028837 | 0.422042 | 0.90651 |
| si:ch73-106k19.2 | 3.906636699 | 0.026207529 | 1.0557753 | 0.024823 | 0.980196 | NA |
| polr3a | 215.6206906 | -0.134483114 | 0.1459001 | -0.921748 | 0.35666 | 0.883422 |
| CR678435.1 | | 0 NA | NA | NA | NA | NA |
| metap2b | 2403.109989 | 0.088761867 | 0.075822 | 1.1706612 | 0.241735 | 0.810593 |
| si:ch211-260e23.9 | 742.6632623 | -0.038322864 | 0.0984466 | -0.389276 | 0.697072 | 0.96736 |
| si:ch73-21d24.1 | 2.871517134 | 0.541551631 | 1.1739678 | 0.4613002 | 0.644583 | NA |
| si:ch211-106j21.2 | 9.483424802 | -0.236983768 | 0.6198027 | -0.382354 | 0.702199 | NA |
| mif4gdb | 76.33849955 | 0.05983349 | 0.2314237 | 0.2585453 | 0.795986 | 0.978498 |
| BX323855.2 | 1.105255998 | -0.398330741 | 1.974669 | -0.20172 | 0.840135 | NA |
| CU571310.1 | 26.80885009 | -0.445071509 | 0.4351052 | -1.022905 | 0.306353 | 0.860027 |
| si:dkeyp-44b5.5 | 7.03190442 | 0.051784112 | 0.7427964 | 0.0697151 | 0.94442 | NA |
| il4r.1 | 110.603634 | -0.318910293 | 0.2004903 | -1.590652 | 0.111688 | 0.627242 |
| cpne7 | 49.56321143 | -0.043611188 | 0.3031046 | -0.143882 | 0.885594 | 0.988936 |
| fam160a1b | 67.38525033 | -0.047009135 | 0.2539905 | -0.185082 | 0.853165 | 0.985174 |
| zgc:152938 | 86.7523976 | -0.198901943 | 0.2331198 | -0.853218 | 0.393539 | 0.898076 |
| mios | 347.9676614 | -0.064172193 | 0.1240356 | -0.517369 | 0.604898 | 0.95651 |
| sp100.2 | 2.435798677 | -0.155791943 | 1.2619496 | -0.123453 | 0.901748 | NA |
| polr3h | 271.0953794 | 0.070348322 | 0.1302848 | 0.5399579 | 0.589226 | 0.953345 |
| btr30 | 17.12457487 | -0.483888851 | 0.4901263 | -0.987274 | 0.323508 | 0.870837 |
| tradv17.0 | | 0 NA | NA | NA | NA | NA |
| si:ch211-214b16.2 | 33.52390278 | 0.457018548 | 0.3733483 | 1.2241076 | 0.220912 | 0.787641 |
| zgc:194627 | 139.9314934 | 0.01506556 | 0.1938989 | 0.077698 | 0.938068 | 0.99279 |
| si:dkey-250k10.1 | 6.155565788 | 0.728776426 | 0.7829694 | 0.9307854 | 0.351965 | NA |
| si:ch1073-392o20.2 | 725.6551801 | -0.008235941 | 0.1079781 | -0.076274 | 0.939201 | 0.992857 |
| si:dkey-15h8.15 | 87.97448658 | -0.049284792 | 0.2066557 | -0.238487 | 0.811503 | 0.981081 |
| si:ch211-220m17.4 | 4.495850843 | -3.609422925 | 1.2778773 | -2.824546 | 0.004735 | NA |
| BX323837.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |

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| CU929054.1 | 3.967580536 | -0.744288166 | 0.9588404 | -0.776238 | 0.437609 | NA |
| znf1158 | 70.51143154 | -0.431832876 | 0.2381561 | -1.813234 | 0.069796 | 0.515747 |
| pmpca | 737.8988227 | 0.116433908 | 0.1015461 | 1.1466111 | 0.251542 | 0.820927 |
| zgc:109986 | 110.0298578 | -0.180487921 | 0.1984712 | -0.909391 | 0.363144 | 0.885944 |
| r3hdm2 | 19.11410085 | -0.015352466 | 0.4669022 | -0.032882 | 0.973769 | 0.996315 |
| stmdl | 1.188917794 | -1.322455875 | 1.8672776 | -0.708227 | 0.478804 | NA |
| slc15a4 | 38.57845289 | 0.261397885 | 0.3248886 | 0.8045769 | 0.421064 | 0.90651 |
| or106-4 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| fra10ac1 | 96.04517702 | -0.231248765 | 0.204182 | -1.132562 | 0.257398 | 0.825314 |
| si:dkey-3h2.3 | 6.641788913 | -0.742508624 | 0.7463036 | -0.994915 | 0.319778 | NA |
| timp4.2 | 1.662397649 | 0.59386351 | 1.4705481 | 0.4038382 | 0.686332 | NA |
| utpl8 | 32.62487564 | -0.062170486 | 0.3347032 | -0.185748 | 0.852642 | 0.985174 |
| kif22 | 712.0331812 | -0.14587335 | 0.093294 | -1.563587 | 0.117915 | 0.641446 |
| tradv21.0 | | 0 NA | NA | NA | NA | NA |
| frem2b | 1017.828778 | 0.203364679 | 0.0865703 | 2.3491279 | 0.018817 | 0.255627 |
| hoxc11b | 12.72588829 | 0.692566159 | 0.594294 | 1.1653594 | 0.243874 | 0.813336 |
| ubc | 18163.91611 | -0.017642294 | 0.0679968 | -0.259458 | 0.795282 | 0.978466 |
| parn | 1372.078621 | -0.105056986 | 0.0794635 | -1.322078 | 0.186142 | 0.750443 |
| znf1037 | 2.44255057 | 1.423872034 | 1.2746055 | 1.1171081 | 0.263948 | NA |
| trmt9b | 146.8519087 | 0.43369335 | 0.1696429 | 2.5565074 | 0.010573 | 0.17767 |
| RF00001 | 0.476386185 | 2.392464142 | 3.0533824 | 0.7835455 | 0.433307 | NA |
| si:rp71-7119.2 | 2.598558992 | 0.351393069 | 1.1747479 | 0.2991221 | 0.764847 | NA |
| si:dkey-29d5.2 | 0.81902083 | -3.15978573 | 2.3136362 | -1.365723 | 0.172026 | NA |
| pdia3 | 3956.718043 | -0.090092113 | 0.0874853 | -1.029797 | 0.303105 | 0.85729 |
| CR925761.3 | 19.39029036 | -0.747508998 | 0.4585831 | -1.63004 | 0.103093 | 0.609625 |
| chmpla | 976.1030955 | -0.19265634 | 0.1058978 | -1.819267 | 0.068871 | 0.513259 |
| BX927193.1 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| usp47 | 1126.137689 | -0.096012759 | 0.0877218 | -1.094515 | 0.273729 | 0.838381 |
| BX248331.2 | 230.2282735 | 0.353868474 | 0.1399837 | 2.5279269 | 0.011474 | 0.187043 |
| lman21a | 226.7523286 | -0.076567747 | 0.1468779 | -0.521302 | 0.602156 | 0.956045 |
| zgc:174624 | 59.24667252 | 0.074335351 | 0.2726772 | 0.272613 | 0.785151 | 0.97627 |
| si:dkeyp-107f9.2 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| BX511077.1 | 0.836703993 | -0.435975661 | 2.3515416 | -0.1854 | 0.852915 | NA |
| or106-12 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| slc16a5b | 1.474441884 | 0.915576659 | 1.7598873 | 0.5202473 | 0.602891 | NA |
| or129-1 | 7.858599771 | 0.188566057 | 0.6922018 | 0.2724149 | 0.785303 | NA |
| dpyda.1 | 8.04517367 | -0.113804712 | 0.6679336 | -0.170383 | 0.864709 | NA |
| si:dkey-26i24.1 | 11.75078591 | 0.261227298 | 0.5642459 | 0.4629671 | 0.643388 | 0.959994 |
| ckap5 | 3124.459321 | 0.000361776 | 0.076027 | 0.0047585 | 0.996203 | 0.998888 |
| F0818743.1 | 6.047092936 | 0.31410839 | 0.7906039 | 0.3973019 | 0.691145 | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| znf1181 | 47.3643869 | 0.157707834 | 0.3086603 | 0.510943 | 0.609391 | 0.956718 |
| FP074874.1 | 76.43075118 | -0.162686457 | 0.2279491 | -0.713696 | 0.475415 | 0.925919 |
| CR847844.2 | 6.000294344 | 0.223079234 | 0.8227671 | 0.2711329 | 0.786289 | NA |
| CR626941.1 | 1.880104261 | 1.476230477 | 1.5562473 | 0.9485835 | 0.342833 | NA |
| lrrc1 | 386.8846493 | -0.149801764 | 0.1119746 | -1.33782 | 0.180955 | 0.741776 |
| CABZ01085139.1 | 64.34694954 | -0.071103124 | 0.2508661 | -0.283431 | 0.776847 | 0.975826 |
| BX663516.2 | 18.21306473 | 0.39536958 | 0.5361291 | 0.7374522 | 0.460847 | 0.921978 |
| rims2b | 852.2275712 | 0.205594825 | 0.08948 | 2.2976624 | 0.021581 | 0.27819 |
| BX005336.1 | 1.309244368 | -0.052793947 | 1.7430703 | -0.030288 | 0.975837 | NA |
| CU570769.2 | 2.716646616 | 0.787868982 | 1.1885074 | 0.6629063 | 0.507391 | NA |
| dnajc11b | 319.6127434 | 0.107656749 | 0.1399459 | 0.7692741 | 0.441731 | 0.916336 |
| BX005124.3 | | 0 NA | NA | NA | NA | NA |
| evalba | 193.9371769 | 0.236746343 | 0.1529433 | 1.5479357 | 0.121638 | 0.648319 |

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| Irrn3b | 885.0276454 | 0.028934222 | 0.0933789 | 0.3098582 | 0.756669 | 0.975374 |
| CR848025.2 | 1.836875877 | -0.294336615 | 1.4032906 | -0.209747 | 0.833865 | NA |
| si:ch1073-376c22.1 | 1.879942623 | 1.423332496 | 1.4765853 | 0.9639351 | 0.335078 | NA |
| otud6b | 275.4150486 | -0.143031897 | 0.1317623 | -1.08553 | 0.277687 | 0.841383 |
| BX511128.3 | 69.74147708 | -0.11860952 | 0.2326415 | -0.509838 | 0.610165 | 0.95688 |
| CR848032.1 | 1.951199418 | -2.325314723 | 1.5771185 | -1.474407 | 0.140372 | NA |
| CU138533.2 | 11.5447361 | 0.347697275 | 0.5723978 | 0.60744 | 0.543559 | 0.945438 |
| CR376766.3 | 0 | NA | NA | NA | NA | NA |
| si:ch211-205a14.1 | 15.47967514 | -0.913779514 | 0.5119939 | -1.784747 | 0.074302 | 0.530996 |
| si:dkey-13n23.3 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CU469532.1 | 19.15630975 | 0.05727132 | 0.4316405 | 0.1326829 | 0.894444 | 0.989689 |
| AL645691.2 | 8.49507085 | 0.551024351 | 0.6931139 | 0.7949982 | 0.426615 | NA |
| tmem42a | 84.58547797 | -0.070913644 | 0.2106931 | -0.336573 | 0.736439 | 0.972535 |
| pcdh2ab3 | 0 | NA | NA | NA | NA | NA |
| zgc:123284 | 6.330191112 | 0.295709768 | 0.7482151 | 0.3952202 | 0.69268 | NA |
| itih3b | 81.37908653 | 0.232790029 | 0.2370581 | 0.9819957 | 0.326102 | 0.872073 |
| zgc:153039 | 36.46474821 | 0.062279721 | 0.3256346 | 0.1912565 | 0.848325 | 0.985174 |
| CT737184.1 | 1.94316652 | 2.217275299 | 1.6598148 | 1.3358571 | 0.181596 | NA |
| si:ch73-182e20.4 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |
| CR762480.2 | 4.309418247 | 0.242014842 | 0.9082244 | 0.2664703 | 0.789877 | NA |
| SAMD9 | 0.538871265 | 0.999144257 | 2.7784799 | 0.359601 | 0.719146 | NA |
| mapk10 | 136.3861919 | -0.067258227 | 0.1774707 | -0.378982 | 0.704701 | 0.968134 |
| si:ch73-299h12.2 | 4.156302856 | 0.362739417 | 0.9691047 | 0.3743036 | 0.708178 | NA |
| dre-mir-7147 | 0.31759079 | 1.807926197 | 3.579045 | 0.5051421 | 0.613459 | NA |
| wdr48a | 83.07843867 | -0.03616719 | 0.2309671 | -0.15659 | 0.875568 | 0.987881 |
| sars2 | 139.6449626 | -0.046847647 | 0.1833716 | -0.255479 | 0.798353 | 0.978884 |
| sumo2b | 1793.481202 | -0.200711415 | 0.0892125 | -2.249813 | 0.024461 | 0.3019 |
| bmpr1bb | 143.9972576 | -0.128039047 | 0.1766293 | -0.724903 | 0.468512 | 0.924328 |
| mgst3a | 1006.481642 | -0.117750321 | 0.0863226 | -1.364073 | 0.172544 | 0.731348 |
| tmem39a | 208.6448876 | 0.206499495 | 0.163115 | 1.2659745 | 0.205522 | 0.773646 |
| cdh1 | 2061.890718 | 0.117983445 | 0.0806718 | 1.462511 | 0.143601 | 0.686804 |
| BX663521.1 | 0 | NA | NA | NA | NA | NA |
| si:dkey-10914.3 | 79.02949959 | -0.193146086 | 0.2322991 | -0.831454 | 0.405717 | 0.901305 |
| EML6 | 668.2604885 | -0.1419092 | 0.097335 | -1.457946 | 0.144856 | 0.688986 |
| nr0b2b | 0 | NA | NA | NA | NA | NA |
| tradvl | 0 | NA | NA | NA | NA | NA |
| F0704661.1 | 63.30148547 | -0.272098408 | 0.2492503 | -1.091668 | 0.274979 | 0.839541 |
| TMEM132D | 176.4829388 | 0.009403272 | 0.166375 | 0.0565186 | 0.954929 | 0.994543 |
| zbtb42 | 4.214807734 | -1.430223752 | 1.046785 | -1.366301 | 0.171844 | NA |
| pik3r5 | 29.49358445 | -0.435669449 | 0.3548625 | -1.227713 | 0.219555 | 0.786189 |
| lonpl | 724.5229205 | -0.040159046 | 0.0927349 | -0.433052 | 0.664977 | 0.964736 |
| dennd4c | 636.9269913 | -0.150733901 | 0.1058962 | -1.423411 | 0.154617 | 0.704307 |
| L0017726.1 | 305.6730046 | 0.141753097 | 0.1309907 | 1.0821619 | 0.279181 | 0.842806 |
| klhdc3 | 90.86616457 | 0.000851215 | 0.2098922 | 0.0040555 | 0.996764 | 0.998936 |
| cacnalda | 52.33898692 | -0.233577184 | 0.2785274 | -0.838615 | 0.401686 | 0.90084 |
| znf687a | 121.2788626 | 0.095197828 | 0.1921629 | 0.4954018 | 0.620317 | 0.957354 |
| cxcl19 | 2.101854019 | 0.635875777 | 1.3699053 | 0.464175 | 0.642522 | NA |
| thbs4a | 154.1770515 | 0.183541859 | 0.1818949 | 1.0090546 | 0.312948 | 0.864884 |
| fgf17 | 15.02691253 | -0.187971333 | 0.494385 | -0.380212 | 0.703788 | 0.968134 |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| s1c25a35 | 17.77214928 | -0.562907112 | 0.4731049 | -1.189814 | 0.234119 | 0.802753 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| BX000696.2 | 0 | NA | NA | NA | NA | NA |
| fam193a | 525.9767345 | 0.007543583 | 0.1138804 | 0.0662413 | 0.947186 | 0.99381 |

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| si:zfos-128g4.1 | 30.9862568 | 0.027522876 | 0.343395 | 0.0801493 | 0.936118 | 0.992702 |
| zgc:174704 | 7.729071974 | -0.574148626 | 0.7195903 | -0.797883 | 0.424939 | NA |
| si:ch211-106f21.1 | 4.651025297 | 0.437532443 | 0.9015093 | 0.4853333 | 0.62744 | NA |
| CU681842.1 | 88.66192491 | 0.197820261 | 0.2563134 | 0.7717904 | 0.440239 | 0.916249 |
| si:ch1073-83b15.1 | 0 NA | NA | NA | NA | NA | NA |
| CABZ01075509.1 | 110.549992 | 0.038311706 | 0.1928249 | 0.1986865 | 0.842508 | 0.985174 |
| mcm2 | 1272.498856 | 0.08885323 | 0.0926201 | 0.9593296 | 0.337393 | 0.876394 |
| brdt | 533.8634237 | 0.057253601 | 0.1216673 | 0.4705752 | 0.637944 | 0.959147 |
| CABZ01087091.1 | 0 NA | NA | NA | NA | NA | NA |
| cyp2aa12 | 47.26206972 | -0.346742985 | 0.2960115 | -1.171384 | 0.241445 | 0.810468 |
| zgc:112234 | 3.340745579 | -0.317233203 | 1.0628246 | -0.298481 | 0.765336 | NA |
| si:dkey-151p11.2 | 3.64821329 | 0.536199151 | 1.017648 | 0.5269004 | 0.598263 | NA |
| calr3b | 2085.048143 | 0.021575565 | 0.0771307 | 0.2797274 | 0.779687 | 0.976146 |
| tradv29.0 | 0 NA | NA | NA | NA | NA | NA |
| samd1a | 158.7741556 | 0.063813191 | 0.1637115 | 0.3897904 | 0.696692 | 0.96736 |
| CABZ01069436.1 | 2.812365211 | 0.156154471 | 1.1379333 | 0.1372264 | 0.890852 | NA |
| cib2 | 256.6752063 | -0.157718995 | 0.137701 | -1.145373 | 0.252055 | 0.821515 |
| pam16 | 192.9735921 | -0.076931158 | 0.1517021 | -0.50712 | 0.612071 | 0.95688 |
| CR759887.3 | 5.030809133 | 1.031347499 | 0.872215 | 1.1824464 | 0.237029 | NA |
| pcdh10b | 1597.613451 | -0.002353841 | 0.0894453 | -0.026316 | 0.979005 | 0.996802 |
| olfm2b | 46.49590914 | 0.246158937 | 0.3045449 | 0.8082846 | 0.418927 | 0.906406 |
| ubfd1 | 238.1646947 | 0.000592743 | 0.1394505 | 0.0042506 | 0.996609 | 0.998936 |
| mfsd11 | 12.22285858 | 0.078483171 | 0.5482423 | 0.1431542 | 0.886168 | 0.988936 |
| cobl11b | 331.6454026 | -0.063080903 | 0.139888 | -0.450938 | 0.652034 | 0.960708 |
| fam193b | 630.4701745 | -0.123787225 | 0.099669 | -1.241984 | 0.214243 | 0.782493 |
| baz1b | 759.3770664 | 0.049448964 | 0.1037884 | 0.47644 | 0.633761 | 0.957737 |
| CU207241.1 | 1.00799616 | -0.980456857 | 2.1019732 | -0.466446 | 0.640896 | NA |
| si:ch211-195j11.30 | 3.686771469 | -1.708958359 | 1.1129691 | -1.535495 | 0.124662 | NA |
| CABZ01021435.1 | 8.929807699 | 0.092144745 | 0.6439452 | 0.1430941 | 0.886216 | NA |
| CU062479.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| znf1145 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-211k8.4 | 0.333314908 | -1.858695402 | 3.5126701 | -0.52914 | 0.596708 | NA |
| CT978957.1 | 20.12365817 | -0.220483692 | 0.4271087 | -0.516224 | 0.605698 | 0.95651 |
| BX088596.2 | 0 NA | NA | NA | NA | NA | NA |
| dclk2b | 45.14291345 | -0.072598247 | 0.307119 | -0.236385 | 0.813134 | 0.981081 |
| trmt13 | 47.22441224 | 0.310242966 | 0.2867579 | 1.0818986 | 0.279298 | 0.842882 |
| BX927336.3 | 8.91502232 | 0.055898656 | 0.7083757 | 0.078911 | 0.937103 | NA |
| CU469577.1 | 135.7305585 | 0.339812489 | 0.1759678 | 1.9311065 | 0.05347 | 0.453199 |
| si:rp71-7119.2 | 0 NA | NA | NA | NA | NA | NA |
| traj21 | 0 NA | NA | NA | NA | NA | NA |
| neola | 1604.541382 | -0.011074077 | 0.0828827 | -0.133611 | 0.89371 | 0.989291 |
| si:ch73-59f11.3 | 11.12720105 | -0.46560031 | 0.5719954 | -0.813993 | 0.415649 | 0.906237 |
| sc:d189 | 124.6526069 | -0.110877272 | 0.1854674 | -0.597826 | 0.549956 | 0.94648 |
| lmf1 | 192.4876316 | -0.018043364 | 0.1478887 | -0.122006 | 0.902894 | 0.990121 |
| carnmt1 | 44.07468107 | -0.124039408 | 0.3078827 | -0.402879 | 0.687037 | 0.966376 |
| CR391991.1 | 8.461723575 | 1.711101 | 0.8041049 | 2.1279575 | 0.033341 | NA |
| srfb | 63.41348284 | 0.24667349 | 0.2496936 | 0.9879047 | 0.323199 | 0.870607 |
| si:dkey-203a12.4 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| FP236157.2 | 0.863344592 | -1.91853867 | 2.2027225 | -0.870985 | 0.383762 | NA |
| CT956002.2 | 0.316103113 | 0.005883447 | 3.3519121 | 0.0017553 | 0.9986 | NA |
| immt | 2476.337467 | 0.046352821 | 0.0755732 | 0.6133503 | 0.539645 | 0.94408 |
| CABZ01081830.2 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| mapre3b | 653.0523436 | 0.137276213 | 0.1084031 | 1.26635 | 0.205388 | 0.773635 |

| | | | | | | |
|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| myt1b | 337.0254189 | -0.25693928 | 0.1426383 | -1.801335 | 0.07165 | 0.523122 |
| traj60 | 0 NA | | NA | NA | NA | NA |
| sptbn1 | 2253.555419 | 0.027769258 | 0.0867932 | 0.3199474 | 0.749008 | 0.97419 |
| si:ch211-145h19.5 | 14.70656266 | -0.231432412 | 0.4950107 | -0.46753 | 0.640121 | 0.959994 |
| rsul | 119.9302076 | -0.104729715 | 0.1826221 | -0.573478 | 0.566321 | 0.948739 |
| abhd4 | 703.0651927 | -0.051272358 | 0.1228097 | -0.417494 | 0.676317 | 0.965257 |
| gpr39 | 196.3956321 | -1.06738206 | 0.1548935 | -6.89107 | 5.54E-12 | 1.71E-09 |
| 15-Sep | 2511.712395 | 0.067277688 | 0.0748325 | 0.8990437 | 0.368629 | 0.888057 |
| clrn1 | 17.00797552 | -0.083541945 | 0.4685391 | -0.178303 | 0.858485 | 0.985773 |
| ppplr26 | 164.6166825 | 0.058679478 | 0.1575257 | 0.3725073 | 0.709515 | 0.968856 |
| hlm | 4.730135103 | 0.343697729 | 0.9945917 | 0.3455667 | 0.729668 | NA |
| atg7 | 406.5734043 | -0.023005404 | 0.117729 | -0.19541 | 0.845072 | 0.985174 |
| CABZ01057159.1 | 1.671008568 | -0.604426772 | 1.5019696 | -0.402423 | 0.687373 | NA |
| si:dkey-31i7.1 | 0.79886368 | -0.585846657 | 2.2427043 | -0.261223 | 0.79392 | NA |
| jmjd6 | 425.4354063 | -0.261597382 | 0.1146109 | -2.282483 | 0.022461 | 0.285805 |
| mtfl | 12.47049766 | -0.048321268 | 0.5566619 | -0.086805 | 0.930826 | 0.992702 |
| cremb | 31.24834374 | 0.286244099 | 0.3572161 | 0.8013191 | 0.422947 | 0.90714 |
| tacrlb | 9.793624654 | 0.641043456 | 0.6070318 | 1.0560294 | 0.290955 | NA |
| strn4 | 256.8576299 | 0.01269347 | 0.1455772 | 0.0871941 | 0.930517 | 0.992702 |
| si:ch211-246b8.2 | 15.43733013 | -0.089082453 | 0.4803853 | -0.18544 | 0.852884 | 0.985174 |
| dre-mir-219-3 | 0.341486697 | 1.892317624 | 3.2124068 | 0.5890654 | 0.555817 | NA |
| hibadha | 294.0622849 | 0.03191571 | 0.1251503 | 0.255019 | 0.798708 | 0.978905 |
| il16 | 411.3788092 | -0.018914162 | 0.1119025 | -0.169024 | 0.865778 | 0.986517 |
| RF00324 | 5.90565867 | 0.609148129 | 0.9089943 | 0.6701341 | 0.502772 | NA |
| iffo2b | 9.332161555 | 0.351220843 | 0.6668389 | 0.5266952 | 0.598405 | NA |
| gpr184 | 3.758170563 | 0.415878322 | 1.0525082 | 0.3951307 | 0.692746 | NA |
| si:dkey-206d17.16 | 0 NA | | NA | NA | NA | NA |
| dennd4b | 690.6561956 | -0.007542444 | 0.1176237 | -0.064123 | 0.948872 | 0.99381 |
| CR388095.1 | 25.41523354 | -0.882644793 | 0.4004751 | -2.203994 | 0.027525 | 0.320429 |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| or106-7 | 0 NA | | NA | NA | NA | NA |
| senp6a | 410.1407402 | -0.166113022 | 0.1090386 | -1.523433 | 0.12765 | 0.65819 |
| zgc:112334 | 78.96613009 | 0.139283656 | 0.2306992 | 0.6037458 | 0.546013 | 0.945526 |
| si:dkey-223p19.2 | 0.332524763 | 0.005883742 | 3.292841 | 0.0017868 | 0.998574 | NA |
| si:dkey-156k2.4 | 4.409045267 | -1.210159894 | 0.9640943 | -1.25523 | 0.209395 | NA |
| zgc:101715 | 18.89774997 | -0.904482589 | 0.466186 | -1.940175 | 0.052358 | 0.449169 |
| CR388046.1 | 0.347458735 | -1.908042286 | 3.4571486 | -0.551912 | 0.581009 | NA |
| si:ch211-212k5.3 | 1.179919073 | 1.40951731 | 1.9554143 | 0.720828 | 0.471015 | NA |
| or106-9 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| noal | 172.2225661 | -0.169653315 | 0.1590471 | -1.066686 | 0.286114 | 0.845942 |
| hspbpl | 212.650771 | 0.057804261 | 0.150284 | 0.3846334 | 0.700509 | 0.967998 |
| si:ch211-249c2.1 | 0 NA | | NA | NA | NA | NA |
| ccl39.2 | 0.645291463 | -2.8201041 | 2.5306349 | -1.114386 | 0.265114 | NA |
| si:ch73-167f10.1 | 6.707731006 | -1.174672944 | 0.7899632 | -1.486997 | 0.137016 | NA |
| crb3a | 100.9387869 | -0.068818426 | 0.2023974 | -0.340016 | 0.733844 | 0.971993 |
| CU184832.1 | 0 NA | | NA | NA | NA | NA |
| zgc:110688 | 219.8785177 | 0.028292724 | 0.1449397 | 0.1952035 | 0.845234 | 0.985174 |
| ints4 | 213.152348 | -0.001155206 | 0.1500656 | -0.007698 | 0.993858 | 0.998691 |
| si:ch211-11c3.12 | 0.491560863 | 0.853615855 | 2.865157 | 0.2979299 | 0.765757 | NA |
| mmp17b | 168.1641729 | 0.013186145 | 0.1655904 | 0.0796311 | 0.936531 | 0.992702 |
| AL732567.1 | 1.520814049 | -0.306597801 | 1.494253 | -0.205185 | 0.837428 | NA |
| zgc:171220 | 26.35849379 | -0.910940247 | 0.3788858 | -2.40426 | 0.016205 | 0.234928 |
| vps54 | 435.1978546 | 0.071232118 | 0.1262085 | 0.5644001 | 0.572482 | 0.949494 |
| sirt6 | 155.0904003 | -0.207315818 | 0.1697578 | -1.221245 | 0.221993 | 0.788551 |

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| axin1 | 1230.968866 | -0.077096647 | 0.0829872 | -0.929019 | 0.352879 | 0.881552 |
| CABZ01087948.1 | 121.9802531 | -0.175015847 | 0.1799602 | -0.972525 | 0.330789 | 0.87417 |
| CT573282.1 | 148.4976504 | 0.047120712 | 0.1668531 | 0.2824083 | 0.77763 | 0.975942 |
| cnga2a | 0.484248244 | 0.852636534 | 2.8793247 | 0.2961238 | 0.767136 | NA |
| pimr119 | 0 NA | NA | NA | NA | NA | NA |
| CABZ01075125.1 | 44.61932551 | 0.117761591 | 0.2972044 | 0.3962309 | 0.691935 | 0.96733 |
| cmtm8a | 12.16340567 | 0.725804401 | 0.5638305 | 1.2872741 | 0.197999 | 0.763261 |
| baz2a | 1914.302119 | -0.070815739 | 0.0844679 | -0.838375 | 0.40182 | 0.90084 |
| nsg2 | 3621.067557 | -0.034240474 | 0.071689 | -0.477625 | 0.632917 | 0.957356 |
| uncx | 352.2916865 | -0.116542174 | 0.128361 | -0.907925 | 0.363918 | 0.88622 |
| cant1b | 746.5893684 | -0.29676093 | 0.1019373 | -2.911211 | 0.0036 | 0.081067 |
| eif4a3 | 2235.510215 | -0.177369657 | 0.0861269 | -2.059399 | 0.039456 | 0.390102 |
| cyp2k16 | 584.3347373 | -0.79321521 | 0.1048142 | -7.567821 | 3.80E-14 | 1.71E-11 |
| zgc:195050 | 15.45851587 | -0.273249227 | 0.4959175 | -0.550997 | 0.581635 | 0.951855 |
| BX537303.1 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |
| csflra | 28.02865375 | -0.331085025 | 0.3757424 | -0.881149 | 0.378237 | 0.895192 |
| capn7 | 296.5749417 | -0.242716739 | 0.1414493 | -1.715927 | 0.086175 | 0.563157 |
| CU394253.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| or109-5 | 0.365141898 | 1.973577737 | 3.3927314 | 0.5817076 | 0.560764 | NA |
| btr20 | 2.977765649 | 0.680887186 | 1.1328965 | 0.6010145 | 0.54783 | NA |
| znf1034 | 2.815643886 | -1.242473789 | 1.1842794 | -1.049139 | 0.294114 | NA |
| rbm24a | 712.426228 | 0.331485385 | 0.097811 | 3.3890392 | 0.000701 | 0.023154 |
| rrn3 | 397.1216404 | -0.033148335 | 0.112002 | -0.295962 | 0.767259 | 0.975687 |
| taf6 | 627.1117169 | -0.078861621 | 0.0972868 | -0.810609 | 0.41759 | 0.906237 |
| si:dkey-246j6.1 | 10.67744517 | -0.10025247 | 0.5862508 | -0.171006 | 0.864219 | NA |
| si:ch211-107p11.3 | 66.80827786 | 0.137340559 | 0.2367542 | 0.5800978 | 0.561849 | 0.948728 |
| si:ch73-215d9.1 | 292.1229878 | 0.075661744 | 0.1476116 | 0.512573 | 0.60825 | 0.956718 |
| nptna | 2278.753155 | 0.12156389 | 0.0713116 | 1.7046864 | 0.088253 | 0.568811 |
| si:dkey-211i20.2 | 17.34604432 | -0.147477025 | 0.4694219 | -0.314167 | 0.753394 | 0.974911 |
| tpra | 1145.149635 | -0.02313852 | 0.0995847 | -0.23235 | 0.816266 | 0.981594 |
| si:ch1073-303d10.1 | 109.3707872 | 0.540099524 | 0.2008193 | 2.6894798 | 0.007156 | 0.132748 |
| rps3 | 16907.43479 | -0.385341362 | 0.0900071 | -4.281235 | 1.86E-05 | 0.001178 |
| tradv10.0.5 | 0 NA | NA | NA | NA | NA | NA |
| CABZ01090373.1 | 208.5374627 | -0.041861283 | 0.1443018 | -0.290095 | 0.771743 | 0.975687 |
| pcdh1g22 | 177.0445622 | -0.176420257 | 0.1586397 | -1.112081 | 0.266103 | 0.832153 |
| hist1h2a2 | 1.839625067 | 1.427864328 | 1.4235423 | 1.0030361 | 0.315843 | NA |
| xkr5a | 5.516764809 | -0.599389795 | 0.8044249 | -0.745116 | 0.456202 | NA |
| gstp2 | 955.2029793 | -0.598373554 | 0.1034132 | -5.78624 | 7.20E-09 | 1.27E-06 |
| si:dkey-237i9.8 | 19.04978812 | -0.131173203 | 0.45653 | -0.287327 | 0.773862 | 0.975687 |
| fadd | 100.3400111 | 0.176852457 | 0.2159051 | 0.8191211 | 0.412717 | 0.904974 |
| zgc:175136 | 0.506415768 | -0.866825728 | 2.6674086 | -0.324969 | 0.745204 | NA |
| hmgcs1 | 914.8925882 | 0.013706806 | 0.0856086 | 0.1601102 | 0.872794 | 0.987846 |
| p3h2 | 340.417879 | 0.113459247 | 0.1295095 | 0.876069 | 0.380993 | 0.895192 |
| clnsla | 403.6252541 | -0.067063604 | 0.1278228 | -0.524661 | 0.599819 | 0.956045 |
| znf1029 | 11.83177662 | 0.888315221 | 0.5874982 | 1.5120305 | 0.130526 | 0.662797 |
| rap2b | 484.5080625 | -0.023251564 | 0.116306 | -0.199917 | 0.841545 | 0.985174 |
| CABZ01068499.1 | 74.77386138 | -1.123447547 | 0.2498049 | -4.4973 | 6.88E-06 | 0.000521 |
| CR848788.1 | 4.149042561 | 0.597360063 | 0.9403345 | 0.6352634 | 0.525257 | NA |
| pik3r3a | 462.7335672 | 0.098393883 | 0.1116303 | 0.8814262 | 0.378087 | 0.895192 |
| CABZ01012962.1 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |
| ddahl | 181.9555736 | -0.222683176 | 0.156868 | -1.419557 | 0.155737 | 0.705963 |
| BX548067.1 | 1.157631196 | 2.488108944 | 1.9178096 | 1.2973702 | 0.194504 | NA |
| rest | 540.9805531 | -0.137751379 | 0.1010668 | -1.362974 | 0.172891 | 0.731956 |
| FP015866.1 | 0 NA | NA | NA | NA | NA | NA |

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|--------------------|--------------|---------------|------------|------------|-----------|-----------|
| CR392341. 4 | 0. 31437473 | -1. 788572922 | 3. 5930657 | -0. 497785 | 0. 618636 | NA |
| mrap2b | 4. 313485723 | -0. 722591826 | 1. 0602287 | -0. 681543 | 0. 495528 | NA |
| pcyox1 | 41. 35987946 | 0. 209465021 | 0. 3188058 | 0. 6570301 | 0. 511162 | 0. 936253 |
| CR383680. 2 | 8. 256800595 | -0. 437606005 | 0. 6933396 | -0. 631157 | 0. 527938 | NA |
| dnm2b | 125. 1602361 | -0. 226623295 | 0. 1942296 | -1. 16678 | 0. 243299 | 0. 81212 |
| itga4 | 26. 56098264 | -0. 078664615 | 0. 3730232 | -0. 210884 | 0. 832978 | 0. 983557 |
| zfhx3 | 2600. 502648 | -0. 04076564 | 0. 0735576 | -0. 5542 | 0. 579442 | 0. 951257 |
| zgc:172091 | 0 NA | NA | NA | NA | NA | NA |
| FP016142. 7 | 0 NA | NA | NA | NA | NA | NA |
| ly6m7 | 0. 339758314 | 0. 005883863 | 3. 2682461 | 0. 0018003 | 0. 998564 | NA |
| LSM2 (1 of many) | 31. 06056793 | 0. 008422661 | 0. 3599211 | 0. 0234014 | 0. 98133 | 0. 996944 |
| adgrd2 | 105. 9638048 | 0. 283934063 | 0. 2115611 | 1. 34209 | 0. 179567 | 0. 740821 |
| CABZ01099795. 1 | 132. 0852165 | -0. 136211711 | 0. 211589 | -0. 643756 | 0. 519734 | 0. 938945 |
| si:ch211-244c8. 4 | 1156. 620655 | -0. 065462615 | 0. 0927275 | -0. 705968 | 0. 480208 | 0. 927347 |
| CR385065. 1 | 1. 583731624 | 1. 222084814 | 1. 7227164 | 0. 7093941 | 0. 47808 | NA |
| si:rp71-81e14. 2 | 0. 792609651 | 1. 852046781 | 2. 2530569 | 0. 8220151 | 0. 411068 | NA |
| zgc:174222 | 16. 40358698 | -0. 234602336 | 0. 4870125 | -0. 481717 | 0. 630007 | 0. 957354 |
| si:dkey-220o21. 3 | 0. 968187754 | 2. 173022767 | 2. 1450023 | 1. 0130632 | 0. 31103 | NA |
| cldn18 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-19h16. 8 | 0 NA | NA | NA | NA | NA | NA |
| grem2b | 55. 94293474 | -0. 442896389 | 0. 2611319 | -1. 696064 | 0. 089874 | 0. 573834 |
| alg14 | 46. 86083773 | 0. 163145462 | 0. 3037619 | 0. 5370833 | 0. 59121 | 0. 954193 |
| tbk1 | 1130. 610964 | -0. 13077037 | 0. 0952108 | -1. 373483 | 0. 169602 | 0. 726856 |
| tradv31. 0 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-280a23. 2 | 1. 328893364 | -0. 730031117 | 1. 6497933 | -0. 442499 | 0. 658128 | NA |
| EARS2 | 173. 4771131 | -0. 286604098 | 0. 161826 | -1. 771063 | 0. 07655 | 0. 538876 |
| BX950220. 2 | 0. 182570949 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| si:ch211-235e9. 6 | 720. 9667462 | 0. 120342396 | 0. 1210386 | 0. 9942477 | 0. 320102 | 0. 868153 |
| FAM180A | 13. 45230829 | -0. 198552244 | 0. 5322156 | -0. 373067 | 0. 709098 | 0. 968664 |
| BX957361. 2 | 4. 603071845 | 0. 402843399 | 0. 8696388 | 0. 4632307 | 0. 643199 | NA |
| tradv23. 1. 3 | 0 NA | NA | NA | NA | NA | NA |
| BX936303. 1 | 0. 79886368 | -0. 585846657 | 2. 2427043 | -0. 261223 | 0. 79392 | NA |
| trappc9 | 181. 7218279 | -0. 007973867 | 0. 1694185 | -0. 047066 | 0. 962461 | 0. 995907 |
| acvr2bb | 63. 97131064 | 0. 163740415 | 0. 249246 | 0. 6569431 | 0. 511218 | 0. 936253 |
| chl1b | 937. 1061947 | -0. 064815678 | 0. 0925421 | -0. 700391 | 0. 483683 | 0. 929461 |
| FP089536. 1 | 0. 476747244 | 2. 393381959 | 3. 0525537 | 0. 7840589 | 0. 433006 | NA |
| BX950225. 1 | 0. 158915748 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| ndufa412a | 78. 60031513 | -0. 009891093 | 0. 2217453 | -0. 044606 | 0. 964422 | 0. 995927 |
| tmprss4a | 365. 5975332 | 0. 004873568 | 0. 1166968 | 0. 0417626 | 0. 966688 | 0. 996315 |
| cibl | 200. 2645861 | -0. 238938968 | 0. 1561624 | -1. 530067 | 0. 126 | 0. 654803 |
| si:dkeyp-33c10. 7 | 1. 165331617 | 1. 275668599 | 1. 8732058 | 0. 6810083 | 0. 495866 | NA |
| RF01684 | 0 NA | NA | NA | NA | NA | NA |
| AL953841. 2 | 2. 668545073 | -0. 340598804 | 1. 1965895 | -0. 284641 | 0. 775919 | NA |
| olfcg8 | 0. 158795395 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| CR854980. 1 | 38. 23481894 | 0. 061391605 | 0. 3108523 | 0. 1974945 | 0. 843441 | 0. 985174 |
| slc35f4 | 63. 68624907 | -0. 207075633 | 0. 249112 | -0. 831255 | 0. 40583 | 0. 901305 |
| tsc2 | 656. 7881447 | -0. 193018556 | 0. 1090644 | -1. 769768 | 0. 076766 | 0. 539626 |
| gpn2 | 192. 6962779 | 0. 069874425 | 0. 1521264 | 0. 4593184 | 0. 646006 | 0. 96029 |
| nidl1b | 1156. 037427 | 0. 181140109 | 0. 0894942 | 2. 0240435 | 0. 042966 | 0. 407093 |
| BX571960. 1 | 8. 404740532 | -0. 649983446 | 0. 6635251 | -0. 979591 | 0. 327288 | NA |
| dnaaf2 | 27. 51886674 | 0. 432114386 | 0. 3738852 | 1. 1557409 | 0. 247787 | 0. 81711 |
| hoxc12b | 3. 344337487 | -0. 49601232 | 1. 1327987 | -0. 437864 | 0. 661485 | NA |
| zgc:65873 | 1001. 329816 | -0. 0245114 | 0. 0877337 | -0. 279384 | 0. 77995 | 0. 976146 |
| stom12 | 481. 5119464 | -0. 004630717 | 0. 1083197 | -0. 04275 | 0. 9659 | 0. 996315 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| rmi2 | 40.30834061 | -0.012275257 | 0.3068704 | -0.040001 | 0.968092 | 0.996315 |
| L0017843.1 | 23.44614691 | -0.390421115 | 0.3953427 | -0.987551 | 0.323373 | 0.870761 |
| BX004771.1 | 0 NA | | NA | NA | NA | NA |
| si:dkey-19c16.12 | 14.08897839 | 0.255290565 | 0.50579 | 0.5047363 | 0.613744 | 0.95688 |
| ppplr21 | 685.406306 | -0.031425218 | 0.1032026 | -0.3045 | 0.760747 | 0.975374 |
| cdk2ap2 | 678.6180051 | -0.052707747 | 0.096226 | -0.547749 | 0.583864 | 0.952214 |
| nllrc3 | 7.967449538 | 0.304556118 | 0.7346946 | 0.4145343 | 0.678483 | NA |
| nectin4b | 21.90508435 | -0.029390008 | 0.4397448 | -0.066834 | 0.946714 | 0.99381 |
| cog6 | 467.5180706 | -0.210546267 | 0.1103215 | -1.908478 | 0.056329 | 0.46566 |
| tradv2.0.2 | 0 NA | | NA | NA | NA | NA |
| si:ch73-14413.1 | 19.46475912 | -0.265442167 | 0.4492454 | -0.590862 | 0.554613 | 0.947449 |
| extla | 130.2185007 | -0.02146815 | 0.1774643 | -0.120972 | 0.903713 | 0.990291 |
| gpc6a | 22.44115819 | 0.01168321 | 0.4245288 | 0.0275204 | 0.978045 | 0.996762 |
| ldb1b | 306.5862347 | -0.007439027 | 0.1257873 | -0.05914 | 0.952841 | 0.994063 |
| CR388178.2 | 45.35164622 | -0.088680995 | 0.3045793 | -0.291159 | 0.77093 | 0.975687 |
| tomm20a | 595.8579154 | -0.007750757 | 0.1108945 | -0.069893 | 0.944279 | 0.993364 |
| zgc:194948 | 1.832202139 | -0.291611695 | 1.4478466 | -0.201411 | 0.840378 | NA |
| AL929057.1 | 0.647019846 | -1.455099716 | 2.4289208 | -0.599073 | 0.549125 | NA |
| FP245458.1 | 2.817080234 | 0.183694354 | 1.2026153 | 0.1527457 | 0.878599 | NA |
| si:dkey-245n4.2 | 74.63367241 | 0.108972978 | 0.234948 | 0.4638175 | 0.642779 | 0.959994 |
| BX914205.3 | 1.01990345 | -0.910958137 | 1.9547665 | -0.466019 | 0.641202 | NA |
| stx8 | 117.2901222 | 0.253891601 | 0.1889944 | 1.3433817 | 0.179148 | 0.740021 |
| nr5ala | 11.50303218 | -0.182386748 | 0.5710715 | -0.319376 | 0.749441 | 0.97419 |
| CR457444.3 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| CU639397.1 | 0.63035749 | -1.416391854 | 2.614809 | -0.541681 | 0.588038 | NA |
| CU467880.1 | 0 NA | | NA | NA | NA | NA |
| si:dkey-34d22.1 | 192.4273858 | 0.093960419 | 0.1589212 | 0.5912389 | 0.55436 | 0.947449 |
| CABZ01034691.1 | 0.83198897 | -0.546504737 | 2.1106392 | -0.258929 | 0.79569 | NA |
| PAMR1 (1 of many) | 113.2449571 | 0.082954812 | 0.1970222 | 0.4210429 | 0.673724 | 0.965257 |
| si:ch73-389k6.1 | 64.09096561 | -0.335215344 | 0.2455022 | -1.365427 | 0.172119 | 0.731144 |
| syce2 | 31.86770701 | 0.23849782 | 0.3500763 | 0.6812739 | 0.495698 | 0.932377 |
| or106-6 | 0 NA | | NA | NA | NA | NA |
| CR394535.1 | 16.66684762 | -0.143416736 | 0.4700439 | -0.305114 | 0.76028 | 0.975374 |
| BX936433.2 | 6.749246371 | 0.045379504 | 0.7409925 | 0.0612415 | 0.951167 | NA |
| dync1i2b | 274.6330866 | 0.143658996 | 0.1351005 | 1.063349 | 0.287624 | 0.845979 |
| zgc:113343 | 35.68104187 | -0.961155215 | 0.3460519 | -2.777488 | 0.005478 | 0.109862 |
| si:ch211-227e10.1 | 5.891637609 | 0.659829215 | 0.808908 | 0.8157036 | 0.41467 | NA |
| mrps2 | 429.0163681 | -0.147544581 | 0.1164027 | -1.267536 | 0.204964 | 0.772822 |
| si:dkey-247k7.2 | 907.0615094 | 0.546758388 | 0.1213969 | 4.5038899 | 6.67E-06 | 0.000513 |
| gpr107 | 795.862275 | -0.063381969 | 0.0927036 | -0.683705 | 0.494161 | 0.931926 |
| CT583728.5 | 0 NA | | NA | NA | NA | NA |
| CR383668.1 | 1.335965277 | -0.738208546 | 1.7273108 | -0.427374 | 0.669107 | NA |
| vps28 | 1090.84207 | -0.046737215 | 0.0951596 | -0.491145 | 0.623324 | 0.957354 |
| si:ch211-161f7.2 | 1.353874604 | -0.052344131 | 1.8356932 | -0.028515 | 0.977252 | NA |
| rab11fip4b | 107.1317628 | -0.024596849 | 0.1915832 | -0.128387 | 0.897843 | 0.990121 |
| il17ralb | 10.42517038 | -0.310832393 | 0.5854941 | -0.530889 | 0.595496 | NA |
| si:dkey-19b23.8 | 496.527726 | -0.004571508 | 0.1094945 | -0.041751 | 0.966697 | 0.996315 |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| pimr169 | 0.471562095 | -2.373056629 | 3.0645586 | -0.774355 | 0.438721 | NA |
| BX681417.3 | 0 NA | | NA | NA | NA | NA |
| BX927130.3 | 2.511755554 | -2.051155635 | 1.4369386 | -1.427448 | 0.153451 | NA |
| slc10a3 | 254.087088 | -0.26933794 | 0.1389077 | -1.938971 | 0.052505 | 0.449813 |
| BX908386.2 | 2.358936695 | -1.271440774 | 1.3152487 | -0.966692 | 0.333698 | NA |
| si:ch73-350k19.1 | 0 NA | | NA | NA | NA | NA |

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| dhcr7 | 430.1343751 | -0.404922847 | 0.1184996 | -3.417082 | 0.000633 | 0.02125 |
| si:ch211-149o24.4 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:dkey-265e15.5 | 7.023850571 | -0.271523834 | 0.7265978 | -0.373692 | 0.708633 | NA |
| si:ch211-199i15.5 | 909.165729 | 0.37118558 | 0.0889765 | 4.1717243 | 3.02E-05 | 0.001759 |
| ppie | 181.9992679 | -0.056432361 | 0.1661434 | -0.339661 | 0.734112 | 0.971993 |
| mfsd8 | 765.2577617 | 0.137574161 | 0.1017201 | 1.3524782 | 0.176222 | 0.736614 |
| si:ch73-299h12.8 | 30.91403648 | -0.261563671 | 0.3417322 | -0.765405 | 0.44403 | 0.916699 |
| si:dkey-14o6.8 | 5.139066779 | 1.283634365 | 0.8620302 | 1.4890828 | 0.136466 | NA |
| CR381673.2 | 0.474778155 | 0.852397662 | 2.898154 | 0.2941175 | 0.768668 | NA |
| CR550302.2 | 0 NA | | NA | NA | NA | NA |
| BX324224.1 | 1.155043644 | -0.397540533 | 1.6900534 | -0.235224 | 0.814035 | NA |
| znf993 | 3.590951387 | 0.520601822 | 1.0205667 | 0.5101105 | 0.609974 | NA |
| sh3pxd2b | 702.4910638 | 0.052142921 | 0.1036028 | 0.5032964 | 0.614756 | 0.95688 |
| si:busml-169i8.11 | 0 NA | | NA | NA | NA | NA |
| zgc:112023 | 105.6563392 | 0.227661926 | 0.1983163 | 1.1479736 | 0.250979 | 0.820469 |
| si:dkeyp-80d11.4 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| BX927210.1 | 3.977477452 | -1.00487533 | 0.9616443 | -1.044955 | 0.296044 | NA |
| opn4xb | 33.57057669 | 0.233952501 | 0.3281348 | 0.7129768 | 0.47586 | 0.926338 |
| si:ch211-57b15.1 | 2.527511909 | 0.218837717 | 1.1691545 | 0.1871761 | 0.851523 | NA |
| RF00001 | 0.347458735 | -1.908042286 | 3.4571486 | -0.551912 | 0.581009 | NA |
| dre-mir-733 | 0 NA | | NA | NA | NA | NA |
| si:dkey-25g12.4 | 6.551632383 | -0.296422445 | 0.746258 | -0.397212 | 0.691211 | NA |
| si:ch211-223g7.2 | 2.542995321 | -0.541421658 | 1.2481318 | -0.433786 | 0.664444 | NA |
| ogal | 67.26320744 | -0.75333634 | 0.2542751 | -2.962682 | 0.00305 | 0.073009 |
| BX088524.2 | 0 NA | | NA | NA | NA | NA |
| CR513789.1 | 4.361910542 | 0.022595313 | 0.8986886 | 0.0251425 | 0.979941 | NA |
| pla2g15 | 2882.771571 | 0.415695787 | 0.0763845 | 5.4421451 | 5.26E-08 | 7.65E-06 |
| AL645792.1 | 0.316103113 | 0.005883447 | 3.3519121 | 0.0017553 | 0.9986 | NA |
| fcerg | 4.90990429 | 0.362252836 | 0.8876006 | 0.4081259 | 0.683181 | NA |
| cyp24a1 | 1434.326522 | -0.826309265 | 0.2531851 | -3.263657 | 0.0011 | 0.033254 |
| CR812832.1 | 73.37384662 | 0.188259652 | 0.2252217 | 0.8358861 | 0.403219 | 0.900901 |
| si:dkey-56m15.9 | 1.949622383 | 0.987975926 | 1.4020759 | 0.7046523 | 0.481027 | NA |
| si:dkey-238o14.7 | 3.937458339 | 0.438339111 | 1.014355 | 0.4321358 | 0.665643 | NA |
| CABZ01110881.1 | 269.9185419 | -0.011846544 | 0.1369239 | -0.086519 | 0.931054 | 0.992702 |
| kcnk4a | 31.22285105 | -0.187826821 | 0.3433363 | -0.547064 | 0.584335 | 0.952332 |
| PDPR | 639.9204095 | -0.039990697 | 0.1098222 | -0.36414 | 0.715753 | 0.96909 |
| L0018568.2 | 36.12004688 | -0.029962753 | 0.3591209 | -0.083434 | 0.933507 | 0.992702 |
| CR931813.1 | 1.368503345 | 0.137058825 | 1.8308494 | 0.0748608 | 0.940325 | NA |
| si:ch211-221j21.3 | 196.4232036 | -0.302426623 | 0.1510043 | -2.002768 | 0.045202 | 0.417766 |
| cyp3a65 | 789.7888843 | -0.909585594 | 0.1326105 | -6.859077 | 6.93E-12 | 2.08E-09 |
| nup54 | 279.4321928 | 0.056690858 | 0.1342161 | 0.422385 | 0.672744 | 0.965257 |
| ephx5 | 173.4942542 | -0.337169057 | 0.1599997 | -2.10731 | 0.035091 | 0.364435 |
| tradv23.1.4 | 0 NA | | NA | NA | NA | NA |
| P2RY14 | 0.990114572 | 0.997810867 | 1.9011265 | 0.5248524 | 0.599686 | NA |
| BX927130.4 | 3.480257535 | 1.340527425 | 1.0535102 | 1.272439 | 0.203217 | NA |
| mst1 | 616.5900681 | -0.412679942 | 0.1332538 | -3.096947 | 0.001955 | 0.052674 |
| BX664625.4 | 7.169654339 | 0.207770488 | 0.7138753 | 0.2910459 | 0.771016 | NA |
| znf1053 | 4.90809684 | 0.190624283 | 0.8506816 | 0.2240842 | 0.822692 | NA |
| fb1n1 | 106.6556573 | 0.033328835 | 0.2011084 | 0.1657257 | 0.868373 | 0.987245 |
| C1orf232 | 11.39316851 | -0.0632737 | 0.5915835 | -0.106956 | 0.914823 | 0.991119 |
| rhot1b | 145.460189 | 0.245700697 | 0.1676904 | 1.4652043 | 0.142865 | 0.685108 |
| si:dkey-84h14.1 | 1.138340003 | -0.447034872 | 1.825243 | -0.244918 | 0.80652 | NA |
| CU464124.1 | 139.1551796 | -0.116766734 | 0.1857046 | -0.628777 | 0.529495 | 0.942209 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| si:ch211-212k18.5 | 606.5093935 | -0.051204204 | 0.1138068 | -0.449922 | 0.652766 | 0.960708 |
| capn5a | 288.8833699 | -0.119945817 | 0.1458201 | -0.82256 | 0.410758 | 0.90316 |
| mrpl3 | 642.7079905 | -0.233608317 | 0.0975069 | -2.395814 | 0.016584 | 0.237453 |
| si:ch73-359m17.7 | 1.171275916 | -3.670007877 | 1.9590228 | -1.873387 | 0.061015 | NA |
| lclatl | 659.7140639 | -0.25644621 | 0.1055365 | -2.429928 | 0.015102 | 0.225333 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| si:ch73-347e22.8 | 248.8899321 | 0.159208128 | 0.1376907 | 1.1562737 | 0.247569 | 0.817092 |
| AL929220.1 | 0.682853041 | 2.891318346 | 2.3286279 | 1.2416403 | 0.214369 | NA |
| si:ch211-127b6.2 | 11.99014996 | 0.108690521 | 0.549175 | 0.197916 | 0.843111 | 0.985174 |
| si:ch73-236c18.5 | 0 NA | NA | NA | NA | NA | NA |
| baiap2b | 97.29086887 | 0.195069067 | 0.2122949 | 0.9188588 | 0.358169 | 0.884398 |
| dre-mir-338-1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:dkey-77g12.4 | 0 NA | NA | NA | NA | NA | NA |
| rrpl | 429.118089 | -0.107795978 | 0.1221597 | -0.882419 | 0.377551 | 0.895192 |
| clic1 | 446.9160688 | -0.154904344 | 0.1087245 | -1.424742 | 0.154232 | 0.703849 |
| si:ch211-110e21.4 | 34.72442342 | 0.126063035 | 0.3468813 | 0.3634184 | 0.716292 | 0.96909 |
| si:dkey-51d8.1 | 1.506000429 | 0.335521124 | 1.4976273 | 0.2240351 | 0.82273 | NA |
| CABZ01003476.1 | 1.139989318 | 0.439423795 | 1.8430523 | 0.2384218 | 0.811554 | NA |
| si:dkeyp-85d8.5 | 34.68496267 | 0.493034763 | 0.3221022 | 1.5306782 | 0.125849 | 0.654803 |
| cyp2aa3 | 117.2365869 | -0.01723538 | 0.2113034 | -0.081567 | 0.934991 | 0.992702 |
| si:dkey-176f19.7 | 2.416336645 | 1.38468514 | 1.3481387 | 1.0271088 | 0.304369 | NA |
| trim24 | 600.2261384 | -0.108353677 | 0.1149934 | -0.94226 | 0.34606 | 0.878883 |
| FP102192.2 | 7.120681323 | -0.065070664 | 0.7383037 | -0.088135 | 0.929769 | NA |
| dre-mir-1-2 | 3.370486383 | 1.207576482 | 1.1238424 | 1.074507 | 0.282596 | NA |
| RF01684 | 0 NA | NA | NA | NA | NA | NA |
| CU467856.1 | 213.8302743 | 0.085440896 | 0.1415186 | 0.603743 | 0.546015 | 0.945526 |
| slitrk5a | 397.055615 | 0.149569841 | 0.1131712 | 1.3216246 | 0.186293 | 0.750697 |
| BX927407.1 | 0.31759079 | 1.807926197 | 3.579045 | 0.5051421 | 0.613459 | NA |
| tshz3b | 1115.67558 | 0.013854985 | 0.0889533 | 0.1557557 | 0.876226 | 0.987881 |
| zgc:158376 | 245.144992 | 0.023829928 | 0.1495145 | 0.1593821 | 0.873368 | 0.987858 |
| cs | 5854.234235 | 0.135995034 | 0.0680334 | 1.998946 | 0.045614 | 0.418744 |
| pimr214 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-127m7.2 | 81.3934185 | -0.106362988 | 0.2278752 | -0.46676 | 0.640672 | 0.959994 |
| taldol | 1351.56019 | -0.010944116 | 0.0879209 | -0.124477 | 0.900938 | 0.990121 |
| lrrc8da | 123.9492791 | 0.565786868 | 0.1818467 | 3.1113395 | 0.001862 | 0.050796 |
| si:dkey-190j3.6 | 1.780257024 | -0.291083849 | 1.5409438 | -0.1889 | 0.850171 | NA |
| si:ch211-161m3.4 | 80.50111062 | -0.121184636 | 0.2267988 | -0.534327 | 0.593116 | 0.954434 |
| pax6a | 1507.523078 | -0.013269121 | 0.0812096 | -0.163393 | 0.870209 | 0.987421 |
| si:ch73-21k16.1 | 41.73608639 | -0.040899323 | 0.2931645 | -0.13951 | 0.889047 | 0.989291 |
| si:ch211-196f19.1 | 17.31137327 | -0.272439238 | 0.4560276 | -0.597418 | 0.550228 | 0.946549 |
| BX005398.1 | 0 NA | NA | NA | NA | NA | NA |
| dnah9 | 12.77004948 | 0.784168199 | 0.5660058 | 1.385442 | 0.165917 | 0.721859 |
| RF00568 | 0 NA | NA | NA | NA | NA | NA |
| CR407701.1 | 2.409075355 | 0.081733625 | 1.3315539 | 0.0613821 | 0.951055 | NA |
| znf609a | 366.039043 | -0.150449531 | 0.1213547 | -1.23975 | 0.215068 | 0.78275 |
| cacna2d2a | 12.00302191 | 0.480891113 | 0.6259336 | 0.7682782 | 0.442322 | 0.916336 |
| rab9b | 12.64758106 | 0.770927072 | 0.579398 | 1.3305655 | 0.183332 | 0.747003 |
| kif5ba | 60.61118085 | 0.191628511 | 0.2502895 | 0.7656274 | 0.443898 | 0.916631 |
| si:ch73-281i18.7 | 14.48002123 | -0.129771573 | 0.4982326 | -0.260464 | 0.794506 | 0.977937 |
| znf804b | 21.38060062 | 0.147366629 | 0.4172495 | 0.3531859 | 0.723949 | 0.970402 |
| fabplb.2 | 5.951823916 | -1.166751519 | 0.8098735 | -1.440659 | 0.149681 | NA |
| si:ch211-161m3.1 | 7.720023762 | 1.208055662 | 0.7071232 | 1.7084091 | 0.08756 | NA |
| sarlb | 2026.377476 | 0.027280968 | 0.084226 | 0.323902 | 0.746012 | 0.97419 |
| uchl5 | 544.6968532 | 0.142246044 | 0.1085176 | 1.3108114 | 0.189921 | 0.754269 |

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|------------------|-------------|--------------|-----------|-----------|----------|----------|
| znf1102 | 11.2222207 | -0.464046709 | 0.5745145 | -0.80772 | 0.419252 | 0.906406 |
| uhrfl | 1030.703527 | 0.038612693 | 0.0948302 | 0.4071772 | 0.683878 | 0.965679 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| CT583728.6 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| zgc:109949 | 212.9018099 | 0.201119012 | 0.1532908 | 1.3120099 | 0.189517 | 0.754269 |
| ppp4r3b | 639.4542986 | -0.052438227 | 0.1094442 | -0.479132 | 0.631845 | 0.957356 |
| si:dkey-269o24.6 | 9.441701892 | 0.058386403 | 0.6106267 | 0.0956172 | 0.923825 | NA |
| or106-3 | 1.343586631 | -1.572682111 | 1.7206854 | -0.913986 | 0.360724 | NA |
| si:dkey-56m15.5 | 0.981193923 | 0.036684775 | 1.9489489 | 0.0188229 | 0.984982 | NA |
| usp10 | 2634.869716 | -0.006376557 | 0.0740458 | -0.086116 | 0.931374 | 0.992702 |
| si:dkey-13m3.2 | 6.349373238 | 0.329933141 | 0.7604736 | 0.4338522 | 0.664396 | NA |
| CR457444.4 | 0 NA | NA | NA | NA | NA | NA |
| ogdhb | 794.5344617 | 0.126413545 | 0.0924976 | 1.3666681 | 0.171729 | 0.730416 |
| CR854926.1 | 7.142084202 | -0.240614898 | 0.7748964 | -0.310512 | 0.756171 | NA |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| exosc4 | 266.9553174 | 0.030485 | 0.1311327 | 0.2324745 | 0.816169 | 0.981594 |
| rpl14 | 9128.907377 | -0.301315823 | 0.073253 | -4.113359 | 3.90E-05 | 0.002203 |
| FP074902.1 | 0.476626891 | 2.395187592 | 2.815932 | 0.8505843 | 0.395 | NA |
| sorbs1 | 1205.47552 | -0.053373433 | 0.081423 | -0.655508 | 0.512141 | 0.936253 |
| BX548028.1 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| tradv3.0.1 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-248e17.5 | 10.05126356 | -0.574522819 | 0.6044922 | -0.950422 | 0.341898 | NA |
| znf1060 | 11.92900996 | 0.694349712 | 0.5844097 | 1.1881215 | 0.234786 | 0.803509 |
| vwde | 497.6938118 | 0.205816983 | 0.1079522 | 1.9065566 | 0.056578 | 0.46635 |
| gig2h | 5.606040993 | -0.365975807 | 0.8056581 | -0.454257 | 0.649644 | NA |
| CR376738.2 | 1.316934745 | 1.548070948 | 1.8401903 | 0.8412559 | 0.400205 | NA |
| gig2k | 0 NA | NA | NA | NA | NA | NA |
| BX005085.3 | 60.56825268 | -0.326287039 | 0.2579603 | -1.264873 | 0.205917 | 0.773798 |
| zfp11 | 402.3705956 | -0.009137941 | 0.1248125 | -0.073213 | 0.941636 | 0.993099 |
| trpm6 | 169.8258916 | -0.014463712 | 0.1577852 | -0.091667 | 0.926963 | 0.992702 |
| cyp2aa11 | 8.916885342 | 0.343031271 | 0.6506084 | 0.5272469 | 0.598022 | NA |
| spartb | 257.7768427 | -0.064174473 | 0.1384254 | -0.463603 | 0.642932 | 0.959994 |
| znf1126 | 0.8136773 | -1.876897407 | 2.1384966 | -0.877671 | 0.380122 | NA |
| dv13b | 41.02835493 | 0.025275337 | 0.3275673 | 0.0771607 | 0.938496 | 0.992849 |
| pggt1b | 272.0591465 | -0.061539292 | 0.1452098 | -0.423796 | 0.671715 | 0.965257 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| cc135.1 | 21.46818468 | -0.346961218 | 0.4655125 | -0.745332 | 0.456071 | 0.921215 |
| limkla | 158.3982187 | -0.031585521 | 0.1831895 | -0.17242 | 0.863107 | 0.985841 |
| CR450787.1 | 0 NA | NA | NA | NA | NA | NA |
| polm | 22.81305015 | 0.027227376 | 0.4248582 | 0.0640858 | 0.948902 | 0.99381 |
| si:dkey-199m13.4 | 31.21539158 | -0.269627195 | 0.33776 | -0.79828 | 0.424708 | 0.9085 |
| nedd8l | 0 NA | NA | NA | NA | NA | NA |
| BX537137.3 | 7.614755046 | -0.558211212 | 0.8092798 | -0.689763 | 0.490343 | NA |
| RF00478 | 1.028583393 | 0.0357399 | 1.9235691 | 0.01858 | 0.985176 | NA |
| trpmlb | 713.2371163 | 0.005287893 | 0.0976102 | 0.0541736 | 0.956797 | 0.994543 |
| si:ch211-255f4.5 | 17.92037058 | -0.435251239 | 0.4714836 | -0.923153 | 0.355928 | 0.882844 |
| nsun6 | 40.71450804 | -0.093219518 | 0.3082425 | -0.302423 | 0.76233 | 0.975374 |
| ptprfa | 1273.664013 | -0.000215474 | 0.0879044 | -0.002451 | 0.998044 | 0.999271 |
| BX640512.3 | 5.543852445 | 0.001849849 | 0.8746788 | 0.0021149 | 0.998313 | NA |
| litaf | 176.4563272 | -0.083433261 | 0.1663272 | -0.501621 | 0.615934 | 0.95688 |
| pkdc | 27.33239279 | -0.648148943 | 0.3706501 | -1.748681 | 0.080346 | 0.549728 |
| card14 | 68.13578427 | -0.027847971 | 0.2396067 | -0.116224 | 0.907475 | 0.990702 |
| CT573799.1 | 0.491320158 | 0.8528132 | 2.8656354 | 0.2976 | 0.766008 | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| BX936431.1 | 1.986201183 | -0.027755622 | 1.3794595 | -0.020121 | 0.983947 | NA |
| CR356246.1 | 5.049481019 | 0.485754758 | 0.8824373 | 0.5504694 | 0.581997 | NA |
| dpysl4 | 935.7223508 | 0.129054136 | 0.111854 | 1.153773 | 0.248593 | 0.817939 |
| si:ch73-111k22.3 | 5.470244552 | -0.797689344 | 0.8238364 | -0.968262 | 0.332914 | NA |
| usp43a | 36.48913515 | -0.314489841 | 0.3314047 | -0.94896 | 0.342641 | 0.878434 |
| zgc:173714 | 13.23391503 | -0.423428654 | 0.5532254 | -0.765382 | 0.444044 | 0.916699 |
| si:dkey-246j6.3 | 5.604875596 | -1.2520512 | 0.8518064 | -1.469878 | 0.141595 | NA |
| epd | 1164.56158 | 0.210567706 | 0.096935 | 2.1722568 | 0.029836 | 0.334457 |
| RF02041 | 0 | NA | NA | NA | NA | NA |
| RF00286 | 2.606901467 | -1.604952121 | 1.376409 | -1.166043 | 0.243597 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| dgatla | 368.0352443 | -0.07225207 | 0.1239636 | -0.582849 | 0.559995 | 0.948628 |
| CR855311.4 | 6.595478984 | 1.043595075 | 0.7468502 | 1.3973286 | 0.162315 | NA |
| fbxl3a | 122.6488602 | -0.109541074 | 0.1836793 | -0.596371 | 0.550927 | 0.946549 |
| tradv5.0.2 | 0 | NA | NA | NA | NA | NA |
| n4bp212 | 125.6330838 | -0.162313923 | 0.1923917 | -0.843664 | 0.398857 | 0.900446 |
| AL953910.1 | 0 | NA | NA | NA | NA | NA |
| si:ch73-106n3.2 | 0 | NA | NA | NA | NA | NA |
| CR391991.2 | 0 | NA | NA | NA | NA | NA |
| zfang2a | 430.3511048 | -0.076029455 | 0.1200976 | -0.633064 | 0.526692 | 0.940559 |
| vcana | 35.41716011 | 0.097867747 | 0.3227417 | 0.3032386 | 0.761708 | 0.975374 |
| sec24c | 1393.567853 | -0.029884793 | 0.0767237 | -0.389512 | 0.696898 | 0.96736 |
| CR759810.1 | 0.500402445 | 2.450713647 | 2.7706722 | 0.8845195 | 0.376416 | NA |
| abhd8a | 8.965781581 | -0.654244519 | 0.6428607 | -1.017708 | 0.308817 | NA |
| adamts1 | 479.8991233 | 0.121210776 | 0.1086332 | 1.1157804 | 0.264516 | 0.830245 |
| si:dkey-148a17.5 | 1.16573396 | 1.355932297 | 1.8790254 | 0.7216147 | 0.470531 | NA |
| capsla | 65.74028147 | -0.097537219 | 0.2434054 | -0.400719 | 0.688627 | 0.966672 |
| si:zfos-943e10.1 | 637.4433001 | 0.018952547 | 0.1034304 | 0.1832395 | 0.85461 | 0.985174 |
| nudt6 | 65.86739029 | -0.213175497 | 0.2585649 | -0.824456 | 0.40968 | 0.902319 |
| YTHDC2 | 76.62401772 | 0.021206152 | 0.2440057 | 0.0869084 | 0.930744 | 0.992702 |
| si:dkeyp-35e5.9 | 9.503612947 | 0.261736131 | 0.6166555 | 0.4244446 | 0.671242 | NA |
| FP243383.1 | 116.6944473 | 0.109074994 | 0.1943191 | 0.5613189 | 0.57458 | 0.950037 |
| zgc:113102 | 46.31339475 | -0.232478311 | 0.2870476 | -0.809895 | 0.418001 | 0.906305 |
| clec14a | 172.8228145 | 0.005801643 | 0.1565389 | 0.037062 | 0.970436 | 0.996315 |
| si:ch211-117117.4 | 0.658218317 | -0.061628513 | 2.4342948 | -0.025317 | 0.979802 | NA |
| F0818719.1 | 52.44308893 | -0.210916767 | 0.2657964 | -0.793528 | 0.427471 | 0.91075 |
| BX546503.1 | 0.496945679 | -0.834564081 | 2.8549631 | -0.29232 | 0.770042 | NA |
| tt1112 | 105.6184108 | 0.027817662 | 0.2302205 | 0.1208305 | 0.903825 | 0.990291 |
| BX571954.2 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| gpr132b | 8.723837196 | -0.209468761 | 0.7143853 | -0.293215 | 0.769358 | NA |
| vegfaa | 347.5219362 | -0.01927682 | 0.1235941 | -0.155969 | 0.876058 | 0.987881 |
| gngt2b | 8492.860875 | 0.165729462 | 0.083984 | 1.9733448 | 0.048456 | 0.433449 |
| trgv5 | 0 | NA | NA | NA | NA | NA |
| tctex1d1 | 12.42773609 | 0.839797194 | 0.5658092 | 1.4842411 | 0.137745 | 0.675209 |
| purbb | 173.3614239 | 0.194514784 | 0.1566877 | 1.2414167 | 0.214452 | 0.782493 |
| CR925723.2 | 0 | NA | NA | NA | NA | NA |
| CR354444.2 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| rnf213b | 1.322329605 | -1.61856854 | 1.7319958 | -0.934511 | 0.350041 | NA |
| tradv10.0.1 | 0 | NA | NA | NA | NA | NA |
| sf3b3 | 2210.307444 | -0.107307549 | 0.0732074 | -1.465802 | 0.142702 | 0.684998 |
| notch1a | 1268.261508 | -0.168781156 | 0.0969826 | -1.740325 | 0.081802 | 0.552725 |
| si:ch211-8c17.4 | 3.793692786 | 0.345501056 | 1.1127703 | 0.3104873 | 0.75619 | NA |
| si:ch211-218g23.6 | 42.90248218 | -1.316212309 | 0.3625633 | -3.630296 | 0.000283 | 0.011332 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| CU462878.2 | 0 | NA | NA | NA | NA | NA |
| si:dkeyp-30d6.2 | 1.647704382 | 1.236909279 | 1.5392972 | 0.8035545 | 0.421654 | NA |
| tomm20b | 1039.228049 | -0.055792189 | 0.1069687 | -0.521575 | 0.601967 | 0.956045 |
| FP103005.2 | 1.021470194 | -0.036800089 | 1.9461475 | -0.018909 | 0.984914 | NA |
| si:ch211-255f4.8 | 14.17378813 | -0.152848951 | 0.5029243 | -0.30392 | 0.761189 | 0.975374 |
| si:dkey-201i24.3 | 3.407592378 | 2.088823126 | 1.2507234 | 1.670092 | 0.094901 | NA |
| si:dkeyp-104b3.1 | 0 | NA | NA | NA | NA | NA |
| EPHB3 | 20.49258568 | 0.174880404 | 0.451624 | 0.3872257 | 0.698589 | 0.967998 |
| gtf2b | 750.8616982 | -0.02180818 | 0.0900636 | -0.242142 | 0.80867 | 0.980642 |
| znf1166 | 16.94934729 | 0.081963175 | 0.46853 | 0.1749369 | 0.861129 | 0.985805 |
| si:ch211-106g8.17 | 0 | NA | NA | NA | NA | NA |
| si:dkey-65j6.2 | 200.4217831 | 0.019253484 | 0.151978 | 0.126686 | 0.899189 | 0.990121 |
| prrt2 | 263.8911315 | -0.04401755 | 0.1359124 | -0.323867 | 0.746039 | 0.97419 |
| gata6 | 193.8368944 | -0.359820503 | 0.1577392 | -2.28111 | 0.022542 | 0.286638 |
| cyp2aa6 | 260.5906324 | 0.049608977 | 0.13192 | 0.3760535 | 0.706877 | 0.968664 |
| dkk3a | 331.166522 | 0.153277285 | 0.1252536 | 1.2237355 | 0.221052 | 0.787641 |
| npm3 | 651.5455164 | -0.207857024 | 0.1153973 | -1.80123 | 0.071667 | 0.523122 |
| sfxn5a | 12.71461307 | 0.969577654 | 0.5377936 | 1.8028805 | 0.071407 | 0.522931 |
| si:dkey-40j3.3 | 0.673031937 | -1.510323851 | 2.4021096 | -0.628749 | 0.529513 | NA |
| st8sia4 | 64.13789374 | 0.165052726 | 0.2448934 | 0.6739779 | 0.500325 | 0.934224 |
| pcdh1a3 | 6.077837005 | 0.552901913 | 0.7681004 | 0.7198303 | 0.471629 | NA |
| CABZ01068244.1 | 0 | NA | NA | NA | NA | NA |
| ndst1b | 897.815226 | 0.025087791 | 0.0874507 | 0.2868793 | 0.774205 | 0.975687 |
| wtip | 11.92151334 | 0.171475478 | 0.5849961 | 0.2931224 | 0.769429 | 0.975687 |
| zgc:153431 | 2.297389852 | -0.017706958 | 1.2250167 | -0.014454 | 0.988467 | NA |
| mib2 | 42.55945641 | 0.148795809 | 0.2912808 | 0.5108328 | 0.609468 | 0.956718 |
| actr8 | 275.492846 | 0.017106835 | 0.1433224 | 0.1193591 | 0.904991 | 0.990702 |
| akt2l | 505.3064174 | -0.154117745 | 0.11867 | -1.298708 | 0.194044 | 0.75784 |
| pent | 126.679335 | 0.014135503 | 0.1873273 | 0.0754588 | 0.93985 | 0.992857 |
| si:dkey-31j3.11 | 14.24088774 | 0.47429714 | 0.5052073 | 0.9388168 | 0.347825 | 0.880195 |
| CU468002.1 | 0 | NA | NA | NA | NA | NA |
| btr18 | 11.80753432 | -0.291666916 | 0.5543137 | -0.526177 | 0.598766 | 0.955763 |
| si:ch73-238c9.1 | 267.8330425 | -0.144214343 | 0.138537 | -1.04098 | 0.297885 | 0.85401 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| npy7r | 0.682543311 | -1.48135518 | 2.5509761 | -0.580701 | 0.561442 | NA |
| CT573408.1 | 0 | NA | NA | NA | NA | NA |
| traj43 | 0 | NA | NA | NA | NA | NA |
| CU914622.2 | 33.58794399 | -0.572659473 | 0.3843585 | -1.48991 | 0.136248 | 0.673089 |
| CT583728.7 | 0 | NA | NA | NA | NA | NA |
| zgc:174703 | 14.11942451 | 0.526970228 | 0.5200549 | 1.0132972 | 0.310918 | 0.863012 |
| CR936977.2 | 6.316593469 | -0.458075156 | 0.7722295 | -0.593185 | 0.553057 | NA |
| si:dkey-36i7.3 | 376.1444888 | -0.637045129 | 0.1250276 | -5.095238 | 3.48E-07 | 4.03E-05 |
| pglyrp6 | 3.383345456 | 0.933465182 | 1.05497 | 0.8848263 | 0.37625 | NA |
| unc45a | 310.8717279 | -0.067292531 | 0.1269987 | -0.529868 | 0.596203 | 0.954447 |
| BX088524.3 | 53.92001143 | 0.0391469 | 0.2767072 | 0.1414741 | 0.887495 | 0.989291 |
| gpc5a | 69.68680129 | -0.201545092 | 0.2423005 | -0.831798 | 0.405523 | 0.901305 |
| znf536 | 1472.474484 | -0.084286623 | 0.0790509 | -1.066232 | 0.286319 | 0.845942 |
| si:ch73-329n5.1 | 7.272428394 | -0.796879184 | 0.7308334 | -1.09037 | 0.27555 | NA |
| map3k12 | 90.61588127 | -0.229931784 | 0.2342387 | -0.981613 | 0.32629 | 0.872137 |
| CU179757.1 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| hivepl | 654.469222 | 0.073985078 | 0.1081264 | 0.6842463 | 0.49382 | 0.931926 |
| bcol1 | 78.74383615 | -0.169524492 | 0.2250242 | -0.753361 | 0.451233 | 0.918761 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| si:zfos-169g10.2 | 7.591346466 | -0.481349869 | 0.7066199 | -0.681201 | 0.495745 | NA |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| NINJ1 | 40.93973221 | 0.035771161 | 0.3040769 | 0.1176385 | 0.906354 | 0.990702 |
| brpfl | 406.032103 | 0.080341057 | 0.1166181 | 0.6889244 | 0.490871 | 0.931926 |
| dapk2b | 75.67060021 | 0.090963412 | 0.2222686 | 0.40925 | 0.682356 | 0.965476 |
| gga3a | 397.3995291 | -0.013397029 | 0.125132 | -0.107063 | 0.914739 | 0.991119 |
| CU570782.2 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| cmc1 | 488.8572248 | 0.037942021 | 0.1062926 | 0.3569583 | 0.721123 | 0.969602 |
| cirbpa | 18889.41965 | -0.164448756 | 0.0605824 | -2.714464 | 0.006638 | 0.125254 |
| CABZ01063651.1 | 2.524092926 | -0.598563033 | 1.2254527 | -0.488442 | 0.625237 | NA |
| CR854948.1 | 0 | NA | NA | NA | NA | NA |
| si:dkey-9018.3 | 48.56697427 | -0.250598571 | 0.2822664 | -0.887809 | 0.374644 | 0.894316 |
| CABZ01008730.1 | 1.271793099 | -0.729723881 | 1.8766688 | -0.38884 | 0.697395 | NA |
| si:ch211-215e19.4 | 0 | NA | NA | NA | NA | NA |
| bmp16 | 294.2568749 | 0.066137525 | 0.1312404 | 0.503942 | 0.614302 | 0.95688 |
| CU041363.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:dkey-23i12.5 | 231.2493496 | -0.316967463 | 0.1424309 | -2.225413 | 0.026054 | 0.311101 |
| inpp5b | 585.1670395 | -0.159290677 | 0.1049019 | -1.518472 | 0.128895 | 0.659982 |
| ap4e1 | 263.7072544 | -0.132428048 | 0.1315489 | -1.006683 | 0.314087 | 0.865176 |
| or106-2 | 2.69726507 | 0.736848435 | 1.233001 | 0.5976057 | 0.550103 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| syncn.2 | 64.05224153 | -0.460603583 | 0.2835675 | -1.624317 | 0.104308 | 0.612044 |
| znf1148 | 6.537784586 | 0.519251935 | 0.7583282 | 0.6847325 | 0.493513 | NA |
| vipas39 | 263.0984465 | 0.036565353 | 0.1371174 | 0.2666719 | 0.789722 | 0.977238 |
| rfx7b | 1150.056493 | -0.115322888 | 0.083048 | -1.38863 | 0.164945 | 0.721223 |
| p4ha3 | 21.06100298 | 0.796454374 | 0.4517606 | 1.7630008 | 0.0779 | 0.543735 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| CABZ01064968.1 | 13.50276331 | -0.294943185 | 0.5252714 | -0.561506 | 0.574452 | 0.950037 |
| arnt2 | 1572.428584 | -0.004480342 | 0.0924695 | -0.048452 | 0.961356 | 0.995802 |
| ptpn13 | 1332.230457 | -0.010476008 | 0.0851183 | -0.123076 | 0.902047 | 0.990121 |
| si:ch211-239d6.2 | 0 | NA | NA | NA | NA | NA |
| si:busml-194e12.8 | 0 | NA | NA | NA | NA | NA |
| cldn23b | 24.80152406 | -0.427705097 | 0.4290358 | -0.996898 | 0.318814 | 0.867746 |
| crhr2 | 4.723906574 | 0.466924189 | 0.9075306 | 0.5144997 | 0.606903 | NA |
| traj59 | 0 | NA | NA | NA | NA | NA |
| CU694378.1 | 0.530029684 | -0.939524117 | 2.7937867 | -0.336291 | 0.736652 | NA |
| plpp7a | 278.4620509 | 0.150127196 | 0.1339708 | 1.1205965 | 0.26246 | 0.830166 |
| cd248a | 1066.844119 | 0.047300296 | 0.0837676 | 0.5646608 | 0.572304 | 0.949494 |
| rab6a | 998.9479772 | 0.089704172 | 0.088501 | 1.013595 | 0.310776 | 0.862927 |
| BX510949.1 | 2.459611018 | -2.019780331 | 1.3768551 | -1.466952 | 0.142389 | NA |
| si:busml-194e12.11 | 0 | NA | NA | NA | NA | NA |
| CT978957.2 | 1.903167742 | -0.214939385 | 1.5140883 | -0.14196 | 0.887112 | NA |
| chmp5b | 655.5093981 | -0.111106262 | 0.0982008 | -1.131419 | 0.257879 | 0.825396 |
| AL772298.2 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| zgc:162730 | 2911.801743 | 0.053366161 | 0.0914912 | 0.5832928 | 0.559696 | 0.948478 |
| si:dkey-122c11.7 | 2.492145583 | -1.503971322 | 1.2858653 | -1.169618 | 0.242155 | NA |
| znf341 | 67.04644486 | -0.000186039 | 0.2397381 | -0.000776 | 0.999381 | 0.999704 |
| tfr2 | 44.82677521 | 0.263665691 | 0.2864776 | 0.9203711 | 0.357379 | 0.883904 |
| RF00012 | 0 | NA | NA | NA | NA | NA |
| vgll14b | 1567.48932 | -0.06379926 | 0.0782672 | -0.815147 | 0.414988 | 0.906237 |
| plpla | 275.4107021 | 0.111872942 | 0.1472291 | 0.7598564 | 0.44734 | 0.917154 |
| FP085414.2 | 0.476506538 | 2.394892832 | 2.8161716 | 0.8504073 | 0.395099 | NA |
| elov11b | 1294.681463 | -0.080996557 | 0.0897652 | -0.902316 | 0.366889 | 0.88734 |
| gramd2aa | 188.0579799 | 0.132645725 | 0.1630491 | 0.8135322 | 0.415913 | 0.906237 |
| si:ch211-230g14.6 | 3.118850143 | -0.762100625 | 1.1120714 | -0.685298 | 0.493156 | NA |
| FP085399.2 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| bahcc1a | 176.0132214 | -0.121523556 | 0.1630605 | -0.745267 | 0.456111 | 0.921215 |
| fundc2 | 700.4982834 | 0.158763375 | 0.1090955 | 1.4552702 | 0.145594 | 0.691067 |
| si:dkeyp-72e1.9 | 193.1871699 | -0.07432418 | 0.1461048 | -0.508705 | 0.610959 | 0.95688 |
| hacd1 | 638.3580147 | 0.293860515 | 0.1105289 | 2.6586766 | 0.007845 | 0.142065 |
| BX005286.3 | 1.189107171 | 1.30530135 | 1.8470888 | 0.7066804 | 0.479765 | NA |
| mapkbp1 | 169.1313388 | 0.153351788 | 0.1622742 | 0.9450167 | 0.34465 | 0.878434 |
| cav1 | 1621.434816 | 0.175319138 | 0.0784218 | 2.2355911 | 0.025379 | 0.308303 |
| ovca2 | 33.47252324 | -0.539202897 | 0.3317459 | -1.625349 | 0.104088 | 0.611298 |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| si:ch211-246m6.5 | 185.6057794 | 0.155561449 | 0.1702767 | 0.9135805 | 0.360937 | 0.885686 |
| si:dkey-262g12.14 | 140.6536927 | -0.030343518 | 0.1705731 | -0.177892 | 0.858808 | 0.985773 |
| DUSP26 | 22.97475086 | 0.015202845 | 0.3978781 | 0.0382098 | 0.96952 | 0.996315 |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| aspm | 633.5809792 | -0.052790855 | 0.0951163 | -0.555014 | 0.578885 | 0.951052 |
| si:dkeyp-4c4.1 | 0.84054856 | 0.569918839 | 2.1047787 | 0.2707738 | 0.786565 | NA |
| CR388184.2 | 0 | NA | NA | NA | NA | NA |
| fahd2a | 263.1348091 | -0.235680793 | 0.1376927 | -1.711644 | 0.086962 | 0.565098 |
| cfh12 | 38.08402467 | 0.253024579 | 0.3325599 | 0.760839 | 0.446753 | 0.917154 |
| ugt1b6p | 1.56309065 | 2.947479933 | 1.7916011 | 1.6451653 | 0.099936 | NA |
| rln1 | 22.70219925 | 0.144155446 | 0.4278425 | 0.3369358 | 0.736165 | 0.972535 |
| l3hypdh | 49.26081672 | -0.191875992 | 0.2768269 | -0.693126 | 0.48823 | 0.93189 |
| gdnfb | 3.888004013 | -0.27069952 | 1.0125836 | -0.267335 | 0.789211 | NA |
| stpgl | 1.819233999 | -1.452751414 | 1.474507 | -0.985245 | 0.324504 | NA |
| cyp2aa7 | 130.0619817 | -0.175955584 | 0.193034 | -0.911527 | 0.362018 | 0.885944 |
| CR855320.2 | 0 | NA | NA | NA | NA | NA |
| si:ch211-147m6.2 | 0 | NA | NA | NA | NA | NA |
| ARMC6 | 50.69223171 | -0.015061471 | 0.2736946 | -0.05503 | 0.956114 | 0.994543 |
| cep128 | 22.93479659 | -0.657107888 | 0.424295 | -1.548705 | 0.121453 | 0.647929 |
| tradv24.0.4 | 0 | NA | NA | NA | NA | NA |
| CR457444.5 | 0.638219549 | -2.807461932 | 2.539214 | -1.105642 | 0.268881 | NA |
| limch1b | 477.6421844 | 0.055324008 | 0.1045713 | 0.5290556 | 0.596767 | 0.954913 |
| CR354610.1 | 31.24646822 | -0.066895029 | 0.3498665 | -0.191202 | 0.848368 | 0.985174 |
| znf1001 | 64.30667371 | 0.160980134 | 0.2508628 | 0.6417058 | 0.521064 | 0.939056 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| cyrr1 | 558.7289886 | 0.050150764 | 0.0993603 | 0.5047364 | 0.613744 | 0.95688 |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| sult2st2 | 479.5861204 | -0.588108632 | 0.1170864 | -5.022858 | 5.09E-07 | 5.75E-05 |
| klhl13 | 61.60782324 | -0.029923639 | 0.2649802 | -0.112928 | 0.910088 | 0.990702 |
| chd1 | 896.9952384 | -0.047003197 | 0.0958475 | -0.490396 | 0.623854 | 0.957354 |
| AL645792.2 | 1.108953469 | 1.331436755 | 3.9243804 | 0.3392731 | 0.734404 | NA |
| tmem130 | 86.8170818 | -0.082122219 | 0.2380195 | -0.345023 | 0.730077 | 0.971177 |
| nme2b.1 | 8318.885248 | -0.316748728 | 0.0788945 | -4.014841 | 5.95E-05 | 0.003192 |
| CABZ01076737.1 | 8.854489374 | 0.098696032 | 0.6358446 | 0.1552204 | 0.876648 | NA |
| zgc:113348 | 220.186952 | 0.043035787 | 0.1549295 | 0.2777765 | 0.781184 | 0.97627 |
| kars | 3937.63997 | -0.113781732 | 0.0677836 | -1.678603 | 0.093229 | 0.580702 |
| prkar1b | 392.7469173 | 0.190021231 | 0.1172121 | 1.6211742 | 0.10498 | 0.613259 |
| si:ch73-389b16.2 | 1266.468377 | 0.070504391 | 0.0802675 | 0.8783682 | 0.379744 | 0.895192 |
| BX004785.3 | 13.80673021 | 0.086091378 | 0.559569 | 0.153853 | 0.877726 | 0.987881 |
| CR376821.1 | 0 | NA | NA | NA | NA | NA |
| CT990567.3 | 0 | NA | NA | NA | NA | NA |
| cacna2d4a | 47.46515785 | -0.225238472 | 0.2870225 | -0.784741 | 0.432605 | 0.91326 |
| agla | 1781.056154 | 0.181676379 | 0.0912872 | 1.9901628 | 0.046573 | 0.424198 |
| ATE1 | 247.5317675 | -0.029020755 | 0.143988 | -0.20155 | 0.840269 | 0.985029 |
| CR450808.3 | 3.61807464 | 0.29148342 | 1.0032415 | 0.2905416 | 0.771402 | NA |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| BX950855.1 | 4.551913468 | -0.730671642 | 0.919361 | -0.79476 | 0.426753 | NA |
| tmem42b | 40.02258047 | 0.103798053 | 0.3165344 | 0.3279203 | 0.742972 | 0.973486 |
| CU896644.1 | 0 | NA | NA | NA | NA | NA |
| CU459186.4 | 2.414259661 | -0.21179173 | 1.270405 | -0.166712 | 0.867597 | NA |
| rbms1b | 6.627515685 | 0.299541787 | 0.7298063 | 0.4104401 | 0.681483 | NA |
| hint1 | 601.998292 | -0.149007404 | 0.1283306 | -1.161121 | 0.245593 | 0.815431 |
| galnt10 | 133.2202892 | 0.111254424 | 0.1753823 | 0.6343536 | 0.52585 | 0.940223 |
| gpib | 941.3089161 | 0.193636645 | 0.0949158 | 2.0400878 | 0.041342 | 0.398192 |
| znf1144 | 61.29534886 | -0.102739122 | 0.2651925 | -0.387413 | 0.69845 | 0.967998 |
| si:ch73-236c18.2 | 0.809821446 | 0.539374789 | 2.2312571 | 0.2417358 | 0.808985 | NA |
| ddr2l | 35.85837416 | 0.036604345 | 0.3594901 | 0.1018229 | 0.918897 | 0.991623 |
| ankrd13c | 1395.951194 | -0.036335696 | 0.078819 | -0.461002 | 0.644797 | 0.96029 |
| spink2.2 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| rbml4b | 1179.414982 | 0.018407399 | 0.1115891 | 0.1649569 | 0.868978 | 0.987245 |
| CU633479.2 | 123.1520709 | 0.29977642 | 0.2098306 | 1.4286594 | 0.153102 | 0.702423 |
| lrrc8db | 546.2914981 | -0.04001616 | 0.1057094 | -0.378549 | 0.705023 | 0.968134 |
| CU024870.1 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |
| spag8 | 11.63889458 | -0.48436969 | 0.5590421 | -0.866428 | 0.386256 | 0.89551 |
| si:ch211-266c8.1 | 17.66304297 | 0.156594449 | 0.4976956 | 0.314639 | 0.753036 | 0.97481 |
| zgc:55733 | 1647.064854 | 0.006999372 | 0.0789161 | 0.0886938 | 0.929325 | 0.992702 |
| hspa5 | 5348.316783 | 0.016744315 | 0.1039678 | 0.1610529 | 0.872052 | 0.987846 |
| CR339059.1 | 2.651371061 | -0.042699622 | 1.2410748 | -0.034405 | 0.972554 | NA |
| apbala | 270.6091923 | 0.258175285 | 0.1360332 | 1.897885 | 0.057711 | 0.471368 |
| mdhlab | 1497.669449 | 0.371778835 | 0.0827262 | 4.4940884 | 6.99E-06 | 0.000527 |
| si:cabz01021426.2 | 131.2934399 | -0.190731179 | 0.1753882 | -1.08748 | 0.276825 | 0.840075 |
| tnrc6c2 | 760.9346038 | -0.103258041 | 0.0997986 | -1.034665 | 0.300826 | 0.856396 |
| pigr14.2 | 0.968496488 | 0.949457343 | 2.238594 | 0.4241311 | 0.67147 | NA |
| znf1183 | 13.87766487 | 0.410524686 | 0.5278734 | 0.7776954 | 0.436749 | 0.914408 |
| pdlim7 | 748.8669561 | 0.169851653 | 0.1083477 | 1.5676535 | 0.116962 | 0.639958 |
| ptcd3 | 671.4329835 | -0.065368082 | 0.0966584 | -0.676279 | 0.498863 | 0.934006 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| arf4a | 9.492361904 | 0.445214782 | 0.6467519 | 0.6883857 | 0.49121 | NA |
| wu:fu71h07 | 15.21494299 | 0.25422225 | 0.4950984 | 0.5134782 | 0.607617 | 0.956718 |
| RF00001 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| hoxa4a | 642.6156032 | -0.057905306 | 0.0949512 | -0.609843 | 0.541966 | 0.944974 |
| wu:fc30c06 | 70.10954527 | 0.007647816 | 0.2311397 | 0.0330874 | 0.973605 | 0.996315 |
| nitr3r.1l | 0.645291463 | -2.8201041 | 2.5306349 | -1.114386 | 0.265114 | NA |
| BX005054.1 | 0 | NA | NA | NA | NA | NA |
| e2f1 | 31.40610168 | -0.307478571 | 0.3642857 | -0.844059 | 0.398637 | 0.900359 |
| CU855889.2 | 28.53150778 | -0.244585601 | 0.3611644 | -0.677214 | 0.49827 | 0.933914 |
| si:ch73-109d9.2 | 255.177131 | 0.009830752 | 0.133129 | 0.0738438 | 0.941135 | 0.992857 |
| si:dkey-84h14.4 | 0 | NA | NA | NA | NA | NA |
| BX927082.1 | 0 | NA | NA | NA | NA | NA |
| tradv23.0.1 | 0 | NA | NA | NA | NA | NA |
| anpepb | 667.7575197 | -1.234968548 | 0.1161102 | -10.63618 | 2.02E-26 | 3.64E-23 |
| si:ch1073-181h11.2 | 0.341366344 | 1.891903201 | 3.2128156 | 0.5888614 | 0.555954 | NA |
| si:dkey-161111.75 | 0 | NA | NA | NA | NA | NA |
| carmill | 36.06164136 | 0.121339432 | 0.3247553 | 0.3736334 | 0.708677 | 0.968664 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| mett117 | 207.7297794 | -0.182140346 | 0.1438855 | -1.26587 | 0.20556 | 0.773646 |
| si:dkeyp-13d12.18 | 0.531799352 | 0.999478841 | 2.790358 | 0.3581902 | 0.720201 | NA |
| CABZ01074203.1 | 1.165493255 | 1.353703116 | 1.7969125 | 0.7533495 | 0.45124 | NA |
| srsf2b | 600.1850159 | -0.012898439 | 0.1031673 | -0.125025 | 0.900504 | 0.990121 |
| traj2 | 0 | NA | NA | NA | NA | NA |

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| CT737210.1 | 2.780349839 | -0.217250119 | 1.19037 | -0.182506 | 0.855185 | NA |
| sept9b | 414.7353423 | 0.223671326 | 0.1156985 | 1.9332261 | 0.053208 | 0.452412 |
| ndel | 185.9068328 | 0.072146473 | 0.1502787 | 0.4800845 | 0.631167 | 0.957356 |
| L0017650.1 | 109.1241577 | -0.028154411 | 0.1983516 | -0.141942 | 0.887126 | 0.989231 |
| pcdh2ab10 | 1.454604754 | -0.286731717 | 1.5986585 | -0.179358 | 0.857657 | NA |
| sgol | 194.291643 | -0.112822791 | 0.1567677 | -0.719681 | 0.471721 | 0.924838 |
| pimr202 | 0 NA | NA | NA | NA | NA | NA |
| THEM6 | 128.2034148 | 0.476170903 | 0.181329 | 2.6260053 | 0.008639 | 0.152919 |
| erolb | 371.6255475 | 0.032406531 | 0.1321826 | 0.2451649 | 0.806329 | 0.980105 |
| RF00001 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| znf185 | 226.5841986 | 0.039557163 | 0.1686048 | 0.2346147 | 0.814508 | 0.981081 |
| si:ch73-1a9.3 | 23847.34479 | -0.016169695 | 0.0614974 | -0.262933 | 0.792602 | 0.977937 |
| CR847936.2 | 0 NA | NA | NA | NA | NA | NA |
| bod1 | 337.4122583 | -0.134125552 | 0.1243538 | -1.078581 | 0.280775 | 0.84357 |
| tfap4 | 180.6921095 | -0.198069569 | 0.1523435 | -1.300151 | 0.193549 | 0.757219 |
| zgc:154055 | 72.77086541 | -0.040725788 | 0.2337274 | -0.174245 | 0.861673 | 0.985841 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| inpp5e | 335.8246061 | 0.107746075 | 0.1212885 | 0.8883451 | 0.374355 | 0.893914 |
| CR450824.2 | 6.378341993 | -0.92951849 | 0.8054713 | -1.154006 | 0.248498 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| ildrla | 304.6688679 | -0.101582231 | 0.1324057 | -0.767205 | 0.44296 | 0.916336 |
| fancm | 47.6311311 | 0.039255198 | 0.313246 | 0.1253175 | 0.900272 | 0.990121 |
| megf8 | 76.99249896 | 0.520120658 | 0.2237085 | 2.3249925 | 0.020072 | 0.266383 |
| rab27a | 86.26717798 | -0.001523836 | 0.2419703 | -0.006298 | 0.994975 | 0.998694 |
| zgc:173486 | 0 NA | NA | NA | NA | NA | NA |
| ndrg4 | 3953.376807 | -0.047553807 | 0.0692651 | -0.686548 | 0.492367 | 0.931926 |
| frrs11 | 67.64294375 | 0.118772835 | 0.2557742 | 0.464366 | 0.642386 | 0.959994 |
| FP085399.3 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-124113.1 | 0.633693903 | 1.437927987 | 2.4435336 | 0.5884625 | 0.556222 | NA |
| zgc:113295 | 77.29818602 | -0.155415866 | 0.2226088 | -0.698157 | 0.485079 | 0.930084 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| zbtb12.1 | 23.54351012 | 0.035687147 | 0.4168075 | 0.0856202 | 0.931768 | 0.992702 |
| pcdh1gc6 | 202.7723036 | 0.075136905 | 0.149073 | 0.5040277 | 0.614242 | 0.95688 |
| tspan34 | 22.00720932 | -1.764970446 | 0.4536304 | -3.890768 | 9.99E-05 | 0.004879 |
| CABZ01054391.1 | 33.1347399 | 0.286834992 | 0.3352848 | 0.8554966 | 0.392276 | 0.897688 |
| med12 | 1699.33568 | -0.023097356 | 0.0839554 | -0.275115 | 0.783228 | 0.97627 |
| znf1152 | 43.30503406 | 0.170145709 | 0.2961723 | 0.5744821 | 0.565642 | 0.948739 |
| si:dkey-29j8.1 | 0.657349104 | 1.487939685 | 2.418178 | 0.6153144 | 0.538347 | NA |
| si:dkey-17o15.2 | 314.9343063 | 0.088326362 | 0.1346617 | 0.6559131 | 0.51188 | 0.936253 |
| aamdc | 136.1286186 | -0.039516483 | 0.1720461 | -0.229685 | 0.818336 | 0.981594 |
| pak1 | 757.2151927 | -0.163366866 | 0.1126803 | -1.449826 | 0.147107 | 0.693916 |
| CU019624.1 | 1.989338175 | 0.986608234 | 1.3675617 | 0.721436 | 0.470641 | NA |
| poln | 15.18714994 | 0.369988458 | 0.5059317 | 0.7313012 | 0.464595 | 0.923493 |
| add1 | 422.8576336 | 0.14236775 | 0.1101389 | 1.2926204 | 0.196142 | 0.761539 |
| si:dkeyp-104b3.21 | 1.283111924 | -0.015093912 | 1.7137951 | -0.008807 | 0.992973 | NA |
| si:ch211-156b7.5 | 2.83127539 | -0.872060563 | 1.1245163 | -0.775498 | 0.438045 | NA |
| CU062501.2 | 2.257742088 | -0.436600324 | 1.4069071 | -0.310326 | 0.756313 | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| smyhc2 | 2966.726602 | 0.073088233 | 0.0673166 | 1.0857387 | 0.277595 | 0.84125 |
| si:ch73-173p19.2 | 7.567384791 | -0.362136236 | 0.7026677 | -0.515373 | 0.606292 | NA |
| CR352209.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0.323844819 | -1.825095364 | 3.274639 | -0.557342 | 0.577293 | NA |
| BX544877.1 | 0.657349104 | 1.487939685 | 2.418178 | 0.6153144 | 0.538347 | NA |
| terf2ip | 176.0164708 | -0.315122938 | 0.1545132 | -2.039456 | 0.041405 | 0.39841 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| sh3bp5b | 652.2622958 | 0.016733105 | 0.0994787 | 0.1682079 | 0.86642 | 0.986673 |
| calr3a | 2785.084675 | 0.099877083 | 0.0744596 | 1.3413594 | 0.179804 | 0.741062 |
| ets2 | 1298.859183 | 0.023898218 | 0.0928601 | 0.2573572 | 0.796903 | 0.978569 |
| bhlha9 | 12.80108341 | 0.351369417 | 0.5389638 | 0.651935 | 0.514443 | 0.937307 |
| slc30a10 | 64.97070369 | -0.331246103 | 0.2465593 | -1.343474 | 0.179118 | 0.740021 |
| cyth4b | 12.48079792 | 0.189354339 | 0.5408744 | 0.3500893 | 0.726272 | 0.970402 |
| spryl | 119.9226992 | -0.084191304 | 0.2018605 | -0.417077 | 0.676622 | 0.965257 |
| mymk | 83.5157641 | 0.178458343 | 0.2143705 | 0.8324762 | 0.40514 | 0.901305 |
| si:ch211-237a4.2 | 1.993076931 | 2.321609457 | 1.5549954 | 1.4930009 | 0.135437 | NA |
| ppiab | 6980.649762 | -0.078929363 | 0.0622818 | -1.267294 | 0.20505 | 0.772905 |
| spd11 | 208.7534411 | -0.181103139 | 0.143727 | -1.260049 | 0.207652 | 0.775175 |
| BX548173.1 | 0.981434629 | 0.037139168 | 1.9488154 | 0.0190573 | 0.984795 | NA |
| RF00017 | | 0 NA | NA | NA | NA | NA |
| ccl39.4 | 0.333314908 | -1.858695402 | 3.5126701 | -0.52914 | 0.596708 | NA |
| si:dkey-146c18.2 | 0.522329263 | 0.999930388 | 2.8066578 | 0.3562709 | 0.721638 | NA |
| slc4a3 | 14.01207075 | 0.592650829 | 0.528527 | 1.1213256 | 0.262149 | 0.830166 |
| znf1082 | 14.38127555 | 0.279932835 | 0.5263303 | 0.5318577 | 0.594825 | 0.954434 |
| pcdhlgl | 20.2245038 | 0.316177344 | 0.4582896 | 0.6899073 | 0.490252 | 0.931926 |
| si:ch211-232d10.3 | 1.347713189 | -0.752436095 | 1.6618253 | -0.452777 | 0.650709 | NA |
| si:dkey-264f17.3 | 1.019741812 | -0.999014948 | 1.9781285 | -0.50503 | 0.613538 | NA |
| rps17 | 5901.041598 | -0.317533791 | 0.067551 | -4.700653 | 2.59E-06 | 0.000227 |
| BX323041.1 | 2.528382364 | -0.068179127 | 1.4207516 | -0.047988 | 0.961726 | NA |
| mark1 | 27.07729574 | -0.134193589 | 0.3947432 | -0.339952 | 0.733893 | 0.971993 |
| fgfr1bl | | 0 NA | NA | NA | NA | NA |
| si:dkey-151j17.4 | 8.655711325 | 0.645119337 | 0.6868743 | 0.9392102 | 0.347623 | NA |
| mtpn | 2570.882624 | -0.049820211 | 0.0760766 | -0.654869 | 0.512552 | 0.936253 |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| CR450827.1 | | 0 NA | NA | NA | NA | NA |
| gcgra | 172.8499349 | 0.325845613 | 0.1711904 | 1.9034102 | 0.056987 | 0.46855 |
| mag | 336.3235676 | 0.25746874 | 0.1229618 | 2.0938929 | 0.03627 | 0.372062 |
| ccdc137 | 165.5355419 | 0.061713538 | 0.1816295 | 0.339777 | 0.734024 | 0.971993 |
| si:dkeyp-35e5.5 | 11.67537398 | 0.178398181 | 0.5655207 | 0.3154583 | 0.752414 | 0.974684 |
| si:ch211-207b24.4 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:dkey-74k8.3 | 610.2939274 | 0.025096288 | 0.1020559 | 0.2459072 | 0.805754 | 0.979893 |
| BX677667.2 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| taf12 | 1938.981576 | 0.046658054 | 0.0816213 | 0.5716406 | 0.567565 | 0.948739 |
| mrpl33 | 451.660619 | 0.1976684 | 0.1252524 | 1.5781605 | 0.114529 | 0.634367 |
| arid3b | 937.7464084 | -0.136025684 | 0.0984357 | -1.381873 | 0.167011 | 0.723594 |
| ttcl6 | 4.303459406 | 1.147536394 | 0.9853893 | 1.1645513 | 0.244201 | NA |
| si:dkey-74k8.4 | 23.00621338 | -0.079402799 | 0.396482 | -0.200268 | 0.841271 | 0.985174 |
| znf1023 | 1.669829625 | -1.984133646 | 1.6043401 | -1.236729 | 0.216188 | NA |
| errfila | 709.6757797 | 0.354226478 | 0.0977652 | 3.6232387 | 0.000291 | 0.011552 |
| CR388132.2 | 116.4337274 | -0.087999219 | 0.1952475 | -0.450706 | 0.652201 | 0.960708 |
| b4galt4 | 295.8182642 | 0.030355108 | 0.1394494 | 0.2176783 | 0.82768 | 0.982721 |
| gngl0 | 7.759704317 | -0.312151709 | 0.7285782 | -0.42844 | 0.668331 | NA |
| t1r22 | 4.181655198 | -0.13987312 | 0.9424531 | -0.148414 | 0.882016 | NA |
| tradv23.0.2 | | 0 NA | NA | NA | NA | NA |
| si:ch211-262i1.3 | 225.9561985 | -0.157411082 | 0.1458369 | -1.079364 | 0.280426 | 0.843423 |
| crebl2 | 612.1564243 | -0.088354168 | 0.0980044 | -0.901532 | 0.367305 | 0.887458 |
| CR388413.4 | 0.84054856 | 0.569918839 | 2.1047787 | 0.2707738 | 0.786565 | NA |
| BX324181.1 | | 0 NA | NA | NA | NA | NA |
| mlxipl | 4.769300212 | 0.485623347 | 0.8704314 | 0.5579111 | 0.576905 | NA |
| pcdhlgl4 | 30.82850195 | 0.029097622 | 0.3425731 | 0.0849384 | 0.93231 | 0.992702 |
| si:dkey-31c13.1 | 109.3986003 | -0.000937165 | 0.1925323 | -0.004868 | 0.996116 | 0.998888 |

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| si:ch211-127b6.2 | 14.14049457 | 0.34259089 | 0.5159016 | 0.6640625 | 0.50665 | 0.935734 |
| znf1154 | 59.34318924 | -0.098603289 | 0.2514657 | -0.392114 | 0.694974 | 0.96736 |
| dnaja2a | 3219.233404 | 0.023730088 | 0.0720814 | 0.3292124 | 0.741995 | 0.973154 |
| gstpl | 4269.793326 | -0.46910673 | 0.1084933 | -4.323832 | 1.53E-05 | 0.001014 |
| rnf170 | 432.4041734 | -0.052849368 | 0.1216296 | -0.434511 | 0.663918 | 0.964736 |
| BX323876.1 | 0.339758314 | 0.005883863 | 3.2682461 | 0.0018003 | 0.998564 | NA |
| hikeshi | 208.2161555 | -0.083534848 | 0.1472716 | -0.567216 | 0.570567 | 0.949061 |
| si:ch211-215j19.12 | 0.982760668 | 0.918233209 | 2.0855726 | 0.4402787 | 0.659735 | NA |
| FQ790367.1 | 0.688986717 | 0.114008068 | 2.399209 | 0.047519 | 0.9621 | NA |
| znf1052 | 9.827663945 | 0.569828468 | 0.6331737 | 0.899956 | 0.368144 | NA |
| rnf126 | 252.6801573 | -0.036510901 | 0.1352971 | -0.269857 | 0.78727 | 0.976596 |
| fcer1g1 | 63.87863078 | 0.135477588 | 0.2406791 | 0.5628972 | 0.573505 | 0.949869 |
| zgc:113336 | 39.11646114 | -0.393566497 | 0.3197913 | -1.230698 | 0.218436 | 0.785734 |
| CT009487.1 | 0.500161739 | 2.450146464 | 2.7711133 | 0.8841741 | 0.376602 | NA |
| pcdh2ab12 | 2.649085454 | 1.134032886 | 1.2297283 | 0.9221817 | 0.356434 | NA |
| trps1 | 35.15011428 | -0.352272201 | 0.3188552 | -1.104803 | 0.269245 | 0.834636 |
| adgre5b.2 | 21.05111685 | 0.920697773 | 0.4315561 | 2.1334373 | 0.032889 | 0.353256 |
| si:dkey-191g9.7 | 472.988405 | -0.065322485 | 0.1110062 | -0.588458 | 0.556225 | 0.947902 |
| abcd3a | 1046.163708 | -0.184913071 | 0.0861678 | -2.145966 | 0.031876 | 0.346515 |
| si:dkey-14o6.2 | 8.623736396 | 0.11319315 | 0.6325216 | 0.1789554 | 0.857973 | NA |
| p3h4 | 131.8527687 | 0.064203902 | 0.1776963 | 0.3613126 | 0.717866 | 0.96909 |
| june | 298.435439 | -0.175669351 | 0.1269502 | -1.383766 | 0.16643 | 0.722981 |
| mchrla | 0 | NA | NA | NA | NA | NA |
| grk3 | 452.7627046 | 0.07486714 | 0.1273453 | 0.5879065 | 0.556595 | 0.948067 |
| si:dkey-29d5.1 | 0 | NA | NA | NA | NA | NA |
| tmem222b | 52.72245849 | -0.379171065 | 0.2639321 | -1.436623 | 0.150825 | 0.698912 |
| FP236513.1 | 59.33060739 | 0.090533093 | 0.2516895 | 0.3597015 | 0.71907 | 0.969183 |
| bmpr1ba | 332.6189266 | -0.279502495 | 0.1355978 | -2.061262 | 0.039278 | 0.389121 |
| RIMBP2 | 295.0628144 | 0.036087637 | 0.1393789 | 0.2589175 | 0.795699 | 0.978498 |
| rps6kc1 | 990.997455 | -0.098409711 | 0.0858665 | -1.146078 | 0.251763 | 0.821232 |
| RF00324 | 2.945161813 | 0.612116444 | 1.2512656 | 0.4891978 | 0.624702 | NA |
| ttf2 | 197.2176852 | 0.217025107 | 0.1476892 | 1.4694715 | 0.141705 | 0.6826 |
| CABZ01087953.1 | 20.03750742 | 0.33579526 | 0.4539745 | 0.7396786 | 0.459495 | 0.921978 |
| nkx2.4b | 45.24773133 | -0.384608232 | 0.3093186 | -1.243405 | 0.213719 | 0.78213 |
| slcold1 | 958.2714298 | -0.554427589 | 0.0912795 | -6.073958 | 1.25E-09 | 2.54E-07 |
| col4a2 | 690.7978145 | 0.160266172 | 0.1065281 | 1.5044492 | 0.132466 | 0.666729 |
| mrps30 | 619.8701988 | -0.166227914 | 0.0984558 | -1.688351 | 0.091344 | 0.57849 |
| CR383680.3 | 1.141597348 | 1.326659567 | 1.9138834 | 0.6931768 | 0.488199 | NA |
| zgc:136767 | 0.853874503 | -1.902668424 | 2.1134959 | -0.900247 | 0.367989 | NA |
| kmt5ab | 155.0547337 | -0.022253322 | 0.1675905 | -0.132784 | 0.894364 | 0.989689 |
| RF00002 | 6.261606524 | 3.521153516 | 1.1164842 | 3.1537873 | 0.001612 | NA |
| antxr2a | 196.0178903 | -0.028275766 | 0.1533097 | -0.184436 | 0.853672 | 0.985174 |
| kalrna | 661.1827387 | -0.059053735 | 0.093988 | -0.628311 | 0.5298 | 0.942209 |
| L0018260.1 | 40.3216166 | -0.272000291 | 0.299711 | -0.907542 | 0.36412 | 0.886386 |
| znf1069 | 10.2319422 | 0.464807182 | 0.6148435 | 0.7559764 | 0.449663 | NA |
| ttc6 | 26.85295184 | -0.493340309 | 0.3990402 | -1.236317 | 0.216341 | 0.783645 |
| ccpg1 | 25.556612 | -0.367917876 | 0.3871699 | -0.950275 | 0.341973 | 0.878434 |
| snx2 | 420.969529 | -0.169277005 | 0.1083621 | -1.562143 | 0.118254 | 0.641526 |
| si:dkey-23n7.10 | 63.12469006 | 0.407224718 | 0.2522006 | 1.6146855 | 0.106379 | 0.615567 |
| rbm26 | 736.9642454 | -0.124940069 | 0.0928721 | -1.345291 | 0.178531 | 0.739486 |
| CU652893.1 | 0 | NA | NA | NA | NA | NA |
| traj28 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| BX323793.1 | 0.62874946 | -2.787682787 | 2.7593918 | -1.010253 | 0.312374 | NA |

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| RF02250 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| igfbp7 | 162.1170699 | 0.186551097 | 0.1738496 | 1.0730601 | 0.283244 | 0.84466 |
| atpla3b | 5528.440282 | 0.286784626 | 0.0888024 | 3.2294708 | 0.00124 | 0.036712 |
| si:dkey-262j3.7 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-15h8.10 | 8.335762802 | 0.131193384 | 0.6685146 | 0.1962461 | 0.844418 | NA |
| si:dkey-68o6.8 | 0.507044276 | -2.459587493 | 2.7586536 | -0.89159 | 0.372613 | NA |
| CR381676.1 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| rraga | 384.4176728 | -0.180715806 | 0.1119831 | -1.613778 | 0.106576 | 0.615567 |
| prkd4 | 1.646883242 | -3.038613469 | 1.8368941 | -1.654213 | 0.098084 | NA |
| CU464180.1 | 4.315888397 | 0.239358461 | 0.9413607 | 0.2542686 | 0.799288 | NA |
| dre-mir-17a-1 | 0 NA | NA | NA | NA | NA | NA |
| hoxalla | 3.046851276 | -0.627152543 | 1.1344861 | -0.552808 | 0.580395 | NA |
| si:cabz01071912.2 | 48.5431943 | 0.056334494 | 0.2937154 | 0.1917996 | 0.847899 | 0.985174 |
| si:ch211-232d10.1 | 3.488466111 | 0.678446636 | 1.0228082 | 0.6633175 | 0.507127 | NA |
| CR388378.3 | 0.365141898 | 1.973577737 | 3.3927314 | 0.5817076 | 0.560764 | NA |
| si:ch211-212k18.4 | 2219.037794 | -0.012227765 | 0.0791366 | -0.154515 | 0.877204 | 0.987881 |
| si:dkey-208k4.2 | 2.632502167 | 1.115435015 | 1.2049961 | 0.9256752 | 0.354615 | NA |
| diabloa | 646.6338463 | 0.447054152 | 0.1021618 | 4.3759441 | 1.21E-05 | 0.000845 |
| tufm | 1765.863531 | -0.044415042 | 0.0937491 | -0.473765 | 0.635667 | 0.958142 |
| BX511034.6 | 0 NA | NA | NA | NA | NA | NA |
| cpne3 | 736.9334794 | 0.15352336 | 0.0912934 | 1.6816474 | 0.092637 | 0.57957 |
| trir | 581.4474936 | 0.046362421 | 0.1063942 | 0.4357606 | 0.66301 | 0.964736 |
| rab11fip5a | 37.54972054 | -0.22208132 | 0.3108003 | -0.714547 | 0.474889 | 0.925399 |
| tmsbl | 1664.896834 | 0.194422492 | 0.2148904 | 0.904752 | 0.365597 | 0.887073 |
| BX247946.1 | 0.672283077 | 0.02892376 | 2.3005571 | 0.0125725 | 0.989969 | NA |
| AL831726.2 | 0.31598276 | 0.005883445 | 3.3523626 | 0.001755 | 0.9986 | NA |
| fbxo43 | 6.360797874 | 0.299514805 | 0.7572373 | 0.3955363 | 0.692447 | NA |
| fam83fb | 20.49732603 | 0.450478473 | 0.4492241 | 1.0027924 | 0.315961 | 0.866931 |
| BX927261.1 | 0 NA | NA | NA | NA | NA | NA |
| CABZ01019904.1 | 6.879711656 | 0.097928627 | 0.7408051 | 0.1321922 | 0.894832 | NA |
| traj45 | 0 NA | NA | NA | NA | NA | NA |
| pimr203 | 0.651146404 | -0.045019457 | 2.587009 | -0.017402 | 0.986116 | NA |
| ptpn22 | 64.95993865 | 0.098110606 | 0.2454713 | 0.3996826 | 0.68939 | 0.966763 |
| si:dkey-43p13.5 | 10.64752315 | -0.389797379 | 0.5971969 | -0.652712 | 0.513942 | NA |
| BX901923.2 | 766.9816822 | 0.261205784 | 0.1045922 | 2.4973723 | 0.012512 | 0.198084 |
| ugt5b5 | 7.92586666 | -0.06616454 | 0.7213393 | -0.091725 | 0.926917 | NA |
| slcla8a | 340.522108 | 0.222178516 | 0.1245865 | 1.7833278 | 0.074533 | 0.531871 |
| cfh13 | 3.883988607 | 1.228683405 | 1.0100866 | 1.2164139 | 0.223827 | NA |
| pcytlbb | 55.98671221 | 0.000650701 | 0.2835265 | 0.002295 | 0.998169 | 0.999281 |
| zgc:172128 | 0 NA | NA | NA | NA | NA | NA |
| si:ch73-173h19.3 | 247.0805177 | 0.27685305 | 0.1321754 | 2.0945891 | 0.036208 | 0.371931 |
| BX548173.2 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-283b1.6 | 60.70292015 | -0.945692738 | 0.2740931 | -3.450261 | 0.00056 | 0.019327 |
| CR381540.3 | 18.04697952 | 0.086594775 | 0.4565251 | 0.1896824 | 0.849558 | 0.985174 |
| gpc2 | 119.7264332 | -0.077980112 | 0.193556 | -0.402881 | 0.687036 | 0.966376 |
| gpc6b | 9.249210437 | 0.73511266 | 0.6211498 | 1.1834708 | 0.236623 | NA |
| CU694197.2 | 4.30355202 | 0.444550151 | 0.9033861 | 0.4920932 | 0.622653 | NA |
| sat2b | 141.746864 | 0.224931953 | 0.1757562 | 1.2797955 | 0.200617 | 0.766801 |
| inpp1la | 763.9473295 | 0.049952204 | 0.0985995 | 0.5066172 | 0.612423 | 0.95688 |
| lmbrd1 | 630.3216858 | 0.052896567 | 0.1039566 | 0.5088333 | 0.610869 | 0.95688 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| ndellb | 854.1711238 | 0.109286695 | 0.09627 | 1.1352102 | 0.256287 | 0.824633 |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |

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| nop10 | 383.0324034 | -0.034688168 | 0.1228907 | -0.282269 | 0.777738 | 0.975942 |
| lyplal | 91.98296455 | 0.190374362 | 0.2052502 | 0.9275233 | 0.353655 | 0.881976 |
| sec23a | 1176.290455 | -0.033908457 | 0.0914583 | -0.370753 | 0.710821 | 0.968985 |
| opn9 | 256.0557899 | 0.165621396 | 0.1315053 | 1.2594274 | 0.207876 | 0.775404 |
| dynlrbl | 0 NA | NA | NA | NA | NA | NA |
| myo5c | 60.73650822 | -0.282410785 | 0.2502267 | -1.12862 | 0.259058 | 0.82743 |
| CR383668.2 | 1.435184007 | 2.837783568 | 3.9414811 | 0.719979 | 0.471538 | NA |
| olfcs1 | 2.769890184 | 0.154624306 | 1.1442967 | 0.1351261 | 0.892512 | NA |
| dcp2 | 694.7026476 | -0.019809926 | 0.1017635 | -0.194666 | 0.845654 | 0.985174 |
| eomesb | 11.97483724 | -0.291118475 | 0.5649994 | -0.515254 | 0.606375 | 0.956718 |
| twsgla | 727.7451695 | -0.077770188 | 0.136117 | -0.571348 | 0.567764 | 0.948739 |
| si:ch211-165a10.11 | 0 NA | NA | NA | NA | NA | NA |
| prdm10 | 405.6566665 | 0.042222321 | 0.1105187 | 0.3820379 | 0.702433 | 0.968134 |
| cpne4b | 3.908650073 | 1.539829474 | 1.1131702 | 1.383283 | 0.166578 | NA |
| arhgap27 | 210.6079069 | 0.090223177 | 0.1439171 | 0.6269108 | 0.530718 | 0.942209 |
| bcol | 228.7796289 | -0.605556575 | 0.1522533 | -3.977298 | 6.97E-05 | 0.003618 |
| F0681314.1 | 0 NA | NA | NA | NA | NA | NA |
| CABZ01072885.1 | 57.48943407 | -0.256142645 | 0.2585346 | -0.990748 | 0.321809 | 0.869463 |
| si:ch211-117c19.1 | 41.75694245 | 0.497910398 | 0.3122539 | 1.594569 | 0.110809 | 0.625858 |
| si:dkey-56m15.3 | 3.363147021 | 1.59502007 | 1.0838773 | 1.4715874 | 0.141132 | NA |
| CABZ01055365.1 | 10.72956662 | 0.041151444 | 0.5797515 | 0.0709812 | 0.943413 | NA |
| zgc:123035 | 213.9785246 | 0.073904233 | 0.1428522 | 0.5173476 | 0.604914 | 0.95651 |
| si:dkey-29m1.2 | 5.286868916 | -0.964600969 | 0.8830922 | -1.092299 | 0.274702 | NA |
| postnb | 17561.52379 | 0.388825704 | 0.0648283 | 5.9977761 | 2.00E-09 | 3.77E-07 |
| si:ch211-271d10.2 | 8.480186964 | 0.287757869 | 0.649099 | 0.4433189 | 0.657535 | NA |
| si:dkey-56m15.7 | 0 NA | NA | NA | NA | NA | NA |
| BX664721.3 | 4.275890614 | 0.217967437 | 0.89791 | 0.2427498 | 0.808199 | NA |
| tmem200b | 121.5472163 | -0.029014163 | 0.1867446 | -0.155368 | 0.876531 | 0.987881 |
| dicpl.17 | 0 NA | NA | NA | NA | NA | NA |
| BX942846.1 | 12.01730647 | 0.597015841 | 0.5627202 | 1.0609462 | 0.288714 | 0.845979 |
| slc2a8 | 58.01709543 | 0.110790792 | 0.2530497 | 0.4378223 | 0.661515 | 0.964234 |
| appa | 5081.835767 | 0.019213918 | 0.0650915 | 0.2951833 | 0.767854 | 0.975687 |
| bniplb | 331.3168737 | -0.003123546 | 0.1300317 | -0.024021 | 0.980836 | 0.996944 |
| dcc | 18.55101158 | -0.053376823 | 0.4443869 | -0.120113 | 0.904393 | 0.99032 |
| cdc42bpa | 37.88319887 | 0.263118148 | 0.3100314 | 0.8486823 | 0.396058 | 0.89957 |
| CABZ01049361.1 | 2.807382738 | 0.496279294 | 1.1318426 | 0.4384703 | 0.661045 | NA |
| armh3 | 440.7659436 | 0.027099964 | 0.125394 | 0.2161185 | 0.828895 | 0.982721 |
| CU019562.3 | 0 NA | NA | NA | NA | NA | NA |
| lto1 | 122.1545208 | -0.004848914 | 0.1856238 | -0.026122 | 0.97916 | 0.996802 |
| hfml | 17.58110536 | 0.456332639 | 0.4861607 | 0.9386457 | 0.347913 | 0.880195 |
| ripk2 | 34.75207221 | -0.096568877 | 0.3318518 | -0.291 | 0.771051 | 0.975687 |
| GPR151 | 73.2579387 | -0.154256492 | 0.2392898 | -0.644643 | 0.519159 | 0.938945 |
| ccn2b | 146.1998303 | -0.116543946 | 0.1813784 | -0.642546 | 0.520519 | 0.939056 |
| arhgap21a | 437.5501323 | -0.074553694 | 0.1102796 | -0.676043 | 0.499014 | 0.934006 |
| zgc:165508 | 6.114683254 | 0.063609412 | 0.7761546 | 0.0819546 | 0.934683 | NA |
| si:ch73-380110.2 | 44.59887175 | 0.131486613 | 0.2939718 | 0.4472763 | 0.654676 | 0.961305 |
| AL953886.2 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |
| wipfla | 8.475108622 | 0.279209024 | 0.6459033 | 0.4322769 | 0.66554 | NA |
| zgc:193726 | 36.15031452 | -0.154281243 | 0.3600636 | -0.428483 | 0.668299 | 0.964736 |
| CR391991.3 | 0.65888811 | -1.481402282 | 2.5795287 | -0.574292 | 0.56577 | NA |
| FP085399.4 | 0.687217049 | -1.490137326 | 2.387795 | -0.624064 | 0.532585 | NA |
| L0018474.1 | 311.4633925 | -0.070311033 | 0.124717 | -0.563765 | 0.572914 | 0.949762 |
| hoxala | 55.21680357 | 0.126441339 | 0.2699647 | 0.4683624 | 0.639525 | 0.959994 |
| CT573245.1 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| scmh1 | 456.4791797 | -0.020704411 | 0.1129631 | -0.183285 | 0.854575 | 0.985174 |
| CT573342.2 | 1.618585297 | 1.990384964 | 1.6424254 | 1.2118571 | 0.225567 | NA |
| nrg1 | 200.7548177 | 0.024580427 | 0.1511782 | 0.1625924 | 0.870839 | 0.987683 |
| fh13b | 112.7815111 | 0.219844039 | 0.1867236 | 1.1773769 | 0.239045 | 0.807768 |
| si:ch211-182p11.1 | 5.35807848 | -0.186693535 | 0.8355861 | -0.223428 | 0.823202 | NA |
| plek | 24.82787097 | 0.097937556 | 0.4833074 | 0.2026403 | 0.839416 | 0.984979 |
| si:dkey-183i3.9 | 134.6252348 | 0.222855581 | 0.1733884 | 1.285297 | 0.198689 | 0.763777 |
| si:ch73-281k2.5 | 169.7400135 | 0.451300144 | 0.1746999 | 2.5832879 | 0.009786 | 0.167691 |
| cdh28 | 3.906003694 | -0.766997554 | 1.0540544 | -0.727664 | 0.466819 | NA |
| si:ch211-212k5.4 | 4.642048821 | -0.018509183 | 0.8861819 | -0.020886 | 0.983336 | NA |
| SMARCA4 | 613.2455161 | 0.084426962 | 0.1013756 | 0.8328138 | 0.40495 | 0.901305 |
| rspol | 40.84021123 | 0.245980011 | 0.3074401 | 0.8000908 | 0.423658 | 0.907829 |
| si:ch211-76m11.8 | 1.788978252 | 0.26630798 | 1.4099501 | 0.1888776 | 0.850189 | NA |
| csnklg1 | 1032.420695 | 0.014021174 | 0.0848813 | 0.1651856 | 0.868798 | 0.987245 |
| ccdc127a | 55.2569858 | -0.375560366 | 0.2904034 | -1.293237 | 0.195929 | 0.761148 |
| rtn4b | 1194.683375 | -0.043231837 | 0.0848031 | -0.509791 | 0.610198 | 0.95688 |
| fgf2 | 25.85677173 | 0.792244665 | 0.4080308 | 1.9416294 | 0.052182 | 0.448824 |
| si:dkey-68o6.6 | | 0 NA | NA | NA | NA | NA |
| CR318589.1 | | 0 NA | NA | NA | NA | NA |
| nop58 | 1341.204816 | -0.098177452 | 0.0947983 | -1.035646 | 0.300367 | 0.856251 |
| FP016005.1 | 18.19865409 | 0.287405429 | 0.4580512 | 0.6274526 | 0.530363 | 0.942209 |
| anxalc | 957.1245672 | -0.05592946 | 0.1175642 | -0.475736 | 0.634263 | 0.95776 |
| barh12 | 933.3097164 | 0.064693904 | 0.0913917 | 0.7078752 | 0.479023 | 0.926978 |
| FP236354.1 | 0.992392395 | 0.990936841 | 1.9735323 | 0.5021133 | 0.615588 | NA |
| BX470229.2 | 3.805277046 | -0.624547297 | 0.9806461 | -0.636873 | 0.524207 | NA |
| CR339044.1 | | 0 NA | NA | NA | NA | NA |
| BX323064.2 | 3.503132634 | 0.693459072 | 1.1173426 | 0.6206324 | 0.534841 | NA |
| AL732629.1 | 0.492110303 | -0.89618148 | 2.8628934 | -0.313033 | 0.754255 | NA |
| zgc:194469 | 221.9303921 | -0.183118825 | 0.1511229 | -1.211721 | 0.225619 | 0.793245 |
| esml | 95.24555268 | -0.491706081 | 0.2321316 | -2.118221 | 0.034156 | 0.359261 |
| gnblb | 5189.175932 | 0.072724993 | 0.066585 | 1.0922129 | 0.27474 | 0.839332 |
| smchd1 | 439.7818631 | -0.020828271 | 0.11761 | -0.177096 | 0.859433 | 0.985773 |
| sec24a | 895.2787085 | 0.015122076 | 0.101951 | 0.148327 | 0.882085 | 0.988344 |
| BX927192.1 | | 0 NA | NA | NA | NA | NA |
| si:dkey-238k10.2 | 26.53758836 | 0.118053074 | 0.385865 | 0.305944 | 0.759647 | 0.975374 |
| RF00001 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| AGBL1 | 166.3906753 | 0.286043669 | 0.1670603 | 1.7122186 | 0.086856 | 0.565027 |
| CU019647.1 | | 0 NA | NA | NA | NA | NA |
| si:ch211-48m9.1 | 221.9160705 | 0.157173358 | 0.1518858 | 1.0348126 | 0.300756 | 0.856365 |
| stag3 | 3.12269471 | -0.481892129 | 1.1358472 | -0.424258 | 0.671378 | NA |
| kcnj2b | 2.342542784 | 0.019054581 | 1.2141842 | 0.0156933 | 0.987479 | NA |
| sumo2a | 1.475032609 | 0.318592214 | 1.58558 | 0.200931 | 0.840753 | NA |
| eri2 | 46.99419792 | -0.266297694 | 0.2985652 | -0.891925 | 0.372433 | 0.892843 |
| npr2 | 332.7657628 | 0.047829087 | 0.1221799 | 0.3914644 | 0.695454 | 0.96736 |
| BX324177.1 | | 0 NA | NA | NA | NA | NA |
| RF00001 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| trim25 | 267.2516565 | 0.002266785 | 0.1287523 | 0.0176058 | 0.985953 | 0.996944 |
| si:ch73-343g19.4 | 0.333314908 | -1.858695402 | 3.5126701 | -0.52914 | 0.596708 | NA |
| tppp | 19.73095467 | -1.007456953 | 0.4555003 | -2.211759 | 0.026983 | 0.316663 |
| ymell1b | 917.7569979 | 0.143574296 | 0.0858687 | 1.6720221 | 0.09452 | 0.584805 |
| osepla | 57.91970353 | 0.27644008 | 0.2522638 | 1.0958374 | 0.27315 | 0.838141 |
| b4galt11 | 367.7442304 | -0.087450919 | 0.1274837 | -0.685977 | 0.492727 | 0.931926 |
| BX649453.1 | 3.544618094 | 1.008838813 | 1.0252995 | 0.9839455 | 0.325142 | NA |
| zgc:152774 | 14.45020697 | -0.971861444 | 0.5436744 | -1.78758 | 0.073844 | 0.529749 |

| | | | | | | |
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| tnk2b | 547.2264716 | -0.061798515 | 0.1070461 | -0.577308 | 0.563732 | 0.948739 |
| si:dkey-72117.5 | 3.912638737 | 0.235968071 | 0.9523048 | 0.2477863 | 0.8043 | NA |
| rogdi | 1134.660821 | 0.137524707 | 0.0835636 | 1.6457488 | 0.099815 | 0.600955 |
| shmt2 | 541.4498024 | 0.293109136 | 0.1518681 | 1.9300239 | 0.053604 | 0.453751 |
| si:ch73-236c18.6 | 0 | NA | NA | NA | NA | NA |
| si:dkey-16p6.1 | 2.192894202 | -0.287433415 | 1.4576574 | -0.197189 | 0.84368 | NA |
| CT573006.2 | 0.832686501 | 1.890338043 | 2.2432774 | 0.842668 | 0.399414 | NA |
| BX248318.1 | 354.299691 | -0.945021423 | 0.1272641 | -7.425669 | 1.12E-13 | 4.53E-11 |
| RF00600 | 7.461186084 | -0.237960362 | 0.7829463 | -0.303929 | 0.761182 | NA |
| si:ch73-34h11.1 | 0 | NA | NA | NA | NA | NA |
| BX950868.2 | 1.005677052 | -1.070533255 | 2.0800549 | -0.514666 | 0.606787 | NA |
| p2ry2.3 | 2.816503055 | -0.484067777 | 1.1126493 | -0.435059 | 0.66352 | NA |
| AL935044.3 | 3.102102804 | -0.957913559 | 1.196179 | -0.800811 | 0.423241 | NA |
| olfcjl | 6.323402185 | 0.946776235 | 0.8145161 | 1.1623788 | 0.245082 | NA |
| slcla3a | 563.8432562 | -0.020922846 | 0.1092894 | -0.191444 | 0.848177 | 0.985174 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| si:ch73-217b7.1 | 434.9315328 | -0.117355729 | 0.1187948 | -0.987886 | 0.323208 | 0.870607 |
| zgc:153426 | 5514.745533 | 0.139060079 | 0.0741549 | 1.8752642 | 0.060756 | 0.481715 |
| aip | 1479.302928 | 0.011853576 | 0.0783294 | 0.1513298 | 0.879716 | 0.987881 |
| clnd1a | 428.5961316 | -0.083896942 | 0.1213235 | -0.691514 | 0.489242 | 0.931926 |
| cdh30 | 0.323844819 | -1.825095364 | 3.274639 | -0.557342 | 0.577293 | NA |
| hspb7 | 95.3974646 | 0.405929671 | 0.2160214 | 1.879118 | 0.060228 | 0.479065 |
| aatkb | 439.5083682 | 0.163986878 | 0.1133938 | 1.4461717 | 0.148129 | 0.695914 |
| CT573793.3 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:ch211-203c5.3 | 2.026209009 | -1.602627092 | 1.4484213 | -1.106465 | 0.268525 | NA |
| zgc:77287 | 28.903099 | -0.150054426 | 0.3602279 | -0.416554 | 0.677005 | 0.965257 |
| CU210919.1 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CR855996.2 | 477.7392601 | -0.656064668 | 0.1092515 | -6.005086 | 1.91E-09 | 3.67E-07 |
| slc39a7 | 1074.340322 | 0.163493446 | 0.0822562 | 1.987613 | 0.046855 | 0.425112 |
| flt4 | 186.4534999 | 0.113969944 | 0.1536545 | 0.7417284 | 0.458252 | 0.921978 |
| CR936974.1 | 0.904013163 | 2.00662374 | 2.339454 | 0.8577316 | 0.391041 | NA |
| MPV17L | 183.4713179 | 0.179791912 | 0.1530061 | 1.175064 | 0.239969 | 0.808111 |
| rnasekb | 1375.536753 | 0.060877018 | 0.0871687 | 0.6983813 | 0.484939 | 0.93001 |
| CT573799.2 | 1.802142557 | -0.848670183 | 1.6231959 | -0.522839 | 0.601086 | NA |
| si:dkeyp-107f9.4 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| syng2b | 435.2310269 | -0.022433126 | 0.1253628 | -0.178946 | 0.85798 | 0.985703 |
| si:ch211-39i2.2 | 325.5091732 | -0.022374994 | 0.1388671 | -0.161125 | 0.871995 | 0.987846 |
| il6r | 90.3351939 | 0.095170059 | 0.2117617 | 0.4494205 | 0.653128 | 0.960792 |
| si:dkey-41c6.3 | 1.472472796 | 0.260944128 | 1.6737067 | 0.1559079 | 0.876106 | NA |
| cap2 | 359.9891292 | 0.364886831 | 0.1191886 | 3.0614234 | 0.002203 | 0.057467 |
| BX649416.2 | 65.03569582 | -0.030511911 | 0.2635474 | -0.115774 | 0.907832 | 0.990702 |
| hcn1 | 31.92621745 | 0.139701922 | 0.3703261 | 0.3772403 | 0.705995 | 0.968412 |
| tradv2.0.1 | 0 | NA | NA | NA | NA | NA |
| gipcl | 10.42652742 | 0.407550816 | 0.5894025 | 0.6914643 | 0.489274 | NA |
| itgblb | 341.7328566 | -0.040000998 | 0.1194909 | -0.334762 | 0.737805 | 0.972535 |
| si:ch1073-224n8.1 | 265.0005134 | -0.004603313 | 0.129416 | -0.03557 | 0.971625 | 0.996315 |
| CR812836.1 | 0 | NA | NA | NA | NA | NA |
| mthfs | 74.72571973 | -0.029699354 | 0.2418494 | -0.122801 | 0.902265 | 0.990121 |
| si:ch73-299h12.9 | 25.92011427 | 0.075100743 | 0.3985463 | 0.1884367 | 0.850534 | 0.985174 |
| CR855389.2 | 4.289377947 | 0.63061439 | 1.0509022 | 0.6000696 | 0.54846 | NA |
| CT009570.1 | 0 | NA | NA | NA | NA | NA |
| ampd2a | 218.2454798 | -0.197874391 | 0.192037 | -1.030397 | 0.302824 | 0.85729 |
| L0018176.1 | 43.21692805 | -0.063127515 | 0.3137501 | -0.201203 | 0.84054 | 0.985042 |
| pltp | 197.6428828 | -0.211789819 | 0.1489675 | -1.421718 | 0.155108 | 0.70492 |

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|------------------|-------------|--------------|-----------|-----------|----------|----------|
| pcdh1g29 | 170.6693176 | -0.180178436 | 0.1550162 | -1.16232 | 0.245105 | 0.815227 |
| fycola | 108.9481558 | -0.146994178 | 0.2035702 | -0.722081 | 0.470245 | 0.924787 |
| FP236812.1 | 106.6118343 | 0.040869 | 0.1924855 | 0.2123225 | 0.831855 | 0.98349 |
| si:ch211-266c8.1 | 71.723064 | -0.313579949 | 0.2736338 | -1.145984 | 0.251802 | 0.821232 |
| dre-mir-219-2 | 0 NA | NA | NA | NA | NA | NA |
| slc10a7 | 196.8450843 | -0.044835964 | 0.1466246 | -0.305787 | 0.759767 | 0.975374 |
| RF01268 | 0 NA | NA | NA | NA | NA | NA |
| BX936284.1 | 0 NA | NA | NA | NA | NA | NA |
| CU861667.1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| uqcr10 | 1574.950391 | 0.041064168 | 0.1117582 | 0.3674377 | 0.713293 | 0.96909 |
| tcrg | 3.768536608 | -0.130126361 | 0.9563144 | -0.136071 | 0.891765 | NA |
| CABZ01075611.1 | 23.42803244 | 0.041724906 | 0.4447357 | 0.0938196 | 0.925253 | 0.992676 |
| BX908386.3 | 0.506415768 | -0.866825728 | 2.6674086 | -0.324969 | 0.745204 | NA |
| CU138542.2 | 4.014372492 | 1.259531875 | 1.0330261 | 1.2192643 | 0.222744 | NA |
| CR391991.4 | 1.022491002 | 2.265845936 | 2.0916203 | 1.083297 | 0.278677 | NA |
| cldn10b | 63.49146048 | 0.034636163 | 0.2435987 | 0.1421853 | 0.886934 | 0.989231 |
| cyp2k17 | 24.66187383 | -0.123336814 | 0.3897838 | -0.316424 | 0.751681 | 0.974352 |
| znf609b | 1618.773386 | -0.053859611 | 0.08223 | -0.654987 | 0.512476 | 0.936253 |
| zcchc4 | 80.07442788 | -0.136891775 | 0.238431 | -0.574136 | 0.565876 | 0.948739 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| BX072554.1 | 0 NA | NA | NA | NA | NA | NA |
| cox7c | 2008.592014 | 0.056801433 | 0.1962371 | 0.289453 | 0.772235 | 0.975687 |
| tmem184a | 287.283089 | -0.237621191 | 0.1334583 | -1.78049 | 0.074996 | 0.533634 |
| cyp2aa8 | 156.0232779 | 0.255646524 | 0.1947288 | 1.3128336 | 0.189239 | 0.753954 |
| msh6 | 657.7176611 | -0.066452369 | 0.0957926 | -0.693711 | 0.487864 | 0.931809 |
| ppt2 | 418.3743135 | 0.022090428 | 0.108332 | 0.2039141 | 0.838421 | 0.984797 |
| CR456627.1 | 0.825855294 | 1.891116598 | 2.1306575 | 0.8875742 | 0.37477 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| BX005367.1 | 3.053658153 | -0.168960636 | 1.1399816 | -0.148213 | 0.882174 | NA |
| dre-mir-133a-1 | 4.010046513 | 1.012976936 | 0.9486069 | 1.0678575 | 0.285585 | NA |
| arhgap44 | 168.5628472 | 0.218668769 | 0.1732146 | 1.2624153 | 0.206799 | 0.774452 |
| olfcgl | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CU929150.3 | 0 NA | NA | NA | NA | NA | NA |
| sh2d3cb | 127.3169532 | -0.14065313 | 0.1809581 | -0.777269 | 0.437 | 0.914408 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| CR318653.1 | 0.974201077 | -0.034292541 | 1.8748044 | -0.018291 | 0.985406 | NA |
| BX511115.1 | 0 NA | NA | NA | NA | NA | NA |
| tmem63ba | 56.25810607 | 0.143376754 | 0.2635162 | 0.5440909 | 0.586379 | 0.953319 |
| CT990561.2 | 2.673029434 | -1.565258472 | 1.231461 | -1.271058 | 0.203708 | NA |
| znf1081 | 47.41514338 | 0.027142751 | 0.2874874 | 0.0944137 | 0.924781 | 0.992676 |
| CR847984.2 | 5.511018934 | -0.43709563 | 0.8026129 | -0.544591 | 0.586035 | NA |
| kcnk9 | 14.16660027 | 0.411941111 | 0.5280355 | 0.780139 | 0.435309 | 0.914408 |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| foxil | 26.78365759 | -0.102912001 | 0.3699747 | -0.27816 | 0.78089 | 0.97627 |
| BX571715.1 | 194.6073529 | -0.388750936 | 0.1652034 | -2.353166 | 0.018614 | 0.254199 |
| CABZ01088484.1 | 50.32942263 | -0.541489651 | 0.2880929 | -1.879566 | 0.060167 | 0.478771 |
| gadd45ab | 281.9919557 | 0.046521055 | 0.148852 | 0.3125322 | 0.754636 | 0.975114 |
| si:dkey-35h6.1 | 432.0490219 | 0.413169013 | 0.1348521 | 3.0638671 | 0.002185 | 0.057157 |
| slc12a2 | 1789.138428 | 0.120567412 | 0.0768109 | 1.5696651 | 0.116493 | 0.639148 |
| psck6 | 109.4938558 | 0.130693576 | 0.1911051 | 0.6838834 | 0.494049 | 0.931926 |
| si:ch211-152c8.5 | 117.3460735 | 0.133226518 | 0.188241 | 0.7077443 | 0.479104 | 0.926987 |
| BX323876.2 | 0.347458735 | -1.908042286 | 3.4571486 | -0.551912 | 0.581009 | NA |
| toml | 547.6059 | 0.091714391 | 0.1059575 | 0.8655772 | 0.386722 | 0.89551 |
| si:dkeyp-4f2.3 | 15.02497444 | 0.192159037 | 0.497503 | 0.386247 | 0.699314 | 0.967998 |

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|---------------------|-------------|--------------|-----------|-----------|----------|----------|
| RF00001 | 0 | NA | NA | NA | NA | NA |
| srl | 1864.216648 | 0.276722111 | 0.1031937 | 2.6815795 | 0.007328 | 0.135037 |
| zgc:112234 | 33.17616078 | 0.022371912 | 0.3549997 | 0.0630195 | 0.949751 | 0.99381 |
| si:dkey-99n20.6 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CT737123.2 | 0 | NA | NA | NA | NA | NA |
| tradv4.0.1 | 0 | NA | NA | NA | NA | NA |
| zgc:171601 | 6.932849166 | 0.538206608 | 0.7438669 | 0.7235255 | 0.469357 | NA |
| cyp2k18 | 95.36108536 | -1.397128544 | 0.2295927 | -6.085249 | 1.16E-09 | 2.42E-07 |
| gtf2a11 | 129.6824994 | 0.049340526 | 0.1933149 | 0.2552339 | 0.798542 | 0.978884 |
| BX005398.2 | 0 | NA | NA | NA | NA | NA |
| zgc:123181 | 13.01921477 | 0.103084253 | 0.5270376 | 0.1955918 | 0.84493 | 0.985174 |
| CABZ01070527.1 | 10.10761846 | -0.442032061 | 0.638952 | -0.691808 | 0.489058 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| CR847514.1 | 0 | NA | NA | NA | NA | NA |
| si:ch73-299h12.4 | 43.1051723 | -0.16394277 | 0.2928006 | -0.559913 | 0.575539 | 0.950373 |
| crebbpa | 1106.437267 | 0.075582619 | 0.1004216 | 0.7526533 | 0.451658 | 0.918761 |
| znf1179 | 26.78375478 | -0.163367423 | 0.3850538 | -0.424272 | 0.671368 | 0.965257 |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| grem1b | 23.4539796 | 0.396269089 | 0.4300994 | 0.9213431 | 0.356871 | 0.883422 |
| si:ch211-171117.4 | 4.377795456 | -1.242187796 | 0.9922432 | -1.251899 | 0.210607 | NA |
| CU462913.1 | 5.036467939 | -0.029326243 | 0.9019068 | -0.032516 | 0.974061 | NA |
| pimr168 | 0 | NA | NA | NA | NA | NA |
| si:ch73-236c18.8 | 0 | NA | NA | NA | NA | NA |
| SLC16A6 (1 of many) | 14.67002599 | 0.143270583 | 0.5019134 | 0.2854488 | 0.7753 | 0.975687 |
| CABZ01061592.2 | 15.12530324 | 0.416207515 | 0.4861018 | 0.8562146 | 0.391879 | 0.897688 |
| REG | 51.35183204 | 0.26347482 | 0.2893648 | 0.9105282 | 0.362544 | 0.885944 |
| BX957336.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| mhc2b | 0 | NA | NA | NA | NA | NA |
| si:dkey-112a7.4 | 356.8258853 | -0.014555817 | 0.118941 | -0.122378 | 0.902599 | 0.990121 |
| fam219b | 212.0245923 | 0.134939971 | 0.1449405 | 0.9310025 | 0.351852 | 0.88081 |
| CCNB1IP1 | 0 | NA | NA | NA | NA | NA |
| BX511034.7 | 32.01701015 | -0.394711473 | 0.3438866 | -1.147795 | 0.251053 | 0.820469 |
| si:ch211-261d7.6 | 247.2613839 | 0.08681793 | 0.1601118 | 0.5422331 | 0.587658 | 0.953319 |
| si:dkey-31i7.2 | 307.4725743 | 0.45906631 | 0.1784384 | 2.5726878 | 0.010091 | 0.171429 |
| tuba71 | 33.16632876 | 0.714080292 | 0.3616797 | 1.9743442 | 0.048343 | 0.433147 |
| surf4 | 598.5917036 | 0.010643268 | 0.1092873 | 0.0973879 | 0.922418 | 0.99233 |
| CR626884.3 | 0 | NA | NA | NA | NA | NA |
| si:dkey-40c23.2 | 12.35821398 | 0.215276851 | 0.5585289 | 0.3854355 | 0.699915 | 0.967998 |
| BX936384.2 | 0 | NA | NA | NA | NA | NA |
| msx2a | 17.89669935 | -0.315251665 | 0.48031 | -0.65635 | 0.511599 | 0.936253 |
| btbd2b | 171.6230696 | -0.125785298 | 0.1631265 | -0.771091 | 0.440653 | 0.916336 |
| leap2 | 653.6238228 | 0.664109626 | 0.0956865 | 6.9404703 | 3.91E-12 | 1.25E-09 |
| si:dkeyp-97a10.3 | 55.30663439 | -0.1524841 | 0.2672902 | -0.570482 | 0.568351 | 0.948983 |
| CU915762.1 | 1.120189971 | -1.316642239 | 1.923908 | -0.684358 | 0.493749 | NA |
| si:ch73-132f6.5 | 237.8602027 | -0.165700774 | 0.1503224 | -1.102303 | 0.27033 | 0.835161 |
| RF00415 | 0.482640214 | -0.866525639 | 2.7061322 | -0.320208 | 0.748811 | NA |
| zgc:103755 | 19.14644625 | -0.914974551 | 0.4498733 | -2.033849 | 0.041967 | 0.40206 |
| dcl1b | 1140.937988 | -0.053257244 | 0.0898229 | -0.592914 | 0.553239 | 0.947265 |
| kirrel131 | 1316.861328 | 0.111782253 | 0.0856437 | 1.3052008 | 0.191824 | 0.75597 |
| slc35c1 | 190.7785477 | 0.013451898 | 0.1528354 | 0.0880156 | 0.929864 | 0.992702 |
| cct2 | 2024.428129 | -0.20418491 | 0.0885743 | -2.305239 | 0.021153 | 0.274206 |
| prkd2 | 534.7721463 | 0.018700882 | 0.110695 | 0.1689406 | 0.865843 | 0.986517 |
| AL935044.4 | 0 | NA | NA | NA | NA | NA |
| CU467646.6 | 174.1960128 | 0.042283077 | 0.1640794 | 0.2576989 | 0.796639 | 0.978569 |

| | | | | | | |
|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| CU469104.1 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |
| si:dkeyp-87d1.1 | 2.986298497 | 1.416754937 | 1.1829175 | 1.1976786 | 0.231042 | NA |
| tpm2 | 5627.94235 | 0.008801168 | 0.0808281 | 0.1088875 | 0.913292 | 0.991119 |
| BX640408.1 | 1.005436347 | -1.07115751 | 2.0802502 | -0.514918 | 0.606611 | NA |
| trdc | 0.649297668 | -1.460709729 | 2.4265008 | -0.601982 | 0.547186 | NA |
| grklb | 742.8000645 | 0.160644418 | 0.1045875 | 1.5359814 | 0.124543 | 0.65376 |
| hsf5 | 4.128452073 | -0.575628705 | 0.9346028 | -0.615907 | 0.537956 | NA |
| slc16a9b | 1718.27325 | -0.278067358 | 0.0907391 | -3.06447 | 0.002181 | 0.057157 |
| cd79b | 2.14416865 | 0.720528717 | 1.4387662 | 0.5007963 | 0.616515 | NA |
| CR848705.2 | 14.16717096 | -0.283849478 | 0.5245028 | -0.541178 | 0.588385 | 0.953319 |
| il6st | 1067.857397 | -0.099131681 | 0.0901196 | -1.100001 | 0.271332 | 0.836239 |
| BX088587.1 | 3.092529317 | -0.436081015 | 1.121163 | -0.388954 | 0.69731 | NA |
| apooa | 297.9198991 | 0.294202223 | 0.1322563 | 2.2244857 | 0.026116 | 0.311656 |
| si:dkey-57k17.1 | 33.71967815 | -0.16434518 | 0.3526466 | -0.466034 | 0.641191 | 0.959994 |
| CR925761.4 | 11.8387465 | -0.237036202 | 0.5534816 | -0.428264 | 0.668459 | 0.96478 |
| acvr2ab | 22.7779081 | 0.137243005 | 0.41656 | 0.3294676 | 0.741802 | 0.973154 |
| map7dlb | 1079.088251 | -0.032662611 | 0.09504 | -0.343672 | 0.731093 | 0.971557 |
| cat | 1951.355939 | -0.112241209 | 0.083114 | -1.350449 | 0.176872 | 0.737551 |
| si:ch211-271g18.1 | 5.926752322 | -0.808016303 | 0.7868677 | -1.026877 | 0.304478 | NA |
| CU550719.2 | 0 | NA | NA | NA | NA | NA |
| ddx24 | 436.4180714 | -0.127924705 | 0.1170767 | -1.092658 | 0.274544 | 0.839136 |
| sprtn | 226.2010456 | 0.007160547 | 0.1546965 | 0.0462877 | 0.963081 | 0.995927 |
| psipla | 117.6873187 | -0.073517958 | 0.1827099 | -0.402375 | 0.687408 | 0.966376 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| zgc:165653 | 155.5978223 | 0.20372972 | 0.1753076 | 1.1621273 | 0.245184 | 0.815227 |
| zgc:91849 | 320.2326664 | 0.089648392 | 0.1220286 | 0.7346507 | 0.462552 | 0.922698 |
| tbxa2r | 6.201669508 | -0.027420661 | 0.8244529 | -0.033259 | 0.973468 | NA |
| CU570769.3 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| abcc1 | 887.6195553 | 0.276910515 | 0.0871666 | 3.1767952 | 0.001489 | 0.042429 |
| RF00001 | 0.538871265 | 0.999144257 | 2.7784799 | 0.359601 | 0.719146 | NA |
| si:dkey-203a12.9 | 19.21096631 | -0.34621967 | 0.4310923 | -0.803122 | 0.421904 | 0.90651 |
| myl2a | 274.102238 | 0.052653884 | 0.1387418 | 0.3795099 | 0.704309 | 0.968134 |
| CABZ01087502.1 | 2.973916584 | -1.016719957 | 1.1754826 | -0.864938 | 0.387073 | NA |
| si:ch211-162e15.3 | 228.150489 | 0.067989787 | 0.1371024 | 0.4959053 | 0.619961 | 0.957354 |
| ino80da | 9.517285909 | -0.483606014 | 0.6457914 | -0.748858 | 0.453943 | NA |
| BX950205.2 | 0 | NA | NA | NA | NA | NA |
| si:dkey-33b17.3 | 2.825770221 | -0.548438241 | 1.1399517 | -0.481107 | 0.630441 | NA |
| mlycd | 77.8312307 | -0.098231505 | 0.2391914 | -0.410682 | 0.681306 | 0.965476 |
| coq4 | 180.9162397 | 0.183505328 | 0.1541352 | 1.1905482 | 0.233831 | 0.802571 |
| kat2a | 129.7078823 | 0.417225617 | 0.1891962 | 2.2052531 | 0.027436 | 0.320231 |
| nkx6.2 | 446.9291864 | 0.004886968 | 0.1096546 | 0.0445669 | 0.964453 | 0.995927 |
| si:ch211-223a21.3 | 0.698456806 | 0.09172817 | 2.5265115 | 0.0363063 | 0.971038 | NA |
| AL935294.2 | 34.94426372 | 0.763991825 | 0.3297074 | 2.3171813 | 0.020494 | 0.269804 |
| hnf4b | 93.70269665 | -0.408067417 | 0.2075292 | -1.966313 | 0.049262 | 0.435457 |
| or130-1 | 1.876203867 | 0.267259372 | 1.509893 | 0.1770055 | 0.859504 | NA |
| COLEC10 | 19.44857386 | 0.160495688 | 0.4731305 | 0.3392208 | 0.734443 | 0.972021 |
| CR555298.1 | 0.499972362 | -2.44370697 | 3.0013188 | -0.814211 | 0.415524 | NA |
| CABZ01112650.1 | 216.3094001 | 0.16804926 | 0.1502928 | 1.1181455 | 0.263505 | 0.830245 |
| zgc:194981 | 61.13590749 | 0.059728291 | 0.2634944 | 0.2266776 | 0.820674 | 0.981594 |
| si:ch211-165a10.9 | 0 | NA | NA | NA | NA | NA |
| si:ch211-1i11.3 | 128.550488 | 0.130716409 | 0.1817036 | 0.7193936 | 0.471898 | 0.924838 |
| chek1 | 125.4347279 | 0.093300299 | 0.18227 | 0.5118795 | 0.608735 | 0.956718 |
| CR381531.2 | 8.490616867 | -0.594290335 | 0.6769324 | -0.877917 | 0.379989 | NA |
| akap17a | 263.8261033 | -0.260692769 | 0.1399753 | -1.862419 | 0.062544 | 0.487868 |

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| tim44 | 652.8529997 | 0.060159809 | 0.0999858 | 0.6016835 | 0.547385 | 0.945526 |
| junbb | 1600.70551 | 0.210443501 | 0.2065 | 1.0190967 | 0.308157 | 0.861088 |
| ly6m2 | 66.50974624 | 0.48035482 | 0.2544183 | 1.8880516 | 0.059019 | 0.475271 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| oaz1b | 5988.417246 | 0.077845821 | 0.0752457 | 1.0345548 | 0.300877 | 0.856418 |
| si:ch73-221f6.4 | 43.05776357 | 0.151073048 | 0.3089962 | 0.4889156 | 0.624901 | 0.957354 |
| CR847998.1 | 1.138340003 | -0.447034872 | 1.825243 | -0.244918 | 0.80652 | NA |
| nlg3a | 728.0125292 | -0.053286492 | 0.0992332 | -0.536983 | 0.59128 | 0.954193 |
| si:dkey-28k24.2 | 7.080225718 | -0.905274706 | 0.7359508 | -1.230075 | 0.218669 | NA |
| dele1 | 207.3951094 | -0.1198106 | 0.1489244 | -0.804506 | 0.421105 | 0.90651 |
| CABZ01077956.1 | 7.903116565 | 0.75623692 | 0.6984625 | 1.0827166 | 0.278934 | NA |
| dntt | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| dgke | 38.46478092 | 0.650867294 | 0.3175611 | 2.0495812 | 0.040405 | 0.39304 |
| cxcl8a | 185.7262229 | -0.335730036 | 0.2069449 | -1.622316 | 0.104736 | 0.612652 |
| BX510922.2 | 43.81417953 | -0.068448554 | 0.3415047 | -0.200432 | 0.841143 | 0.985174 |
| si:ch211-175m2.4 | 6.005130563 | 0.844187613 | 0.7780094 | 1.0850609 | 0.277895 | NA |
| tubb6 | 260.6182719 | -0.043504395 | 0.1320628 | -0.329422 | 0.741837 | 0.973154 |
| CR555295.1 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:ch211-238e22.8 | 8.083723971 | -0.19495716 | 0.6699747 | -0.290992 | 0.771058 | NA |
| dre-mir-92a-1 | 0.804086858 | -1.860428069 | 2.2645275 | -0.821552 | 0.411332 | NA |
| fbxw11a | 891.6489429 | -0.131370856 | 0.1000388 | -1.313199 | 0.189116 | 0.753954 |
| si:ch73-221f6.3 | 38.74478471 | -0.463936799 | 0.3073128 | -1.509657 | 0.131131 | 0.66388 |
| jak2a | 487.3492729 | 0.041679267 | 0.1121685 | 0.3715773 | 0.710208 | 0.968928 |
| top1mt | 86.44097308 | -0.378675363 | 0.2207117 | -1.715701 | 0.086217 | 0.563157 |
| akt3a | 32.69321457 | -0.029669834 | 0.3340279 | -0.088824 | 0.929221 | 0.992702 |
| cyp2aa2 | 22.4722189 | 0.40229013 | 0.4229838 | 0.9510769 | 0.341565 | 0.878134 |
| BX511024.1 | 17.76823285 | 0.753972363 | 0.4799092 | 1.5710731 | 0.116166 | 0.63841 |
| lmlba | 82.71020446 | -0.471343957 | 0.2201022 | -2.141477 | 0.032236 | 0.349508 |
| pyroxd1 | 207.3291387 | -0.221409324 | 0.1571583 | -1.40883 | 0.158885 | 0.709613 |
| si:ch211-93f2.1 | 630.5718537 | -0.887521058 | 0.1119508 | -7.927779 | 2.23E-15 | 1.16E-12 |
| CR790382.3 | 2.089596957 | -0.688810961 | 1.4141349 | -0.48709 | 0.626195 | NA |
| psd3l | 1368.509003 | 0.017585959 | 0.0798408 | 0.2202629 | 0.825666 | 0.982196 |
| znf1131 | 1.014398281 | -0.022479402 | 1.8547979 | -0.01212 | 0.99033 | NA |
| znf648 | 115.1948089 | 0.104030498 | 0.1916504 | 0.5428139 | 0.587258 | 0.953319 |
| CU929073.1 | 60.26061943 | 0.150032596 | 0.2821663 | 0.531717 | 0.594922 | 0.954434 |
| trim35-7 | 21.66031108 | -1.03879628 | 0.4443659 | -2.337705 | 0.019403 | 0.261353 |
| pcdh1gc5 | 148.5997189 | 0.265750397 | 0.1721902 | 1.5433534 | 0.122745 | 0.650905 |
| zgc:112146 | 45.25987762 | -0.820345674 | 0.2929423 | -2.800366 | 0.005104 | 0.104597 |
| cep192 | 158.1064258 | 0.016953811 | 0.1629812 | 0.1040231 | 0.917151 | 0.991572 |
| CU914164.1 | 0.513487682 | -0.887846295 | 2.6557956 | -0.334305 | 0.738149 | NA |
| CU693471.1 | 5.98638881 | 0.176383191 | 0.7608726 | 0.231817 | 0.81668 | NA |
| si:dkey-83h2.5 | 32.7526504 | 0.140220659 | 0.3341027 | 0.4196933 | 0.674709 | 0.965257 |
| map3k4 | 933.4276543 | -0.070264333 | 0.0916964 | -0.766271 | 0.443515 | 0.916631 |
| myom1b | 777.1843465 | 0.333086254 | 0.0969536 | 3.4355209 | 0.000591 | 0.020129 |
| nudc | 722.2803064 | 0.00931323 | 0.0944973 | 0.0985555 | 0.921491 | 0.992138 |
| tradv3.0.4 | 0 NA | NA | NA | NA | NA | NA |
| manscl | 429.2956103 | -0.387114588 | 0.1150628 | -3.364375 | 0.000767 | 0.025116 |
| si:dkey-28a3.2 | 117.8997322 | -0.142145367 | 0.1852771 | -0.767204 | 0.44296 | 0.916336 |
| JMJD8 | 47.67681404 | 0.001408252 | 0.2901108 | 0.0048542 | 0.996127 | 0.998888 |
| mipoll | 113.2106974 | -0.101054764 | 0.1871504 | -0.539966 | 0.589221 | 0.953345 |
| atg10 | 66.9176289 | -0.316644956 | 0.2467859 | -1.283076 | 0.199466 | 0.764896 |
| ptger1b | 6.681423378 | -0.725535053 | 0.7890848 | -0.919464 | 0.357853 | NA |
| cdkall | 112.9917809 | -0.196487146 | 0.1986173 | -0.989275 | 0.322529 | 0.870226 |
| si:dkey-3h23.3 | 0 NA | NA | NA | NA | NA | NA |

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| si:ch211-215p11.1 | 11.15258672 | -0.033258783 | 0.6311424 | -0.052696 | 0.957974 | 0.99467 |
| si:ch211-142b24.8 | 3.782842073 | -0.114960114 | 0.9531681 | -0.120608 | 0.904001 | NA |
| illrap11b | 82.66195277 | 0.189815406 | 0.2257488 | 0.8408256 | 0.400446 | 0.90084 |
| olfcg3 | 0.832497125 | -1.9076633 | 2.2445015 | -0.849927 | 0.395365 | NA |
| si:ch211-260e23.7 | 10.11041889 | -0.043007127 | 0.6308699 | -0.068171 | 0.945649 | NA |
| znf740a | 6.310701741 | -0.114045144 | 0.8221322 | -0.138719 | 0.889672 | NA |
| si:dkey-1c7.2 | 1.580154506 | 0.012622444 | 1.7016302 | 0.0074179 | 0.994081 | NA |
| si:ch211-128m15.3 | 126.4635654 | 0.1486665 | 0.2007043 | 0.740724 | 0.458861 | 0.921978 |
| rprdl1a | 95.15153782 | -0.259891486 | 0.2062187 | -1.260271 | 0.207572 | 0.775175 |
| klhdc2 | 393.9407396 | -0.064144488 | 0.1234351 | -0.519662 | 0.603299 | 0.956045 |
| si:dkey-34d22.5 | 2.111723196 | -1.187128474 | 1.3558645 | -0.875551 | 0.381274 | NA |
| tradv6.0.3 | 0 | NA | NA | NA | NA | NA |
| si:dkey-21e5.1 | 77.22148696 | 0.155578669 | 0.2232806 | 0.6967856 | 0.485937 | 0.930826 |
| CABZ01085878.1 | 133.953816 | 0.090621107 | 0.200319 | 0.4523839 | 0.650992 | 0.960708 |
| FP016239.1 | 0.473170125 | -0.833888596 | 2.9014002 | -0.287409 | 0.773799 | NA |
| CU929568.2 | 0.521188103 | -2.493476766 | 2.9577741 | -0.843025 | 0.399215 | NA |
| fzd6 | 325.970254 | 0.05355141 | 0.1392712 | 0.3845116 | 0.700599 | 0.967998 |
| bspry | 37.194179 | -0.016680881 | 0.3155125 | -0.052869 | 0.957836 | 0.99467 |
| v2ral | 0.333314908 | -1.858695402 | 3.5126701 | -0.52914 | 0.596708 | NA |
| FP085399.5 | 0 | NA | NA | NA | NA | NA |
| PCMTD2 (1 of many) | 37.02753959 | 0.115822957 | 0.3476112 | 0.3331968 | 0.738986 | 0.972722 |
| BX510934.2 | 0.323844819 | -1.825095364 | 3.274639 | -0.557342 | 0.577293 | NA |
| znf1105 | 24.97250453 | 0.342443964 | 0.3947025 | 0.8676001 | 0.385613 | 0.89551 |
| si:dkey-28i19.1 | 1.474362816 | 0.984604062 | 1.5416449 | 0.6386711 | 0.523037 | NA |
| kpnbl | 2417.331394 | -0.090063144 | 0.0878768 | -1.02488 | 0.30542 | 0.85982 |
| si:ch211-76m11.3 | 36.01488327 | -0.78357701 | 0.3682429 | -2.127881 | 0.033347 | 0.355558 |
| si:dkey-109j17.5 | 129.8227668 | 0.265357143 | 0.1773629 | 1.4961252 | 0.134621 | 0.670689 |
| znf1108 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:ch211-207e19.2 | 2.909329861 | -0.284287099 | 1.2215734 | -0.232722 | 0.815977 | NA |
| si:ch73-138e16.2 | 139.5529467 | 0.023200269 | 0.1921587 | 0.120735 | 0.903901 | 0.990291 |
| BX004857.1 | 33.47750506 | -0.361153729 | 0.3432733 | -1.052088 | 0.292759 | 0.848607 |
| si:dkey-16p6.1 | 11.78036238 | -1.364868829 | 0.5970438 | -2.286045 | 0.022252 | 0.283929 |
| CR931813.2 | 163.5782999 | 0.023947695 | 0.2024832 | 0.1182701 | 0.905854 | 0.990702 |
| RF00001 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |
| ostc | 945.6430466 | -0.016049095 | 0.0848805 | -0.189079 | 0.850031 | 0.985174 |
| cdknlcb | 29.49003619 | 0.10898313 | 0.3505668 | 0.3108769 | 0.755894 | 0.975374 |
| si:ch73-221f6.1 | 25.88316923 | -0.130064191 | 0.3737434 | -0.348004 | 0.727837 | 0.970402 |
| mtr | 493.1496974 | 0.085853202 | 0.1195217 | 0.7183064 | 0.472568 | 0.924838 |
| ing2 | 341.9670473 | -0.006098826 | 0.1218642 | -0.050046 | 0.960086 | 0.995388 |
| dre-mir-20a | 0 | NA | NA | NA | NA | NA |
| CU074310.1 | 1.479947053 | 0.313544551 | 1.5674084 | 0.2000401 | 0.841449 | NA |
| muc5f | 54.67628953 | -0.721690447 | 0.2878019 | -2.507594 | 0.012156 | 0.194628 |
| si:dkey-7114.4 | 2.668707707 | 1.188493607 | 1.2700562 | 0.9357804 | 0.349386 | NA |
| si:ch211-153b23.3 | 422.5687515 | -0.425287717 | 0.4134868 | -1.02854 | 0.303696 | 0.857923 |
| sstr1a | 50.82254857 | 0.083455776 | 0.2742227 | 0.3043358 | 0.760872 | 0.975374 |
| BX072577.1 | 101.915476 | 0.454654253 | 0.1966709 | 2.3117513 | 0.020791 | 0.272632 |
| si:dkey-26m3.2 | 14.49968578 | -0.132512497 | 0.5301878 | -0.249935 | 0.802638 | 0.979592 |
| p2ry2.2 | 0 | NA | NA | NA | NA | NA |
| CT030005.2 | 0 | NA | NA | NA | NA | NA |
| si:ch211-153f2.7 | 250.7980385 | 0.04398622 | 0.1587891 | 0.2770104 | 0.781772 | 0.97627 |
| TMEM275 | 237.2510264 | -0.129792198 | 0.1384551 | -0.937432 | 0.348536 | 0.880195 |
| RF00001 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:ch211-261d9.1 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:ch211-225h24.2 | 49.2160617 | 0.232103951 | 0.3057696 | 0.7590813 | 0.447804 | 0.917154 |

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|---------------------|-------------|--------------|-----------|-----------|----------|----------|
| fts3 | 687.1963138 | -0.060042281 | 0.1015709 | -0.591137 | 0.554429 | 0.947449 |
| ciao2a | 175.560529 | 0.027011467 | 0.1544534 | 0.1748842 | 0.861171 | 0.985805 |
| mad211bp | 82.19175126 | -0.25442396 | 0.219877 | -1.15712 | 0.247223 | 0.81686 |
| sncb | 4291.900371 | 0.092440421 | 0.0707173 | 1.3071819 | 0.191151 | 0.755886 |
| si:ch211-194m7.8 | 1.197639022 | -0.383828024 | 1.8179943 | -0.211127 | 0.832788 | NA |
| slc27a1b | 237.8422287 | 0.234288453 | 0.141629 | 1.6542403 | 0.098079 | 0.59749 |
| CU855694.2 | 0 | NA | NA | NA | NA | NA |
| stt3a | 3318.444567 | -0.093199153 | 0.0775054 | -1.202486 | 0.229175 | 0.796702 |
| BX294178.2 | 1.852202149 | 0.869537402 | 1.455503 | 0.5974137 | 0.550231 | NA |
| si:dkey-165o8.2 | 14.25449893 | 0.619987484 | 0.5088661 | 1.2183706 | 0.223083 | 0.789115 |
| CR478208.1 | 0 | NA | NA | NA | NA | NA |
| kbtbd11 | 110.939284 | 0.365621665 | 0.1891015 | 1.9334675 | 0.053179 | 0.452412 |
| dnajc17 | 81.16679357 | 0.049623996 | 0.2155825 | 0.2301857 | 0.817947 | 0.981594 |
| si:ch211-11n16.3 | 0.365141898 | 1.973577737 | 3.3927314 | 0.5817076 | 0.560764 | NA |
| ghrhra | 7.093744293 | -0.201473504 | 0.752768 | -0.267644 | 0.788974 | NA |
| L0018493.2 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| BX511166.1 | 4.119373041 | 0.112083819 | 0.9146039 | 0.122549 | 0.902464 | NA |
| kcnj12a | 4.27935767 | -0.897845585 | 0.928134 | -0.967366 | 0.333361 | NA |
| si:dkey-238k10.3 | 7.631903485 | -0.512516871 | 0.6929527 | -0.739613 | 0.459535 | NA |
| si:ch211-227e10.1 | 10.99390959 | -0.425265792 | 0.5700567 | -0.746006 | 0.455664 | NA |
| pimr199 | 1.003361447 | -0.877559612 | 2.0717967 | -0.423574 | 0.671876 | NA |
| wnt5a | 14.5632671 | 0.741629939 | 0.5296629 | 1.4001923 | 0.161456 | 0.715364 |
| slain1b | 32.36963352 | 0.285597882 | 0.3419002 | 0.8353253 | 0.403535 | 0.900979 |
| si:ch1073-67j19.2 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CR388055.1 | 0.547712847 | 2.559541715 | 2.9076406 | 0.8802813 | 0.378707 | NA |
| CU695117.1 | 141.7379053 | 0.004525393 | 0.1686428 | 0.0268342 | 0.978592 | 0.996762 |
| SLC45A4 (1 of many) | 8.013532524 | 1.433150988 | 0.7216828 | 1.9858461 | 0.04705 | NA |
| dre-mir-193b | 0.476747244 | 2.393381959 | 3.0525537 | 0.7840589 | 0.433006 | NA |
| zgc:110249 | 34.61438649 | 0.02296602 | 0.3275844 | 0.0701072 | 0.944108 | 0.993364 |
| si:ch211-211k8.12 | 0.666939546 | 1.487980453 | 2.2924711 | 0.6490727 | 0.516291 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| wnk2 | 155.7288974 | 0.146569891 | 0.1659007 | 0.8834798 | 0.376977 | 0.895192 |
| epgn | 287.2157065 | 0.681616499 | 0.1405937 | 4.8481314 | 1.25E-06 | 0.000121 |
| si:ch211-63i20.3 | 0.865544342 | 3.23079022 | 2.2781012 | 1.4181944 | 0.156134 | NA |
| ugt5b1 | 93.24210216 | -0.130805069 | 0.2051908 | -0.63748 | 0.523812 | 0.939336 |
| tmem203 | 181.7463838 | 0.132382516 | 0.1633357 | 0.8104936 | 0.417657 | 0.906237 |
| CT027980.1 | 40.13167421 | 0.426474819 | 0.3213765 | 1.3270256 | 0.1845 | 0.747376 |
| c2cd2 | 92.56805224 | 0.050857217 | 0.2095504 | 0.2426968 | 0.80824 | 0.980642 |
| zgc:91999 | 481.7085308 | 0.208528728 | 0.1145538 | 1.8203566 | 0.068705 | 0.513248 |
| scn1bb | 846.8940231 | 0.013409597 | 0.0870864 | 0.1539804 | 0.877625 | 0.987881 |
| CU896640.1 | 0 | NA | NA | NA | NA | NA |
| tmem132a | 0 | NA | NA | NA | NA | NA |
| CT573446.1 | 2.131564824 | 1.776329629 | 1.4874789 | 1.1941881 | 0.232404 | NA |
| gpr171 | 0 | NA | NA | NA | NA | NA |
| ddah2 | 694.7582771 | 0.045249958 | 0.0972776 | 0.4651633 | 0.641814 | 0.959994 |
| lztfl1 | 457.2304712 | 0.164656932 | 0.109804 | 1.499553 | 0.13373 | 0.668448 |
| pigb | 218.59854 | -0.195392088 | 0.1406566 | -1.389143 | 0.164789 | 0.72105 |
| utp23 | 141.4058562 | -0.019477199 | 0.1697043 | -0.114771 | 0.908626 | 0.990702 |
| hoxa9a | 39.82207404 | 0.196063937 | 0.3062805 | 0.640145 | 0.522078 | 0.939056 |
| mrella | 135.196031 | 0.111410825 | 0.1839048 | 0.6058072 | 0.544643 | 0.945438 |
| CU459147.1 | 6.312465669 | -0.653302959 | 0.8112649 | -0.805289 | 0.420653 | NA |
| lrrc20 | 810.6760434 | 0.007933236 | 0.1216888 | 0.0651928 | 0.94802 | 0.99381 |
| F0704813.1 | 8.604718168 | 0.095510716 | 0.7097121 | 0.1345767 | 0.892947 | NA |
| selplg | 17.5510204 | -0.36714621 | 0.4590339 | -0.799824 | 0.423813 | 0.908025 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| TPPP | 39.86905788 | 0.372064313 | 0.3067107 | 1.2130791 | 0.2251 | 0.792185 |
| RF01951 | 0 NA | NA | NA | NA | NA | NA |
| BX897691.1 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |
| zdhhc18b | 119.5109521 | 0.095584963 | 0.1814655 | 0.5267389 | 0.598375 | 0.955488 |
| anapc2 | 231.0956387 | 0.131389409 | 0.1396289 | 0.9409904 | 0.34671 | 0.8794 |
| arl6ip4 | 282.0224556 | 0.04755882 | 0.1446159 | 0.328863 | 0.742259 | 0.973154 |
| snrpf | 742.0992683 | -0.2878044 | 0.1025869 | -2.80547 | 0.005024 | 0.103574 |
| CABZ01038376.1 | 5.116133695 | 1.276803527 | 0.8904623 | 1.4338658 | 0.151611 | NA |
| phkalb | 126.3325176 | 0.230143298 | 0.2174726 | 1.0582637 | 0.289935 | 0.846246 |
| dipklc | 412.138956 | 0.105031477 | 0.1112356 | 0.9442254 | 0.345054 | 0.878434 |
| CABZ01024659.1 | 0.499972362 | -2.44370697 | 3.0013188 | -0.814211 | 0.415524 | NA |
| cldn1012 | 8.297829977 | 0.356600246 | 0.7305909 | 0.4880984 | 0.62548 | NA |
| si:dkey-152b24.6 | 0.804877003 | -3.139754331 | 2.3250379 | -1.35041 | 0.176885 | NA |
| si:ch211-51i16.3 | 4.756328665 | -0.825780925 | 0.9193287 | -0.898243 | 0.369056 | NA |
| bmprlab | 592.6157335 | 0.02184032 | 0.1145968 | 0.1905841 | 0.848851 | 0.985174 |
| ccnf | 312.5477619 | -0.033245208 | 0.1214971 | -0.27363 | 0.784369 | 0.97627 |
| BX927369.1 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| LO018231.1 | 8.572449788 | 0.322760887 | 0.6422709 | 0.5025308 | 0.615294 | NA |
| SHKBP1 | 161.6651666 | -0.115830686 | 0.1676224 | -0.691021 | 0.489552 | 0.931926 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| cfh15 | 35.26556091 | 0.428225765 | 0.3635147 | 1.178015 | 0.238791 | 0.807768 |
| znf451 | 25.55293441 | -0.101109601 | 0.3816811 | -0.264906 | 0.791082 | 0.977461 |
| CR762475.3 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| CT027609.1 | 2.3209247 | -0.000714704 | 1.2836677 | -0.000557 | 0.999556 | NA |
| zgc:172282 | 233.160897 | 0.060875736 | 0.1410838 | 0.4314863 | 0.666115 | 0.964736 |
| rdh8b | 198.7181346 | 0.353251299 | 0.1542703 | 2.2898211 | 0.022032 | 0.281977 |
| si:ch73-261i21.5 | 44.88960338 | -0.209889127 | 0.329244 | -0.637488 | 0.523807 | 0.939336 |
| si:ch211-64i20.3 | 4.807098245 | -0.311726785 | 0.8619151 | -0.361668 | 0.7176 | NA |
| znf1043 | 4.136894566 | 0.582434553 | 0.9201667 | 0.6329663 | 0.526756 | NA |
| SMIM22 | 113.9982019 | -0.441803338 | 0.1916635 | -2.305099 | 0.021161 | 0.274206 |
| CR925723.3 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| noslapa | 83.44254159 | 0.111515334 | 0.2171761 | 0.5134788 | 0.607616 | 0.956718 |
| CU655961.2 | 129.5410996 | 0.006610392 | 0.1813647 | 0.0364481 | 0.970925 | 0.996315 |
| BX000701.2 | 15.63837128 | -0.209150872 | 0.4825856 | -0.433396 | 0.664727 | 0.964736 |
| BX324216.2 | 46.32521029 | 0.23054841 | 0.2827741 | 0.8153094 | 0.414895 | 0.906237 |
| hdhd5 | 79.2232365 | 0.347439269 | 0.2280904 | 1.5232527 | 0.127696 | 0.658251 |
| BX649411.2 | 30.46383035 | -0.035145276 | 0.3752695 | -0.093653 | 0.925384 | 0.992676 |
| CABZ01057891.1 | 306.7569814 | -0.024446296 | 0.1382659 | -0.176806 | 0.85966 | 0.985773 |
| BX548246.1 | 0 NA | NA | NA | NA | NA | NA |
| chd5 | 301.2849652 | 0.036760627 | 0.1364506 | 0.2694061 | 0.787617 | 0.976596 |
| BX649622.2 | 0.530029684 | -0.939524117 | 2.7937867 | -0.336291 | 0.736652 | NA |
| tenm4 | 1050.824253 | 0.117724936 | 0.0924364 | 1.2735774 | 0.202813 | 0.769849 |
| cc139.6 | 3.591498414 | 0.174593878 | 1.1159885 | 0.1564477 | 0.87568 | NA |
| zgc:174944 | 15.90177691 | -1.487411602 | 0.5331762 | -2.789719 | 0.005275 | 0.107431 |
| FP236157.3 | 7.680502144 | -0.365175703 | 0.6849071 | -0.533176 | 0.593912 | NA |
| WDR63 | 27.28314879 | -0.2848853 | 0.3718991 | -0.766028 | 0.443659 | 0.916631 |
| si:ch1073-67j19.1 | 0 NA | NA | NA | NA | NA | NA |
| RF00017 | 0 NA | NA | NA | NA | NA | NA |
| dr1 | 900.1666204 | -0.002406553 | 0.100598 | -0.023922 | 0.980914 | 0.996944 |
| golga7bb | 1.833460396 | -1.365502627 | 1.4663741 | -0.93121 | 0.351745 | NA |
| crsp7 | 228.1464505 | 0.293522183 | 0.150137 | 1.9550283 | 0.05058 | 0.440989 |
| F0704866.1 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-223p19.1 | 29.72029348 | 0.426295511 | 0.3722988 | 1.1450358 | 0.252194 | 0.821834 |
| si:ch211-165a10.8 | 0 NA | NA | NA | NA | NA | NA |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| FP102783.1 | 224.113225 | 0.095272178 | 0.1382217 | 0.6892706 | 0.490653 | 0.931926 |
| BX927122.2 | 0 NA | | NA | NA | NA | NA |
| ntnla | 390.1413424 | 0.133747882 | 0.116445 | 1.1485931 | 0.250724 | 0.820469 |
| galr2b | 117.4964476 | -0.167583967 | 0.1975522 | -0.848302 | 0.39627 | 0.899672 |
| crebrf | 21.65902187 | -0.021416023 | 0.4451567 | -0.048109 | 0.961629 | 0.995876 |
| si:dkey-57c15.1 | 27.82264807 | -0.040879997 | 0.3683713 | -0.110975 | 0.911636 | 0.991066 |
| p4hb | 5098.430335 | 0.062896009 | 0.0755122 | 0.8329257 | 0.404887 | 0.901305 |
| sdad1 | 602.6167246 | -0.140920265 | 0.1079077 | -1.305934 | 0.191575 | 0.755886 |
| zgc:171566 | 728.7137764 | 0.116927709 | 0.0934428 | 1.2513293 | 0.210814 | 0.778412 |
| si:ch211-258f1.3 | 62.78124999 | -0.018097392 | 0.2571458 | -0.070378 | 0.943893 | 0.993364 |
| gab2 | 16.4151599 | -0.366953532 | 0.4817131 | -0.761768 | 0.446199 | 0.917154 |
| BX323031.2 | 31.86072187 | 0.041307454 | 0.3553992 | 0.1162283 | 0.907472 | 0.990702 |
| zer1 | 494.3594231 | -0.025561639 | 0.1173374 | -0.217847 | 0.827548 | 0.982721 |
| si:ch73-321d9.2 | 3.88209759 | -0.09269057 | 1.0335097 | -0.089685 | 0.928537 | NA |
| si:ch211-155e24.3 | 406.9299958 | 0.006325626 | 0.1224387 | 0.0516636 | 0.958797 | 0.995027 |
| dre-mir-193a-2 | 0 NA | | NA | NA | NA | NA |
| cogl | 265.3229667 | 0.020175642 | 0.1312124 | 0.1537632 | 0.877796 | 0.987881 |
| dre-mir-7a-1 | 14.23744703 | -0.095140831 | 0.6106635 | -0.155799 | 0.876191 | 0.987881 |
| zdhhc24 | 154.1221933 | 0.078354372 | 0.167537 | 0.467684 | 0.640011 | 0.959994 |
| ccdc50 | 278.4438285 | 0.186534304 | 0.1316947 | 1.416415 | 0.156654 | 0.70691 |
| zgc:173705 | 2.123859905 | 0.169197753 | 1.3475445 | 0.1255601 | 0.90008 | NA |
| F0704635.1 | 47.84954192 | 0.533534923 | 0.279782 | 1.9069666 | 0.056525 | 0.46635 |
| tcirglb | 446.2490369 | -0.218325318 | 0.1432228 | -1.524375 | 0.127415 | 0.657518 |
| BX005367.2 | 0.658097964 | -0.058121771 | 2.3155427 | -0.025101 | 0.979975 | NA |
| znf1130 | 6.228058268 | 0.285726639 | 0.7680451 | 0.372018 | 0.709879 | NA |
| si:ch211-282j17.12 | 0.639947932 | -1.440068751 | 2.4365394 | -0.59103 | 0.5545 | NA |
| osbplla | 236.958701 | -0.138257127 | 0.1403717 | -0.984936 | 0.324655 | 0.871063 |
| CR774179.3 | 1.839892516 | 0.784747948 | 1.5189716 | 0.5166311 | 0.605414 | NA |
| tradv10.0.4 | 0 NA | | NA | NA | NA | NA |
| cyp2k21 | 17.85430645 | -0.764271673 | 0.5115496 | -1.494032 | 0.135167 | 0.670689 |
| ifitm5 | 47.78986898 | -0.122718473 | 0.279837 | -0.438536 | 0.660998 | 0.964099 |
| egln1b | 0 NA | | NA | NA | NA | NA |
| BX649434.3 | 0.831198824 | 0.593716313 | 2.0278563 | 0.2927803 | 0.76969 | NA |
| hdac8 | 505.8469686 | 0.116681599 | 0.1127 | 1.0353296 | 0.300515 | 0.856251 |
| si:ch211-238e22.8 | 1.519044381 | -1.017215583 | 1.5559098 | -0.653775 | 0.513257 | NA |
| CR293509.1 | 52.13881364 | -0.147615864 | 0.2664941 | -0.553918 | 0.579635 | 0.951257 |
| RF00582 | 0 NA | | NA | NA | NA | NA |
| AL935303.1 | 0 NA | | NA | NA | NA | NA |
| si:ch211-142b24.2 | 4.794934793 | -0.690175692 | 0.8917471 | -0.773959 | 0.438955 | NA |
| CR547131.1 | 0 NA | | NA | NA | NA | NA |
| zgc:174890 | 25.67025513 | -0.069419188 | 0.3833772 | -0.181073 | 0.85631 | 0.985432 |
| ilf3b | 4566.580968 | -0.003839956 | 0.0643785 | -0.059647 | 0.952437 | 0.993904 |
| erc2 | 35.62591403 | 0.153281307 | 0.3436128 | 0.4460873 | 0.655534 | 0.961684 |
| hdac7a | 146.7101922 | -0.058840072 | 0.1780798 | -0.330414 | 0.741087 | 0.973154 |
| L0018597.1 | 0 NA | | NA | NA | NA | NA |
| ntan1 | 182.4684512 | 0.005398191 | 0.164107 | 0.0328943 | 0.973759 | 0.996315 |
| CT009487.2 | 6.077790052 | -0.147249341 | 0.8136366 | -0.180977 | 0.856386 | NA |
| nbeab | 89.62779515 | 0.170700156 | 0.2334649 | 0.7311597 | 0.464682 | 0.923535 |
| snx7 | 401.6892492 | -0.202852425 | 0.1191089 | -1.703083 | 0.088553 | 0.569447 |
| gcshb | 381.1178802 | -0.297697034 | 0.1156264 | -2.574647 | 0.010034 | 0.171049 |
| vimr2 | 221.3975908 | 0.118896746 | 0.1689478 | 0.7037483 | 0.48159 | 0.928386 |
| olfcg9 | 2.681753918 | 0.387349055 | 1.2400198 | 0.3123733 | 0.754757 | NA |
| rhbd13 | 246.5858323 | 0.000876034 | 0.1432359 | 0.006116 | 0.99512 | 0.998694 |
| BX927404.1 | 3.813447593 | -0.178263464 | 1.0668012 | -0.167101 | 0.867291 | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| AL929105.1 | | 0 NA | NA | NA | NA | NA |
| dnajc21 | 201.5162358 | 0.147610574 | 0.1554937 | 0.9493026 | 0.342467 | 0.878434 |
| CR318620.1 | | 0 NA | NA | NA | NA | NA |
| si:dkeyp-13d12.19 | | 0 NA | NA | NA | NA | NA |
| adcyp1rl1a | 1407.290265 | 0.117802556 | 0.0984803 | 1.1962041 | 0.231617 | 0.799752 |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| hmgcrb | 794.1849261 | -0.009830002 | 0.091647 | -0.107259 | 0.914583 | 0.991119 |
| zgc:85843 | 149.7092295 | -0.200454757 | 0.1659375 | -1.208014 | 0.227042 | 0.794587 |
| MPRIP | 639.7041496 | -0.030355062 | 0.0992689 | -0.305786 | 0.759767 | 0.975374 |
| etfla | 79.74884575 | 0.035381213 | 0.2199649 | 0.1608493 | 0.872212 | 0.987846 |
| cfhl1 | 44.30741488 | 0.197493535 | 0.3277812 | 0.6025164 | 0.54683 | 0.945526 |
| agtpbp1 | 169.0687497 | -0.010574222 | 0.1642588 | -0.064375 | 0.948671 | 0.99381 |
| kdrl | 520.207147 | 0.068736328 | 0.1124122 | 0.6114666 | 0.540891 | 0.944633 |
| ompa | 232.2115718 | 0.156636652 | 0.1659304 | 0.9439898 | 0.345175 | 0.878434 |
| znf988 | 8.359475 | 0.285005746 | 0.6752715 | 0.422061 | 0.672981 | NA |
| CT573285.1 | | 0 NA | NA | NA | NA | NA |
| pmp22a | 1635.335106 | -0.08971919 | 0.0890898 | -1.007065 | 0.313904 | 0.865176 |
| tradv41.0 | | 0 NA | NA | NA | NA | NA |
| fgf4 | 59.89695038 | 0.377704576 | 0.252808 | 1.4940374 | 0.135166 | 0.670689 |
| kmt5aa | 865.2403193 | -0.040210514 | 0.1063243 | -0.378187 | 0.705291 | 0.968412 |
| si:ch211-260e23.8 | 1.490946104 | 1.017122235 | 1.5862361 | 0.6412174 | 0.521381 | NA |
| BX255920.1 | 1.024219384 | 3.476404327 | 2.0349832 | 1.7083209 | 0.087577 | NA |
| mcc | 86.09972206 | -0.341789185 | 0.2399776 | -1.424254 | 0.154373 | 0.70398 |
| ecmlb | 233.0419732 | 0.072439054 | 0.1433174 | 0.5054448 | 0.613246 | 0.95688 |
| btr26 | 7.416269482 | 0.720408385 | 0.6916851 | 1.0415266 | 0.297631 | NA |
| BX088547.1 | 0.31598276 | 0.005883445 | 3.3523626 | 0.001755 | 0.9986 | NA |
| ogt.1 | 4828.249104 | 0.01190951 | 0.0746208 | 0.1596004 | 0.873196 | 0.987846 |
| BX649431.3 | 1.155902813 | 1.37965966 | 1.9648692 | 0.7021636 | 0.482577 | NA |
| CR388413.5 | 0.317831496 | 1.808837541 | 3.5779923 | 0.5055454 | 0.613176 | NA |
| CT025695.1 | | 0 NA | NA | NA | NA | NA |
| CR391991.5 | | 0 NA | NA | NA | NA | NA |
| FP016247.2 | 7.549365895 | -0.304481637 | 0.7063051 | -0.431091 | 0.666402 | NA |
| si:dkey-65b13.9 | 1.699535932 | -4.202515226 | 1.7804058 | -2.360425 | 0.018254 | NA |
| zbtb4 | 411.2276351 | 0.017494262 | 0.1159651 | 0.150858 | 0.880088 | 0.987881 |
| cep72 | 63.14865242 | -0.096153261 | 0.2485757 | -0.386817 | 0.698892 | 0.967998 |
| CR457444.6 | | 0 NA | NA | NA | NA | NA |
| nfkb1 | 118.6245625 | -0.431501498 | 0.2129424 | -2.026377 | 0.042726 | 0.406083 |
| RF00003 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| cc136.1 | 0.8136773 | -1.876897407 | 2.1384966 | -0.877671 | 0.380122 | NA |
| AL929304.1 | | 0 NA | NA | NA | NA | NA |
| zgc:171534 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:dkey-16p6.1 | 2.166064227 | -1.181924406 | 1.3265571 | -0.890971 | 0.372945 | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| si:ch73-338d8.5 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| 4-Sep | 192.6491273 | 0.150377842 | 0.1791487 | 0.8394026 | 0.401243 | 0.90084 |
| FP074902.2 | 125.8596969 | -0.120571011 | 0.2017123 | -0.597738 | 0.550015 | 0.94648 |
| grb2a | 177.9675397 | -0.154201511 | 0.153219 | -1.006413 | 0.314217 | 0.865176 |
| cnksr3 | 70.29838062 | -0.103159754 | 0.2462057 | -0.418998 | 0.675217 | 0.965257 |
| wu:fa19b12 | 89.30270989 | 0.24770468 | 0.209054 | 1.1848837 | 0.236063 | 0.805091 |
| si:ch211-108c17.2 | 142.292194 | -0.177127025 | 0.1772073 | -0.999547 | 0.31753 | 0.867601 |
| p2ry1 | 333.0514041 | 0.003263463 | 0.1255281 | 0.0259979 | 0.979259 | 0.996802 |
| RF00003 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| btr24 | 1.157992254 | 2.488729112 | 2.0174351 | 1.2336105 | 0.217348 | NA |
| FAT4 | 1090.896614 | -0.040010237 | 0.0947371 | -0.422329 | 0.672785 | 0.965257 |

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| ddx54 | 615.3640593 | -0.055886942 | 0.0983563 | -0.568209 | 0.569893 | 0.948983 |
| mpp1 | 1002.210343 | 0.063656442 | 0.1121209 | 0.5677484 | 0.570206 | 0.948989 |
| si:ch211-79117.1 | 609.4676844 | 0.185331333 | 0.1044448 | 1.7744433 | 0.07599 | 0.537227 |
| CT573239.1 | 21.16777529 | -0.42497606 | 0.4248561 | -1.000282 | 0.317174 | 0.867335 |
| srsf4 | 2661.488833 | 0.000962967 | 0.0700756 | 0.0137418 | 0.989036 | 0.997589 |
| L0017784.1 | 216.366703 | -0.165104209 | 0.1427294 | -1.156764 | 0.247369 | 0.81686 |
| AP3B2 | 755.4294792 | -0.034048023 | 0.1067395 | -0.318982 | 0.74974 | 0.97419 |
| RF00001 | 4.940823041 | 0.983796167 | 0.8689326 | 1.1321892 | 0.257555 | NA |
| BX927081.1 | 1.63780421 | -0.5728083 | 1.447088 | -0.395835 | 0.692227 | NA |
| sox8a | 21.58138538 | -0.186688664 | 0.4353123 | -0.428861 | 0.668024 | 0.964736 |
| CR762475.4 | 0.971534457 | -3.409585359 | 2.1825892 | -1.562175 | 0.118247 | NA |
| si:dkeyp-79b7.12 | 22.36753276 | -0.427034658 | 0.4119024 | -1.036737 | 0.299858 | 0.855995 |
| si:dkeyp-44b5.5 | 9.285466311 | 0.018385785 | 0.6500967 | 0.0282816 | 0.977438 | NA |
| CR626886.2 | 2.888358822 | 3.929407778 | 1.5470565 | 2.5399252 | 0.011088 | NA |
| F0704756.1 | 2.256374764 | -0.860784339 | 1.3799797 | -0.623766 | 0.532781 | NA |
| BX927327.1 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| CU914760.1 | 3.417489469 | 0.387520702 | 1.1452612 | 0.3383688 | 0.735085 | NA |
| CU459186.5 | 5.581985533 | 0.284312877 | 0.8338145 | 0.3409786 | 0.73312 | NA |
| si:dkey-187j14.7 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:ch1073-365p7.2 | 8.134939265 | 0.574358769 | 0.7162615 | 0.8018842 | 0.42262 | NA |
| zgc:165555 | 5.771242853 | 0.546745723 | 0.8291154 | 0.6594326 | 0.509618 | NA |
| BX601648.1 | | 0 NA | NA | NA | NA | NA |
| AL590151.2 | 1.308694928 | 0.663383953 | 1.8738364 | 0.3540245 | 0.723321 | NA |
| aspscr1 | 431.8195188 | -0.093751126 | 0.129396 | -0.724529 | 0.468741 | 0.924328 |
| klhdc7a | 27.11547987 | 0.238171485 | 0.387787 | 0.6141813 | 0.539096 | 0.943733 |
| si:dkey-11o1.7 | 5.286720825 | -1.603227057 | 0.9106265 | -1.760576 | 0.07831 | NA |
| CABZ01044764.1 | 64.2687208 | 0.410704774 | 0.2529087 | 1.6239249 | 0.104392 | 0.612172 |
| CABZ01069324.1 | 0.507044276 | -2.459587493 | 2.7586536 | -0.89159 | 0.372613 | NA |
| CU062454.1 | | 0 NA | NA | NA | NA | NA |
| si:dkey-23a13.17 | 16.37122214 | 0.673370983 | 0.4746896 | 1.4185502 | 0.15603 | 0.706028 |
| CABZ01066384.1 | 0.340386822 | -1.882368278 | 3.2159502 | -0.585323 | 0.558331 | NA |
| CU210845.1 | | 0 NA | NA | NA | NA | NA |
| BX569779.1 | 1.364485853 | 1.598686109 | 1.7892021 | 0.893519 | 0.371579 | NA |
| CU929328.1 | | 0 NA | NA | NA | NA | NA |
| si:dkey-28d5.14 | | 0 NA | NA | NA | NA | NA |
| si:dkey-24117.2 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| pafahlb3 | | 0 NA | NA | NA | NA | NA |
| BX247870.2 | 1.640710541 | -1.254508615 | 1.5711514 | -0.798464 | 0.424601 | NA |
| CR931782.2 | 0.645291463 | -2.8201041 | 2.5306349 | -1.114386 | 0.265114 | NA |
| BX248521.1 | 1.194732692 | 0.494883045 | 1.8211767 | 0.2717381 | 0.785823 | NA |
| zgc:112234 | 1.473975014 | 1.841586239 | 1.7355142 | 1.0611185 | 0.288636 | NA |
| si:dkey-9120.3 | 3726.491156 | -0.048370479 | 0.0918586 | -0.526575 | 0.598489 | 0.955488 |
| si:dkey-23a13.12 | | 0 NA | NA | NA | NA | NA |
| klh133 | 1.677331621 | 0.008224022 | 1.4774054 | 0.0055665 | 0.995559 | NA |
| pkd112a | 109.3674243 | 0.369125242 | 0.196251 | 1.8808838 | 0.059988 | 0.478654 |
| zgc:173552 | 2.086089705 | 1.670104828 | 1.5373435 | 1.0863576 | 0.277321 | NA |
| zp2.2 | 8.017847616 | 1.463652177 | 0.7173651 | 2.0403169 | 0.041319 | NA |
| si:ch211-277c7.7 | 5.75700557 | 0.419430225 | 0.8159274 | 0.5140534 | 0.607215 | NA |
| si:cabz01069582.1 | | 0 NA | NA | NA | NA | NA |
| si:ch1073-153i20.4 | 29.30295111 | 0.750162375 | 0.4453994 | 1.6842465 | 0.092134 | 0.57849 |
| si:ch211-113d11.6 | 55.97437474 | -1.168796085 | 0.3102668 | -3.767068 | 0.000165 | 0.007304 |
| zgc:165555 | 25.10715332 | 0.003770124 | 0.4226607 | 0.00892 | 0.992883 | 0.998437 |
| zgc:165555 | 4.646177464 | 1.049646205 | 0.954989 | 1.0991186 | 0.271716 | NA |
| CABZ01044764.2 | 0.977936578 | -2.1987185 | 2.1132745 | -1.040432 | 0.298139 | NA |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| zgc:154164 | 64.26015144 | 0.090073397 | 0.2549127 | 0.35335 | 0.723826 | 0.970402 |
| FP325124.1 | 0 NA | | NA | NA | NA | NA |
| si:dkeyp-32g11.8 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| FP325123.1 | 6.966834715 | 0.836876521 | 0.7621231 | 1.0980858 | 0.272167 | NA |
| BX571940.1 | 0 NA | | NA | NA | NA | NA |
| faim2b | 58.90569786 | 0.22634855 | 0.2628712 | 0.8610626 | 0.389204 | 0.896362 |
| ccr2 | 0 NA | | NA | NA | NA | NA |
| si:ch73-223f5.1 | 2.455368358 | 0.998174369 | 1.3028467 | 0.7661488 | 0.443588 | NA |
| hist1h2a10 | 4.395987616 | -0.164679889 | 0.9557794 | -0.172299 | 0.863202 | NA |
| si:dkey-88n24.11 | 8.224605664 | 0.616793612 | 0.7503287 | 0.8220312 | 0.411059 | NA |
| CR383676.2 | 0 NA | | NA | NA | NA | NA |
| si:ch73-122k23.1 | 0 NA | | NA | NA | NA | NA |
| CR382283.1 | 1.45420241 | -0.348250456 | 1.7546342 | -0.198475 | 0.842674 | NA |
| si:ch211-220f21.1 | 14.83239525 | 0.040859393 | 0.4942714 | 0.0826659 | 0.934117 | 0.992702 |
| CABZ01058277.1 | 0.831198824 | 0.593716313 | 2.0278563 | 0.2927803 | 0.76969 | NA |
| CU457819.2 | 3.472512421 | 0.352140983 | 1.1359156 | 0.3100063 | 0.756556 | NA |
| si:ch211-285c6.5 | 2.138086302 | 0.236781783 | 1.2602819 | 0.18788 | 0.850971 | NA |
| zgc:165555 | 6.646522474 | 0.701695357 | 0.7992481 | 0.8779443 | 0.379974 | NA |
| si:ch211-277c7.6 | 0.317711143 | 1.810477155 | 3.2978238 | 0.5489915 | 0.583011 | NA |
| si:ch211-42c5.5 | 0 NA | | NA | NA | NA | NA |
| si:ch211-220f21.3 | 1.190687462 | -0.370625984 | 1.9333905 | -0.191697 | 0.847979 | NA |
| fgl1 | 34.4411437 | 0.276598695 | 0.3246429 | 0.8520092 | 0.394209 | 0.898673 |
| CR555293.1 | 0.333314908 | -1.858695402 | 3.5126701 | -0.52914 | 0.596708 | NA |
| zgc:165555 | 13.14946935 | 0.344026263 | 0.5201945 | 0.6613416 | 0.508393 | 0.93575 |
| si:zfos-405g10.4 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:dkey-23a13.22 | 9.765176604 | 0.66444251 | 0.6163655 | 1.0780009 | 0.281033 | NA |
| BX005156.3 | 0 NA | | NA | NA | NA | NA |
| si:ch211-160o17.3 | 0 NA | | NA | NA | NA | NA |
| mmell | 15.70081904 | 0.978219378 | 0.5064064 | 1.9316885 | 0.053398 | 0.45286 |
| strc | 63.7772408 | -0.01775798 | 0.2724962 | -0.065168 | 0.94804 | 0.99381 |
| si:ch73-22o18.1 | 22.82416371 | 0.055474419 | 0.4278698 | 0.1296526 | 0.896841 | 0.989971 |
| zgc:112234 | 16.4875528 | 0.288400911 | 0.4814305 | 0.5990499 | 0.54914 | 0.946312 |
| gemin6 | 103.3613271 | -0.216294768 | 0.1959634 | -1.103751 | 0.269701 | 0.834705 |
| BX649385.1 | 0.474778155 | 0.852397662 | 2.898154 | 0.2941175 | 0.768668 | NA |
| si:ch211-113a14.22 | 6.013662414 | 0.512179776 | 0.7740547 | 0.6616842 | 0.508174 | NA |
| dnajc14 | 55.65614837 | -0.319965605 | 0.2686637 | -1.190952 | 0.233672 | 0.802473 |
| CU457819.3 | 10.10106537 | 1.120043917 | 0.6304985 | 1.7764419 | 0.07566 | NA |
| FP236327.1 | 0.820790498 | -1.849019722 | 2.2510166 | -0.821415 | 0.41141 | NA |
| abcc6b.1 | 26.73456283 | -0.198316716 | 0.3661 | -0.541701 | 0.588024 | 0.953319 |
| loc564481 | 4.100470646 | 0.077367366 | 0.9927383 | 0.0779333 | 0.937881 | NA |
| FP236789.1 | 0.663561848 | -1.490280258 | 2.4116568 | -0.617949 | 0.536609 | NA |
| CU459186.6 | 1.474923542 | -1.683781257 | 1.8542961 | -0.908043 | 0.363855 | NA |
| BX248082.1 | 52.08109965 | 0.624900915 | 0.2973269 | 2.1017301 | 0.035577 | 0.367362 |
| zgc:165555 | 3.346842469 | 0.319899283 | 1.0858588 | 0.2946049 | 0.768296 | NA |
| BX324230.1 | 0 NA | | NA | NA | NA | NA |
| si:ch211-113d11.5 | 285.320024 | 1.037397439 | 0.1719058 | 6.0346865 | 1.59E-09 | 3.17E-07 |
| si:ch211-276i12.11 | 220.8704229 | 0.070099224 | 0.1525426 | 0.4595387 | 0.645847 | 0.96029 |
| si:dkey-83f18.8 | 0 NA | | NA | NA | NA | NA |
| zgc:112234 | 12.15647603 | 0.593267825 | 0.5763427 | 1.0293665 | 0.303307 | 0.85729 |
| si:ch211-163c2.1 | 0 NA | | NA | NA | NA | NA |
| adgrg4a | 52.65589394 | -1.058203973 | 0.2792756 | -3.789103 | 0.000151 | 0.006841 |
| CU695207.1 | 0 NA | | NA | NA | NA | NA |
| CU457819.4 | 11.24135475 | 0.160895389 | 0.587678 | 0.2737815 | 0.784253 | 0.97627 |
| CR318599.2 | 0 NA | | NA | NA | NA | NA |

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| CR361564.1 | 21.27027371 | -0.420661552 | 0.4302377 | -0.977742 | 0.328202 | 0.872763 |
| BX324006.1 | 0 | NA | NA | NA | NA | NA |
| si:dkey-1k23.3 | 4.661044826 | 0.230328756 | 0.9148423 | 0.2517688 | 0.80122 | NA |
| cd27 | 0 | NA | NA | NA | NA | NA |
| si:rp71-46j2.7 | 487.50541 | -0.072755141 | 0.1273345 | -0.57137 | 0.567749 | 0.948739 |
| si:dkey-187j14.8 | 0 | NA | NA | NA | NA | NA |
| si:zfos-1837d3.1 | 0 | NA | NA | NA | NA | NA |
| si:ch73-368j24.11 | 18.66346813 | 0.435656714 | 0.4568952 | 0.9535157 | 0.340329 | 0.87805 |
| si:dkey-23a13.9 | 27.43460154 | 0.583940343 | 0.3660783 | 1.5951241 | 0.110684 | 0.625514 |
| MINAR1 | 11.49873404 | -0.086391648 | 0.5989844 | -0.14423 | 0.885319 | 0.988936 |
| zgc:l72143 | 3.864603805 | 0.135131366 | 1.035881 | 0.1304507 | 0.89621 | NA |
| grxcrla | 80.25560782 | 0.198262671 | 0.2180992 | 0.9090481 | 0.363325 | 0.885944 |
| camtal | 12.99290258 | -0.333171652 | 0.6086676 | -0.547379 | 0.584119 | 0.952214 |
| FQ976909.1 | 2.149284774 | 0.672138434 | 1.2859945 | 0.5226604 | 0.601211 | NA |
| BX601648.2 | 33.13093159 | -0.065501324 | 0.3551475 | -0.184434 | 0.853673 | 0.985174 |
| si:ch1073-220m6.1 | 0.31598276 | 0.005883445 | 3.3523626 | 0.001755 | 0.9986 | NA |
| si:dkey-273g18.1 | 12.90618751 | -0.069583646 | 0.5493776 | -0.126659 | 0.89921 | 0.990121 |
| zgc:l93807 | 0 | NA | NA | NA | NA | NA |
| pcdh11 | 465.2675926 | 0.004005387 | 0.109074 | 0.0367217 | 0.970707 | 0.996315 |
| si:cabz01100188.1 | 161.719135 | 0.188578879 | 0.1820044 | 1.0361228 | 0.300145 | 0.856224 |
| si:ch211-63p21.8 | 28.71629233 | -0.159123612 | 0.3783419 | -0.420581 | 0.674061 | 0.965257 |
| hist1h2a11 | 3.511143032 | 0.194817439 | 1.0960675 | 0.1777422 | 0.858925 | NA |
| CR769769.2 | 441.9572624 | -0.272453737 | 0.1190998 | -2.287609 | 0.02216 | 0.283074 |
| si:ch211-129p13.1 | 29.099638 | 0.053142253 | 0.4058791 | 0.1309312 | 0.89583 | 0.989838 |
| CR548622.2 | 25.99834566 | 0.351726313 | 0.4134553 | 0.8506997 | 0.394936 | 0.899087 |
| si:ch211-63p21.1 | 343.7660502 | 0.337105809 | 0.1443969 | 2.3345783 | 0.019565 | 0.262653 |
| plxna1a | 175.6448306 | 0.108433052 | 0.1608539 | 0.674109 | 0.500242 | 0.934224 |
| kenk17 | 7.447231809 | -0.351457635 | 0.7309507 | -0.480823 | 0.630643 | NA |
| AL928854.1 | 53.16603435 | -0.135858033 | 0.2806272 | -0.484123 | 0.628299 | 0.957354 |
| si:dkey-10h3.7 | 0.365141898 | 1.973577737 | 3.3927314 | 0.5817076 | 0.560764 | NA |
| F0834831.1 | 2.268282054 | -0.828411883 | 1.2910243 | -0.64167 | 0.521087 | NA |
| si:cabz01021066.1 | 0 | NA | NA | NA | NA | NA |
| si:dkeyp-81f3.4 | 8.454333255 | -0.14867402 | 0.6511492 | -0.228326 | 0.819393 | NA |
| CU457819.5 | 8.08729539 | 0.898339532 | 0.7060701 | 1.2723093 | 0.203263 | NA |
| si:ch73-54f23.4 | 6.286337722 | 0.01113361 | 0.751286 | 0.0148194 | 0.988176 | NA |
| si:dkey-11o1.6 | 6.870789765 | -0.074120748 | 0.7489665 | -0.098964 | 0.921167 | NA |
| si:dkey-82k12.13 | 0.488104098 | -2.415107183 | 2.7936704 | -0.864493 | 0.387317 | NA |
| CR352285.1 | 170.7049902 | -0.165939513 | 0.1829944 | -0.906801 | 0.364512 | 0.886564 |
| si:ch211-285c6.6 | 1.933829241 | 0.452094942 | 1.5230327 | 0.2968386 | 0.76659 | NA |
| BX005228.1 | 682.3144697 | -0.131990902 | 0.0934555 | -1.412339 | 0.15785 | 0.709071 |
| si:dkey-125e8.5 | 0.816075475 | -1.880611245 | 2.2559232 | -0.833633 | 0.404488 | NA |
| si:cabz01093077.1 | 0 | NA | NA | NA | NA | NA |
| zgc:l12234 | 10.77086029 | -0.163456385 | 0.5903953 | -0.276859 | 0.781888 | NA |
| CU695207.2 | 0 | NA | NA | NA | NA | NA |
| si:dkey-23a13.2 | 2.369224668 | -0.402718503 | 1.234797 | -0.326141 | 0.744317 | NA |
| si:ch73-368j24.1 | 0.365141898 | 1.973577737 | 3.3927314 | 0.5817076 | 0.560764 | NA |
| si:cabz01036006.1 | 86.1049119 | 0.124349424 | 0.2382658 | 0.5218937 | 0.601744 | 0.956045 |
| si:dkey-9a6.4 | 1.983417465 | 0.49112891 | 1.407026 | 0.3490546 | 0.727048 | NA |
| BX005456.1 | 0 | NA | NA | NA | NA | NA |
| si:dkey-88n24.12 | 17.8456088 | 0.168942875 | 0.4946208 | 0.3415604 | 0.732682 | 0.971719 |
| si:ch1073-153i20.5 | 1.165572322 | 1.275978471 | 1.8731226 | 0.6812039 | 0.495742 | NA |
| si:ch211-126c2.4 | 126.6276302 | -0.005412533 | 0.1829679 | -0.029582 | 0.976401 | 0.996762 |
| F0681390.1 | 2.264666906 | 0.007731593 | 1.3276703 | 0.0058234 | 0.995354 | NA |
| si:ch211-243a20.4 | 4.525743147 | 0.192365869 | 0.958985 | 0.2005932 | 0.841017 | NA |

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| zgc:165555 | 4.849574267 | 0.487330251 | 0.8712221 | 0.559364 | 0.575913 | NA |
| zgc:112234 | 21.39130672 | 0.302247364 | 0.4272285 | 0.7074607 | 0.47928 | 0.927091 |
| FP325123.2 | 7.63251399 | 0.649413952 | 0.7768049 | 0.8360065 | 0.403151 | NA |
| si:cabz01090193.1 | 79.28238513 | 0.211974887 | 0.2240671 | 0.9460332 | 0.344132 | 0.878434 |
| si:cabz01040626.2 | 0.317831496 | 1.808837541 | 3.5779923 | 0.5055454 | 0.613176 | NA |
| CABZ01061349.1 | 10.88999679 | 0.075042477 | 0.5762182 | 0.1302327 | 0.896382 | NA |
| CABZ01083815.1 | 1.28335263 | -0.01629263 | 1.8415936 | -0.008847 | 0.992941 | NA |
| loc564660 | 0.647689638 | -2.824814845 | 2.5064236 | -1.12703 | 0.25973 | NA |
| rph3ab | 30.80666846 | 0.464619524 | 0.3482502 | 1.3341543 | 0.182153 | 0.744502 |
| si:dkey-97120.6 | 57.17318175 | 0.20272045 | 0.2733156 | 0.7417083 | 0.458264 | 0.921978 |
| si:ch73-223f5.2 | 3.659957946 | -0.526282155 | 1.013537 | -0.519253 | 0.603584 | NA |
| si:ch211-113d11.8 | 5.571906429 | -2.200666126 | 0.9359825 | -2.351183 | 0.018714 | NA |
| si:dkey-31g16.2 | 2.498031765 | 0.589164278 | 1.2978817 | 0.453943 | 0.64987 | NA |
| CU457819.6 | 0 NA | NA | NA | NA | NA | NA |
| CABZ01078080.1 | 1.517477636 | -1.737436831 | 1.6886392 | -1.028898 | 0.303528 | NA |
| si:ch211-220e11.3 | 1.346964328 | 0.025407544 | 1.6307836 | 0.01558 | 0.987569 | NA |
| zgc:175135 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| BX000524.2 | 0 NA | NA | NA | NA | NA | NA |
| CABZ01044765.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:ch73-368j24.12 | 16.30226366 | 0.487474746 | 0.4685499 | 1.0403902 | 0.298159 | 0.85401 |
| fn3c3a | 965.9439628 | 0.076788284 | 0.0919411 | 0.8351897 | 0.403611 | 0.900979 |
| dre-let-7a-1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CT574585.2 | 0 NA | NA | NA | NA | NA | NA |
| CR769769.3 | 0.847620474 | 0.550669627 | 2.2003584 | 0.2502636 | 0.802383 | NA |
| zgc:112234 | 18.10277594 | 0.591963127 | 0.4948591 | 1.1962257 | 0.231609 | 0.799752 |
| si:dkey-23a13.21 | 5.633181788 | 0.468834104 | 0.8547123 | 0.5485286 | 0.583329 | NA |
| CU466278.2 | 1.675644524 | -0.504222349 | 1.5236145 | -0.330938 | 0.740691 | NA |
| BX248521.2 | 30.93766214 | 0.256411692 | 0.3405604 | 0.752911 | 0.451503 | 0.918761 |
| BX908792.1 | 0.474898508 | 0.855240867 | 2.7202602 | 0.3143967 | 0.75322 | NA |
| AL935053.1 | 0 NA | NA | NA | NA | NA | NA |
| zgc:171424 | 0 NA | NA | NA | NA | NA | NA |
| FP015866.2 | 0 NA | NA | NA | NA | NA | NA |
| CR388046.2 | 0 NA | NA | NA | NA | NA | NA |
| CU041319.1 | 0 NA | NA | NA | NA | NA | NA |
| si:ch73-40a2.1 | 2.895051982 | 0.554916025 | 1.1681813 | 0.4750256 | 0.634769 | NA |
| si:ch211-196f2.3 | 89.53827935 | -0.983319116 | 0.2239341 | -4.39111 | 1.13E-05 | 0.000809 |
| AL954129.1 | 14.3308539 | -0.201198215 | 0.5066052 | -0.39715 | 0.691257 | 0.9673 |
| BX571680.1 | 248.8625515 | 0.083959462 | 0.1506989 | 0.5571338 | 0.577436 | 0.950805 |
| CR318601.1 | 22.3322592 | -0.725977347 | 0.4074579 | -1.781723 | 0.074794 | 0.532583 |
| si:ch73-256g18.2 | 136.4940996 | 0.480049697 | 0.1844812 | 2.6021606 | 0.009264 | 0.161537 |
| si:dkey-86l18.10 | 14.49746094 | 0.233501159 | 0.6073994 | 0.3844277 | 0.700661 | 0.967998 |
| vgf | 344.2677214 | 0.330133922 | 0.152423 | 2.1659057 | 0.030318 | 0.336618 |
| si:dkey-19b23.14 | 18.35671107 | 0.028934912 | 0.5140659 | 0.0562864 | 0.955114 | 0.994543 |
| znf16l | 333.2108114 | 0.164448208 | 0.1273411 | 1.2913991 | 0.196565 | 0.761835 |
| FP015866.3 | 0 NA | NA | NA | NA | NA | NA |
| CR318603.2 | 0 NA | NA | NA | NA | NA | NA |
| CR388046.3 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| BX914219.1 | 0 NA | NA | NA | NA | NA | NA |
| BX914219.2 | 0 NA | NA | NA | NA | NA | NA |
| CR382325.1 | 9.751190913 | 0.649963212 | 0.6110495 | 1.0636834 | 0.287472 | NA |
| si:ch73-335l21.3 | 3.294068183 | 0.587080435 | 1.0396743 | 0.5646773 | 0.572293 | NA |
| AL929307.1 | 0 NA | NA | NA | NA | NA | NA |
| BX323797.2 | 0 NA | NA | NA | NA | NA | NA |
| si:ch1073-363c19.3 | 62.19083473 | -0.095260237 | 0.2544035 | -0.374445 | 0.708073 | 0.968664 |

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| si:dkey-165a24.10 | 1.126323647 | -3.625134986 | 2.0071883 | -1.806076 | 0.070906 | NA |
| CR388046.4 | 0 NA | | NA | NA | NA | NA |
| CR388231.2 | 2.517413312 | 0.642940231 | 1.2184713 | 0.5276614 | 0.597734 | NA |
| si:dkey-1h4.4 | 5.018471914 | 0.463337491 | 0.8986721 | 0.5155801 | 0.606148 | NA |
| si:ch211-235p24.2 | 141.4481552 | 0.100084092 | 0.1713058 | 0.5842421 | 0.559057 | 0.948478 |
| BX908792.2 | 0 NA | | NA | NA | NA | NA |
| si:cabz01101003.1 | 59.25846046 | -0.387399434 | 0.254964 | -1.519428 | 0.128655 | 0.659646 |
| CU972454.1 | 6.86376692 | -0.4987204 | 0.7292498 | -0.683881 | 0.49405 | NA |
| CU041319.2 | 6.092698698 | -0.71899188 | 0.7676998 | -0.936553 | 0.348988 | NA |
| CR450827.2 | 2.021845001 | -0.017419018 | 1.3668186 | -0.012744 | 0.989832 | NA |
| BX663605.1 | 0.489712128 | -0.887840729 | 2.693685 | -0.329601 | 0.741702 | NA |
| BX511061.1 | 9.637351443 | 0.656978843 | 0.6427201 | 1.022185 | 0.306693 | NA |
| btr07 | 53.17087453 | -0.725135955 | 0.2880911 | -2.517037 | 0.011835 | 0.191129 |
| BX072554.2 | 0.815164977 | -0.617697568 | 2.1259573 | -0.29055 | 0.771395 | NA |
| si:dkey-23i12.7 | 101.8468197 | 0.040711331 | 0.2366209 | 0.172053 | 0.863396 | 0.985841 |
| CR450827.3 | 0 NA | | NA | NA | NA | NA |
| si:ch73-367j5.3 | 3.452045694 | 0.149451216 | 1.001564 | 0.1492178 | 0.881382 | NA |
| BX005056.1 | 1.869252306 | 0.274558892 | 1.376115 | 0.1995174 | 0.841858 | NA |
| CR388046.5 | 0 NA | | NA | NA | NA | NA |
| si:ch211-194p6.10 | 10.86669469 | 0.70490244 | 0.5950461 | 1.1846181 | 0.236168 | NA |
| crestin | 20.20142824 | -0.163721575 | 0.4245462 | -0.385639 | 0.699764 | 0.967998 |
| CU929416.1 | 0.340386822 | -1.882368278 | 3.2159502 | -0.585323 | 0.558331 | NA |
| si:ch211-22614.6 | 2.60948676 | -0.367025864 | 1.1744564 | -0.312507 | 0.754655 | NA |
| si:cabz01009626.1 | 4.495802769 | -0.978655812 | 0.9073705 | -1.078562 | 0.280783 | NA |
| si:dkey-6n21.12 | 158.0801806 | -0.129047175 | 0.16744 | -0.770707 | 0.440881 | 0.916336 |
| BX323060.1 | 0.323844819 | -1.825095364 | 3.274639 | -0.557342 | 0.577293 | NA |
| amfrb | 10.64755049 | 0.176221012 | 0.5877057 | 0.2998457 | 0.764295 | NA |
| BX323060.2 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:ch211-69e13.6 | 0 NA | | NA | NA | NA | NA |
| CT027807.1 | 0 NA | | NA | NA | NA | NA |
| si:dkeyp-75h12.7 | 7.610198128 | 0.88055181 | 0.7206481 | 1.2218888 | 0.22175 | NA |
| slc8bl | 90.17932182 | -0.025918189 | 0.2074161 | -0.124957 | 0.900557 | 0.990121 |
| si:dkey-33c9.8 | 8.867184396 | -0.036365175 | 0.6441467 | -0.056455 | 0.95498 | NA |
| BX255967.1 | 9.126256268 | 0.284036389 | 0.6438889 | 0.4411264 | 0.659122 | NA |
| CU464087.1 | 4.984179809 | 0.250183814 | 0.9065671 | 0.2759683 | 0.782572 | NA |
| CT030144.1 | 19.53765284 | -0.179264889 | 0.4465452 | -0.401449 | 0.68809 | 0.966493 |
| si:cabz01007794.1 | 1499.327685 | -0.129635015 | 0.0900425 | -1.439709 | 0.14995 | 0.697935 |
| CR936442.1 | 512.1256816 | 0.194494499 | 0.1252186 | 1.5532392 | 0.120366 | 0.645215 |
| MAJIN | 1.219644908 | -1.278066794 | 1.9287071 | -0.662655 | 0.507552 | NA |
| ITLN1 (1 of many) | 0 NA | | NA | NA | NA | NA |
| CR354377.1 | 0.31759079 | 1.807926197 | 3.579045 | 0.5051421 | 0.613459 | NA |
| CR388231.3 | 1.38563257 | -0.730926346 | 1.7383954 | -0.42046 | 0.674149 | NA |
| BX322601.1 | 0.798622974 | -0.586511484 | 2.2429405 | -0.261492 | 0.793713 | NA |
| BX957276.1 | 4.192774602 | 0.099531328 | 0.9410053 | 0.1057713 | 0.915764 | NA |
| BX511109.1 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CR388046.6 | 0 NA | | NA | NA | NA | NA |
| si:dkey-183c6.9 | 18.25044999 | -0.700860476 | 0.453961 | -1.543878 | 0.122618 | 0.650831 |
| BX957297.2 | 4.265052205 | -0.9129179 | 0.9365666 | -0.97475 | 0.329684 | NA |
| CT030012.1 | 1.332391414 | 0.764963579 | 1.7289436 | 0.4424456 | 0.658167 | NA |
| si:dkey-23i12.9 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| BX914219.3 | 0 NA | | NA | NA | NA | NA |
| si:ch211-212k18.13 | 1.112289882 | 3.616281612 | 2.141613 | 1.6885785 | 0.0913 | NA |
| si:ch211-196f2.6 | 0.712600633 | 0.050786542 | 2.5094348 | 0.0202382 | 0.983853 | NA |
| CU972454.2 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |

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| si:ch73-335121. 2 | 7. 699722053 | -0. 358000495 | 0. 6881526 | -0. 520234 | 0. 6029 | NA |
| CT030153. 1 | 1. 178070337 | 0. 530310831 | 1. 9330889 | 0. 2743334 | 0. 783828 | NA |
| BX571811. 1 | 27. 23951866 | -0. 141811096 | 0. 3632862 | -0. 390356 | 0. 696273 | 0. 96736 |
| CU329666. 1 | 0. 182570949 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| si:cabz01007812. 1 | 20. 97634379 | -0. 267422914 | 0. 4356038 | -0. 613913 | 0. 539273 | 0. 943836 |
| adad2 | 4. 826049709 | -0. 911093301 | 0. 8607158 | -1. 05853 | 0. 289814 | NA |
| AL954672. 1 | 0. 182570949 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| BX927082. 2 | 0 NA | NA | NA | NA | NA | NA |
| BX470211. 1 | 97. 87557673 | 0. 117700549 | 0. 2147225 | 0. 5481519 | 0. 583588 | 0. 952214 |
| alpk3b | 12. 60525579 | 0. 41382875 | 0. 5644852 | 0. 7331083 | 0. 463492 | 0. 92286 |
| CABP4 | 118. 8861146 | 0. 085910763 | 0. 1898214 | 0. 4525874 | 0. 650846 | 0. 960708 |
| BX957325. 1 | 0. 489712128 | -0. 887840729 | 2. 693685 | -0. 329601 | 0. 741702 | NA |
| BX323797. 3 | 25. 34148727 | -0. 485686711 | 0. 3965733 | -1. 224709 | 0. 220685 | 0. 787641 |
| CT027989. 1 | 0. 674131812 | 1. 488431101 | 2. 4005609 | 0. 6200347 | 0. 535235 | NA |
| si:ch211-98n17. 5 | 455. 8125048 | 0. 115503655 | 0. 1147656 | 1. 0064311 | 0. 314208 | 0. 865176 |
| CU972454. 3 | 0 NA | NA | NA | NA | NA | NA |
| adgrgl | 58. 71630474 | -0. 217080459 | 0. 2851405 | -0. 76131 | 0. 446472 | 0. 917154 |
| zgc:172079 | 8. 034775787 | -1. 166894494 | 0. 7165603 | -1. 628467 | 0. 103426 | NA |
| si:cabz01102082. 1 | 766. 4439187 | -0. 147791446 | 0. 1078657 | -1. 370144 | 0. 170642 | 0. 728116 |
| BX323060. 3 | 615. 4541418 | 0. 207991042 | 0. 126542 | 1. 6436526 | 0. 100248 | 0. 602341 |
| BX957297. 3 | 2. 326869995 | -0. 408123947 | 1. 2717632 | -0. 320912 | 0. 748277 | NA |
| BX323797. 4 | 5. 155310338 | 0. 110148274 | 0. 8158099 | 0. 1350171 | 0. 892598 | NA |
| BX571811. 2 | 13. 66167556 | -0. 275428339 | 0. 5207181 | -0. 528939 | 0. 596847 | 0. 954913 |
| si:cabz01080528. 1 | 69. 52996855 | 0. 166824654 | 0. 2592636 | 0. 6434558 | 0. 519928 | 0. 938995 |
| CR394555. 1 | 1. 817577896 | 2. 147576728 | 1. 5598448 | 1. 3767887 | 0. 168578 | NA |
| FP015866. 4 | 0 NA | NA | NA | NA | NA | NA |
| FO704741. 1 | 24. 4722778 | -0. 430991798 | 0. 3852414 | -1. 118758 | 0. 263243 | 0. 830245 |
| CR450827. 4 | 0 NA | NA | NA | NA | NA | NA |
| CU972454. 4 | 6. 745937544 | 0. 136163857 | 0. 8101624 | 0. 1680698 | 0. 866528 | NA |
| NFX1 | 660. 6750677 | -0. 070353608 | 0. 1022499 | -0. 688056 | 0. 491418 | 0. 931926 |
| CT030129. 1 | 3. 844619331 | 0. 90402667 | 1. 0872336 | 0. 8314926 | 0. 405695 | NA |
| or113-1 | 0 NA | NA | NA | NA | NA | NA |
| CABZ01015815. 2 | 0 NA | NA | NA | NA | NA | NA |
| ms4a17a. 2 | 20. 29479445 | 0. 111544402 | 0. 4729117 | 0. 2358673 | 0. 813536 | 0. 981081 |
| BX005417. 3 | 3. 955669991 | -1. 953232986 | 1. 073546 | -1. 819422 | 0. 068847 | NA |
| CABZ01018874. 1 | 0 NA | NA | NA | NA | NA | NA |
| or137-9 | 0. 497574187 | -2. 437446738 | 2. 6012773 | -0. 937019 | 0. 348749 | NA |
| BX957362. 1 | 4. 063490592 | 0. 527901308 | 0. 9594884 | 0. 5501904 | 0. 582189 | NA |
| si:ch1073-22e3. 1 | 0 NA | NA | NA | NA | NA | NA |
| CABZ01070258. 1 | 0 NA | NA | NA | NA | NA | NA |
| BX324153. 1 | 2. 339955232 | -1. 299353075 | 1. 2991773 | -1. 000135 | 0. 317245 | NA |
| znf1009 | 130. 8069733 | -0. 073558303 | 0. 1832165 | -0. 401483 | 0. 688065 | 0. 966493 |
| zgc:194186 | 6. 936119062 | -0. 126962323 | 0. 7944575 | -0. 15981 | 0. 873031 | NA |
| slcolf3 | 1. 823401842 | -0. 813605492 | 1. 4283425 | -0. 569615 | 0. 568939 | NA |
| CABZ01069022. 1 | 29. 91724791 | -0. 432118387 | 0. 3642593 | -1. 186293 | 0. 235506 | 0. 804824 |
| CR354588. 1 | 1325. 603724 | -0. 057402208 | 0. 0799901 | -0. 717617 | 0. 472994 | 0. 924993 |
| CABZ01015815. 3 | 3. 360600754 | 0. 623054177 | 1. 0533649 | 0. 5914894 | 0. 554193 | NA |
| CABZ01021433. 1 | 64. 13597357 | 0. 10051597 | 0. 2484399 | 0. 4045886 | 0. 68578 | 0. 966307 |
| CT737190. 2 | 3. 332418911 | 0. 301670756 | 1. 1857603 | 0. 2544113 | 0. 799178 | NA |
| BX649282. 1 | 0 NA | NA | NA | NA | NA | NA |
| or137-8 | 5. 031079837 | 1. 730012412 | 0. 9364105 | 1. 8474935 | 0. 064676 | NA |
| or125-3 | 2. 427496245 | 1. 970481706 | 1. 3377192 | 1. 4730159 | 0. 140747 | NA |
| or121-1 | 0. 356300316 | 0. 005884122 | 3. 214964 | 0. 0018302 | 0. 99854 | NA |
| or109-11 | 10. 49704044 | 1. 004965612 | 0. 6068686 | 1. 6559856 | 0. 097725 | NA |

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| or113-2 | 0 NA | NA | NA | NA | NA | NA |
| CU467646.7 | 0.6907151 | 1.536847427 | 2.3850752 | 0.6443602 | 0.519342 | NA |
| CU570689.2 | 80.93987448 | -0.12551025 | 0.2214528 | -0.566943 | 0.570753 | 0.949061 |
| CABZ01083442.1 | 58.26695632 | -0.079013649 | 0.2617333 | -0.301886 | 0.762739 | 0.975374 |
| AL772146.1 | 0 NA | NA | NA | NA | NA | NA |
| CR450833.2 | 0.476386185 | 2.392464142 | 3.0533824 | 0.7835455 | 0.433307 | NA |
| BX957362.2 | 0 NA | NA | NA | NA | NA | NA |
| CABZ01068273.1 | 2.791747979 | -1.26211145 | 1.1486616 | -1.098767 | 0.27187 | NA |
| or132-4 | 0 NA | NA | NA | NA | NA | NA |
| or128-6 | 0 NA | NA | NA | NA | NA | NA |
| or126-2 | 0 NA | NA | NA | NA | NA | NA |
| FP074874.2 | 0 NA | NA | NA | NA | NA | NA |
| CABZ01069022.2 | 11.22033734 | 0.161350486 | 0.5803628 | 0.2780166 | 0.781 | 0.97627 |
| si:ch73-266f23.1 | 43.49396237 | 0.100332077 | 0.30001 | 0.3344291 | 0.738056 | 0.972535 |
| or125-5 | 1.071650139 | 3.531689172 | 2.1714985 | 1.6263835 | 0.103868 | NA |
| or128-1 | 4.470334078 | 2.511445812 | 1.1105964 | 2.2613487 | 0.023738 | NA |
| CR788316.1 | 0 NA | NA | NA | NA | NA | NA |
| or133-7 | 1.968201502 | 0.964936473 | 1.4111029 | 0.6838172 | 0.494091 | NA |
| or137-4 | 0.650235905 | 1.438231835 | 2.4251649 | 0.593045 | 0.553151 | NA |
| BX005319.1 | 0 NA | NA | NA | NA | NA | NA |
| L0018260.2 | 1.353177072 | -1.582120833 | 1.7185249 | -0.920627 | 0.357245 | NA |
| CU640433.1 | 2.39582848 | 0.868283707 | 1.3000293 | 0.6678955 | 0.5042 | NA |
| or133-6 | 0.365141898 | 1.973577737 | 3.3927314 | 0.5817076 | 0.560764 | NA |
| CABZ01015815.4 | 2.478390554 | -0.260134324 | 1.3108601 | -0.198446 | 0.842697 | NA |
| ptpr | 300.9489981 | 0.124685849 | 0.1229114 | 1.014437 | 0.310374 | 0.862656 |
| L0018124.1 | 13.94255718 | -0.143346585 | 0.5584431 | -0.25669 | 0.797418 | 0.978577 |
| nmnat1 | 25.31615034 | 0.3767913 | 0.397936 | 0.9468641 | 0.343708 | 0.878434 |
| CR788316.2 | 0 NA | NA | NA | NA | NA | NA |
| AL929321.2 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| or133-9 | 1.689079533 | -0.005191183 | 1.4752856 | -0.003519 | 0.997192 | NA |
| BX510938.1 | 0.31759079 | 1.807926197 | 3.579045 | 0.5051421 | 0.613459 | NA |
| BX957362.3 | 0 NA | NA | NA | NA | NA | NA |
| CR788316.3 | 0.339758314 | 0.005883863 | 3.2682461 | 0.0018003 | 0.998564 | NA |
| or133-5 | 0.62874946 | -2.787682787 | 2.7593918 | -1.010253 | 0.312374 | NA |
| AL845428.2 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| BX510938.2 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| CABZ01072523.1 | 70.14773951 | -0.062340657 | 0.2611911 | -0.238678 | 0.811355 | 0.981081 |
| or121-1 | 0 NA | NA | NA | NA | NA | NA |
| or132-2 | 1.147689739 | -0.461796351 | 1.840523 | -0.250905 | 0.801888 | NA |
| CR354581.1 | 0 NA | NA | NA | NA | NA | NA |
| AL928851.1 | 0 NA | NA | NA | NA | NA | NA |
| AL845428.3 | 0 NA | NA | NA | NA | NA | NA |
| or133-4 | 1.275490571 | 0.72455033 | 1.7746658 | 0.4082742 | 0.683072 | NA |
| BX957362.4 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| AL929321.3 | 0 NA | NA | NA | NA | NA | NA |
| or109-6 | 0 NA | NA | NA | NA | NA | NA |
| BX510938.3 | 0 NA | NA | NA | NA | NA | NA |
| BX322787.1 | 9.70202812 | 0.485286352 | 0.654666 | 0.7412732 | 0.458528 | NA |
| CR318600.2 | 0.347458735 | -1.908042286 | 3.4571486 | -0.551912 | 0.581009 | NA |
| zgc:171727 | 1.00638813 | -2.205595157 | 2.1251228 | -1.037867 | 0.299332 | NA |
| CABZ01081777.1 | 31.26228272 | 0.167877297 | 0.3457296 | 0.485574 | 0.627269 | 0.957354 |
| L0018029.1 | 189.2157478 | -0.127490288 | 0.1535248 | -0.830422 | 0.4063 | 0.901305 |
| si:dkeyp-3f10.11 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| AL929208.1 | 2.328588334 | 1.358241345 | 1.3165096 | 1.0316988 | 0.302213 | NA |

| | | | | | | |
|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| or137-1 | 0 | NA | NA | NA | NA | NA |
| si:dkeyp-3f10.12 | 0 | NA | NA | NA | NA | NA |
| or115-9 | 0.991722602 | 2.205448156 | 2.0025633 | 1.1013126 | 0.270761 | NA |
| or126-4 | 0.508023798 | 0.926122713 | 2.6636728 | 0.3476864 | 0.728076 | NA |
| or109-1 | 0.332524763 | 0.005883742 | 3.292841 | 0.0017868 | 0.998574 | NA |
| si:ch1073-166e24.4 | 0.672283077 | 0.02892376 | 2.3005571 | 0.0125725 | 0.989969 | NA |
| or133-3 | 0 | NA | NA | NA | NA | NA |
| si:ch211-218m3.18 | 2.593604259 | 2.07573026 | 1.3474124 | 1.5405308 | 0.123431 | NA |
| CABZ01015815.5 | 13.57198051 | -0.808232165 | 0.5604914 | -1.442006 | 0.149301 | 0.696454 |
| BX510938.4 | 0 | NA | NA | NA | NA | NA |
| or136-1 | 5.205093486 | -0.691694068 | 0.8944909 | -0.773282 | 0.439355 | NA |
| CABZ01069020.1 | 44.66265322 | -0.030900884 | 0.2899833 | -0.106561 | 0.915137 | 0.991123 |
| CU672227.1 | 0 | NA | NA | NA | NA | NA |
| or128-9 | 0 | NA | NA | NA | NA | NA |
| CR376774.1 | 5.256177294 | 1.136564262 | 0.8408509 | 1.3516835 | 0.176477 | NA |
| FP074874.3 | 0.349228403 | 0.005884014 | 3.2372587 | 0.0018176 | 0.99855 | NA |
| BX510938.5 | 0 | NA | NA | NA | NA | NA |
| BX649282.2 | 0 | NA | NA | NA | NA | NA |
| BX855614.4 | 118.1594506 | -0.023052784 | 0.1972881 | -0.116848 | 0.90698 | 0.990702 |
| CR391925.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| or132-1 | 1.861551885 | 0.855572609 | 1.3972186 | 0.6123398 | 0.540313 | NA |
| AL929321.4 | 0 | NA | NA | NA | NA | NA |
| CABZ01117780.1 | 177.2522921 | 0.095181784 | 0.1533362 | 0.6207392 | 0.534771 | 0.943336 |
| AL772146.2 | 2.185355419 | 0.234762648 | 1.2558811 | 0.1869306 | 0.851715 | NA |
| or126-5 | 0 | NA | NA | NA | NA | NA |
| or109-2 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CR788316.4 | 1.029373538 | -0.925560034 | 1.950501 | -0.474524 | 0.635126 | NA |
| CU915534.1 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| znf1009 | 100.0169783 | -0.070975613 | 0.1957582 | -0.362568 | 0.716928 | 0.96909 |
| or126-3 | 0.491320158 | 0.8528132 | 2.8656354 | 0.2976 | 0.766008 | NA |
| znf971 | 62.91816545 | -0.122425743 | 0.2607861 | -0.469449 | 0.638749 | 0.959628 |
| or132-3 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX649282.3 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.492110303 | -0.89618148 | 2.8628934 | -0.313033 | 0.754255 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 1.168207948 | -2.491219569 | 2.0138345 | -1.237053 | 0.216067 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| FO904970.1 | 57.9924208 | 0.467168094 | 0.2630983 | 1.7756409 | 0.075792 | 0.536404 |
| RF00001 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0.347458735 | -1.908042286 | 3.4571486 | -0.551912 | 0.581009 | NA |
| RF00001 | 0.341366344 | 1.891903201 | 3.2128156 | 0.5888614 | 0.555954 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| CABZ01041495.1 | 255.2414697 | 0.227071337 | 0.134861 | 1.6837438 | 0.092231 | 0.57849 |
| RF00001 | 0.5046461 | -2.45370851 | 2.7629627 | -0.888072 | 0.374502 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.339758314 | 0.005883863 | 3.2682461 | 0.0018003 | 0.998564 | NA |
| CABZ01075572.1 | 41.14480734 | -0.18443752 | 0.3149297 | -0.585647 | 0.558113 | 0.948478 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |

| | | | | | | |
|---------------------|--|--------------|---------------|------------|------------|---------------------|
| RF00001 | | 0 NA | NA | NA | NA | NA |
| RF00001 | | 0. 325573202 | 0. 005883621 | 3. 3172783 | 0. 0017736 | 0. 998585 NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| CABZ01050944. 1 | | 4. 235930708 | -0. 791147636 | 0. 9642543 | -0. 820476 | 0. 411945 NA |
| CR847870. 3 | | 0. 157187365 | -0. 955901296 | 4. 0804729 | -0. 234262 | 0. 814781 NA |
| L0017820. 1 | | 12. 40245733 | 0. 590666256 | 0. 5922257 | 0. 9973667 | 0. 318587 0. 867746 |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| RF00001 | | 0. 476506538 | 2. 394892832 | 2. 8161716 | 0. 8504073 | 0. 395099 NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| RF00001 | | 0. 650356258 | 1. 438498434 | 2. 4250369 | 0. 5931862 | 0. 553057 NA |
| CACNA2D3 (1 of many | | 40. 43894761 | 0. 228771479 | 0. 3036318 | 0. 7534502 | 0. 451179 0. 918761 |
| RF00001 | | 0. 341486697 | 1. 892317624 | 3. 2124068 | 0. 5890654 | 0. 555817 NA |
| AL928881. 1 | | 0 NA | NA | NA | NA | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| RF00001 | | 0. 173729368 | -0. 955901296 | 4. 0804729 | -0. 234262 | 0. 814781 NA |
| RF00001 | | 0. 347458735 | -1. 908042286 | 3. 4571486 | -0. 551912 | 0. 581009 NA |
| RF00001 | | 0. 182570949 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| RF00001 | | 0. 52295777 | -0. 916487494 | 2. 6406233 | -0. 347072 | 0. 728537 NA |
| fzd1 | | 39. 92579265 | 0. 372782986 | 0. 3194583 | 1. 1669221 | 0. 243242 0. 812077 |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| BX005256. 1 | | 6. 364495592 | 0. 029736981 | 0. 7775773 | 0. 0382431 | 0. 969494 NA |
| RF00001 | | 0. 158795395 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| RF00001 | | 2. 644660206 | -0. 039015539 | 1. 288445 | -0. 030281 | 0. 975843 NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| RF00001 | | 1. 680399589 | -0. 563188862 | 1. 4615875 | -0. 385327 | 0. 699995 NA |
| RF00001 | | 0. 340386822 | -1. 882368278 | 3. 2159502 | -0. 585323 | 0. 558331 NA |
| BX855618. 1 | | 23. 29814976 | 0. 43507887 | 0. 3917011 | 1. 1107421 | 0. 266679 0. 832673 |
| RF00001 | | 0. 830098949 | -1. 902766313 | 2. 1285797 | -0. 893914 | 0. 371368 NA |
| BX664705. 2 | | 0 NA | NA | NA | NA | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| TP53I3 | | 12. 6574484 | -0. 128494084 | 0. 5375906 | -0. 239018 | 0. 811091 0. 981081 |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| RF00001 | | 0. 904013163 | 2. 00662374 | 2. 339454 | 0. 8577316 | 0. 391041 NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| RF00001 | | 0. 173729368 | -0. 955901296 | 4. 0804729 | -0. 234262 | 0. 814781 NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| L0017965. 1 | | 2. 119533926 | -0. 222058641 | 1. 3047253 | -0. 170196 | 0. 864856 NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |

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|------------|-------------|--------------|-----------|-----------|----------|----------|
| RF00001 | 0.347458735 | -1.908042286 | 3.4571486 | -0.551912 | 0.581009 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.317831496 | 1.808837541 | 3.5779923 | 0.5055454 | 0.613176 | NA |
| RF00001 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX321905.1 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| CR931802.3 | 6.925226817 | 0.119768909 | 0.7233401 | 0.1655776 | 0.868489 | NA |
| BX548062.1 | 207.4732393 | 0.122482496 | 0.1588953 | 0.7708379 | 0.440803 | 0.916336 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| SGCZ | 11.66273832 | -0.528727498 | 0.5727892 | -0.923075 | 0.355968 | 0.882844 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| CR388042.1 | 11.48879899 | 0.393996395 | 0.5751837 | 0.6849923 | 0.493349 | 0.931926 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.633934609 | 1.436045836 | 2.6103598 | 0.5501333 | 0.582228 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00212 | 0 | NA | NA | NA | NA | NA |
| CR751224.1 | 14.08047445 | 0.319122502 | 0.5409315 | 0.58995 | 0.555224 | 0.947449 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.531799352 | 0.999478841 | 2.790358 | 0.3581902 | 0.720201 | NA |
| RF00001 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0.500402445 | 2.450713647 | 2.7706722 | 0.8845195 | 0.376416 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.498553709 | 0.926267934 | 2.6786929 | 0.345791 | 0.7295 | NA |
| RF00001 | 0.31759079 | 1.807926197 | 3.579045 | 0.5051421 | 0.613459 | NA |
| LO018254.1 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| CR936408.2 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.317711143 | 1.810477155 | 3.2978238 | 0.5489915 | 0.583011 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 6.702819723 | 0.04382273 | 0.7894283 | 0.055512 | 0.955731 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |

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|-----------------|-------------|--------------|-----------|-----------|----------|----------|
| RF00001 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CABZ01076968.1 | 14.35565268 | -0.032563361 | 0.5117734 | -0.063628 | 0.949266 | 0.99381 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| CR559945.2 | 0.365141898 | 1.973577737 | 3.3927314 | 0.5817076 | 0.560764 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0.81902083 | -3.15978573 | 2.3136362 | -1.365723 | 0.172026 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0.491320158 | 0.8528132 | 2.8656354 | 0.2976 | 0.766008 | NA |
| si:dkey-199f5.3 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| LRRTM4 | 3.98980704 | 0.523716851 | 1.0010882 | 0.5231476 | 0.600872 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| dut | 665.2427135 | -0.051689388 | 0.0974542 | -0.530397 | 0.595837 | 0.954434 |
| RF00001 | 0.347458735 | -1.908042286 | 3.4571486 | -0.551912 | 0.581009 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| MCMDC2 | 43.20831196 | -0.050114406 | 0.3182226 | -0.157482 | 0.874865 | 0.987881 |
| CT027676.1 | 3.11970581 | -0.207812648 | 1.1381273 | -0.182592 | 0.855118 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| CABZ01060030.1 | 4.631963771 | -0.381485153 | 0.9269418 | -0.411552 | 0.680667 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| CT027674.1 | 15.54707087 | -0.221219701 | 0.5316076 | -0.416133 | 0.677312 | 0.965257 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| L0018627.1 | 41.44827455 | 0.603826121 | 0.3068375 | 1.9679019 | 0.049079 | 0.435115 |
| tmem63bb | 9.344667376 | -0.487659819 | 0.6711416 | -0.726612 | 0.467463 | NA |
| RF00001 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| znf977 | 1.194261325 | -2.493110929 | 1.9050643 | -1.308675 | 0.190644 | NA |
| CABZ01068358.1 | 111.0657696 | -0.01222486 | 0.1961422 | -0.062327 | 0.950303 | 0.99381 |
| RF00001 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 36.06269782 | -0.152051299 | 0.3360877 | -0.452416 | 0.65097 | 0.960708 |
| AL929192.1 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| CU655961.3 | 2.460402159 | -0.59235821 | 1.269402 | -0.466643 | 0.640755 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| F0904901.1 | 67.63197599 | 0.433957047 | 0.2494116 | 1.7399232 | 0.081873 | 0.552725 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-7i4.13 | 1.30276092 | -0.69899766 | 1.6987021 | -0.411489 | 0.680714 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0.330916733 | -1.849579229 | 3.2489867 | -0.569279 | 0.569167 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| AL953848.1 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |

| | | | | | | |
|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| RF00001 | 1.765202698 | 0.243861795 | 1.4581458 | 0.167241 | 0.86718 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| BX470232.1 | 0.31759079 | 1.807926197 | 3.579045 | 0.5051421 | 0.613459 | NA |
| CU856622.1 | 37.65025753 | -0.011644317 | 0.3196661 | -0.036426 | 0.970942 | 0.996315 |
| RF00001 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| mir196c | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| si:dkey-58b18.9 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| FP565451.2 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| L0018188.1 | 90.6668347 | 0.012808628 | 0.2049684 | 0.0624908 | 0.950172 | 0.99381 |
| RF00001 | 0.356300316 | 0.005884122 | 3.214964 | 0.0018302 | 0.99854 | NA |
| RF00001 | 0.349228403 | 0.005884014 | 3.2372587 | 0.0018176 | 0.99855 | NA |
| pth4 | 5.078760499 | 0.271863633 | 0.8351082 | 0.325543 | 0.74477 | NA |
| RF00001 | 0.332524763 | 0.005883742 | 3.292841 | 0.0017868 | 0.998574 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| CR847936.3 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| si:ch211-218m3.19 | 1.299533574 | -0.037015496 | 1.6621204 | -0.02227 | 0.982233 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0.333314908 | -1.858695402 | 3.5126701 | -0.52914 | 0.596708 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| ZNF821 | 4.697263563 | 0.642467457 | 0.8770005 | 0.7325736 | 0.463819 | NA |
| CR388373.3 | 2.051194748 | 1.049984536 | 1.4005401 | 0.7496997 | 0.453436 | NA |
| RF00001 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| si:dkey-240n22.6 | 3.107920116 | -0.14405473 | 1.0902706 | -0.132128 | 0.894883 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0.333314908 | -1.858695402 | 3.5126701 | -0.52914 | 0.596708 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0.339758314 | 0.005883863 | 3.2682461 | 0.0018003 | 0.998564 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| BX530018.3 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00158 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| CR848788.2 | 7.47907334 | 0.064411352 | 0.6862826 | 0.0938554 | 0.925224 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |

| | | | | | | | | | | |
|---------------------|--|--------------|--|---------------|--|------------|--|------------|--|--------------------|
| RF00001 | | 0 NA | | NA | | NA | | NA | | NA |
| RF00001 | | 0 NA | | NA | | NA | | NA | | NA |
| PEBP4 | | 7. 882285123 | | 0. 593607244 | | 0. 6890519 | | 0. 8614841 | | 0. 388971 NA |
| RF00001 | | 0. 158795395 | | 0. 967652056 | | 4. 0804729 | | 0. 2371421 | | 0. 812547 NA |
| RF00001 | | 0. 158795395 | | 0. 967652056 | | 4. 0804729 | | 0. 2371421 | | 0. 812547 NA |
| BX571884. 1 | | 3. 553730533 | | 2. 644835215 | | 1. 2288858 | | 2. 1522221 | | 0. 03138 NA |
| PIEZO2 (1 of many) | | 2. 59843864 | | 0. 351097842 | | 1. 190121 | | 0. 2950102 | | 0. 767986 NA |
| RF00001 | | 0. 317831496 | | 1. 808837541 | | 3. 5779923 | | 0. 5055454 | | 0. 613176 NA |
| castor1 | | 0 NA | | NA | | NA | | NA | | NA |
| RF00001 | | 0 NA | | NA | | NA | | NA | | NA |
| CU927890. 1 | | 11. 94790219 | | 0. 010112086 | | 0. 5454915 | | 0. 0185376 | | 0. 98521 0. 996944 |
| RF00001 | | 0. 173729368 | | -0. 955901296 | | 4. 0804729 | | -0. 234262 | | 0. 814781 NA |
| RF00001 | | 0. 635422286 | | 2. 809933352 | | 2. 5211574 | | 1. 114541 | | 0. 265047 NA |
| RF00001 | | 0. 476626891 | | 2. 395187592 | | 2. 815932 | | 0. 8505843 | | 0. 395 NA |
| RF00001 | | 0. 365141898 | | 1. 973577737 | | 3. 3927314 | | 0. 5817076 | | 0. 560764 NA |
| RF00001 | | 0 NA | | NA | | NA | | NA | | NA |
| RF00001 | | 0 NA | | NA | | NA | | NA | | NA |
| RF00001 | | 0 NA | | NA | | NA | | NA | | NA |
| RF00001 | | 0 NA | | NA | | NA | | NA | | NA |
| RF00001 | | 0 NA | | NA | | NA | | NA | | NA |
| RF00001 | | 0 NA | | NA | | NA | | NA | | NA |
| RF00001 | | 0 NA | | NA | | NA | | NA | | NA |
| znf1108 | | 1. 162905703 | | -1. 291967903 | | 1. 7937161 | | -0. 720274 | | 0. 471356 NA |
| RF00001 | | 0. 476747244 | | 2. 393381959 | | 3. 0525537 | | 0. 7840589 | | 0. 433006 NA |
| RF00001 | | 0 NA | | NA | | NA | | NA | | NA |
| RF00001 | | 0. 855644171 | | -0. 484665734 | | 2. 1924736 | | -0. 221059 | | 0. 825047 NA |
| RF00001 | | 1. 674503363 | | -1. 987222207 | | 1. 6182093 | | -1. 228038 | | 0. 219433 NA |
| RF00001 | | 2. 680693068 | | -0. 315946754 | | 1. 1774887 | | -0. 268323 | | 0. 788451 NA |
| RF00001 | | 0 NA | | NA | | NA | | NA | | NA |
| RF00001 | | 0 NA | | NA | | NA | | NA | | NA |
| RF00001 | | 0 NA | | NA | | NA | | NA | | NA |
| si:dkeyp-98a7. 3 | | 0. 158795395 | | 0. 967652056 | | 4. 0804729 | | 0. 2371421 | | 0. 812547 NA |
| RF00001 | | 0 NA | | NA | | NA | | NA | | NA |
| RF00001 | | 0. 173729368 | | -0. 955901296 | | 4. 0804729 | | -0. 234262 | | 0. 814781 NA |
| RF00001 | | 0 NA | | NA | | NA | | NA | | NA |
| RF00001 | | 0 NA | | NA | | NA | | NA | | NA |
| RF00001 | | 0 NA | | NA | | NA | | NA | | NA |
| RF00001 | | 0 NA | | NA | | NA | | NA | | NA |
| RF00001 | | 0. 317831496 | | 1. 808837541 | | 3. 5779923 | | 0. 5055454 | | 0. 613176 NA |
| RF00001 | | 0 NA | | NA | | NA | | NA | | NA |
| RF00001 | | 0 NA | | NA | | NA | | NA | | NA |
| RF00001 | | 1. 840174507 | | 0. 83446512 | | 1. 4481728 | | 0. 5762193 | | 0. 564467 NA |
| FO744833. 1 | | 0 NA | | NA | | NA | | NA | | NA |
| RF00001 | | 0 NA | | NA | | NA | | NA | | NA |
| BX571813. 1 | | 7. 665286181 | | -0. 249432596 | | 0. 7019178 | | -0. 355359 | | 0. 722321 NA |
| RF00001 | | 0 NA | | NA | | NA | | NA | | NA |
| RF00001 | | 0 NA | | NA | | NA | | NA | | NA |
| RF00001 | | 0 NA | | NA | | NA | | NA | | NA |
| INSYN2A (1 of many) | | 8. 788197356 | | 0. 047175576 | | 0. 6427276 | | 0. 073399 | | 0. 941489 NA |
| RF00001 | | 0 NA | | NA | | NA | | NA | | NA |
| RF00001 | | 0 NA | | NA | | NA | | NA | | NA |
| RF00001 | | 0. 157187365 | | -0. 955901296 | | 4. 0804729 | | -0. 234262 | | 0. 814781 NA |
| RF00001 | | 0 NA | | NA | | NA | | NA | | NA |
| RF00001 | | 0 NA | | NA | | NA | | NA | | NA |
| RF00001 | | 0. 166657454 | | -0. 955901296 | | 4. 0804729 | | -0. 234262 | | 0. 814781 NA |

| | | | | | | |
|---------------------|-------------|--------------|-----------|-----------|----------|----------|
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| FP085394.2 | 0.671303554 | -2.865684129 | 2.3396875 | -1.224815 | 0.220645 | NA |
| RF00001 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| BX957322.3 | 222.3857037 | 0.065199014 | 0.1411864 | 0.4617939 | 0.644229 | 0.960129 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.523937293 | 2.50362281 | 2.7291625 | 0.9173594 | 0.358954 | NA |
| aars2 | 161.4843447 | -0.016009392 | 0.1675061 | -0.095575 | 0.923858 | 0.992628 |
| RF00001 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0.65888811 | -1.481402282 | 2.5795287 | -0.574292 | 0.56577 | NA |
| RF00001 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| TCF4 | 55.17463121 | 0.09326424 | 0.2665086 | 0.3499483 | 0.726377 | 0.970402 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| si:dkeyp-35e5.10 | 9.143009 | -0.476889911 | 0.643395 | -0.741209 | 0.458567 | NA |
| L0018208.1 | 2.310715795 | -0.856021825 | 1.2274829 | -0.69738 | 0.485565 | NA |
| RF00001 | 0.330916733 | -1.849579229 | 3.2489867 | -0.569279 | 0.569167 | NA |
| TANC2 | 466.6518016 | 0.118985149 | 0.1351877 | 0.880148 | 0.378779 | 0.895192 |
| SLC35D3 | 45.0503703 | 0.164280466 | 0.2841602 | 0.5781263 | 0.563179 | 0.948728 |
| hrh2a | 10.23994385 | -0.560267056 | 0.6051945 | -0.925764 | 0.354569 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| CR855320.3 | 3.011169428 | 0.628692267 | 1.1205448 | 0.5610595 | 0.574757 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| CR356227.1 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| lyn | 193.1430671 | -0.065450682 | 0.1519014 | -0.430876 | 0.666558 | 0.964736 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| smkr1 | 14.9608345 | 0.664709054 | 0.4947102 | 1.3436333 | 0.179067 | 0.739994 |
| slc18a3b | 22.28120014 | 0.465392203 | 0.4384446 | 1.0614619 | 0.28848 | 0.845979 |
| erich2 | 48.9443031 | 0.238732485 | 0.2816095 | 0.847743 | 0.396581 | 0.899672 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| INSYN2A (1 of many) | 43.2077835 | -0.058321201 | 0.3052163 | -0.191082 | 0.848462 | 0.985174 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.339758314 | 0.005883863 | 3.2682461 | 0.0018003 | 0.998564 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |

| | | | | | | |
|----------------|-------------|--------------|-----------|-----------|----------|----------|
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.332524763 | 0.005883742 | 3.292841 | 0.0017868 | 0.998574 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 1.435893996 | 1.779576147 | 1.7582136 | 1.0121501 | 0.311466 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| BX897670.1 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.513487682 | -0.887846295 | 2.6557956 | -0.334305 | 0.738149 | NA |
| RF00001 | 0.824126911 | 0.609775617 | 2.0333139 | 0.2998925 | 0.764259 | NA |
| RF00001 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CABZ01073424.1 | 84.47253375 | -0.064483694 | 0.2237381 | -0.288211 | 0.773186 | 0.975687 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0.630477843 | -1.416394215 | 2.6146492 | -0.541715 | 0.588015 | NA |
| FIG4 | 182.6354397 | -0.133721142 | 0.1543664 | -0.866258 | 0.386349 | 0.89551 |
| RF00001 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |

| | | | | | | |
|---------------------|--------------|---------------|------------|------------|-----------|-----------|
| dre-mir-124-4 | 1. 134096348 | 2. 463209639 | 1. 9253188 | 1. 2793775 | 0. 200764 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0. 157187365 | -0. 955901296 | 4. 0804729 | -0. 234262 | 0. 814781 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| CR382334. 1 | 0. 975300953 | 2. 205404374 | 2. 0287091 | 1. 0870974 | 0. 276994 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0. 347458735 | -1. 908042286 | 3. 4571486 | -0. 551912 | 0. 581009 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0. 484248244 | 0. 852636534 | 2. 8793247 | 0. 2961238 | 0. 767136 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| FAM163B (1 of many) | 30. 78983876 | -0. 037696702 | 0. 3926529 | -0. 096005 | 0. 923516 | 0. 992588 |
| RF00001 | 15. 13362916 | -0. 210901534 | 0. 4978294 | -0. 423642 | 0. 671827 | 0. 965257 |
| CU693481. 1 | 46. 81934702 | 0. 42846319 | 0. 3030812 | 1. 4136913 | 0. 157453 | 0. 708089 |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0. 158915748 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0. 158915748 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0. 158795395 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| CABZ01109481. 1 | 18. 67377053 | -0. 009426792 | 0. 4607452 | -0. 02046 | 0. 983677 | 0. 996944 |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| CZQB01137059. 1 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0. 182570949 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| RF00001 | 3. 488439615 | -0. 057058764 | 1. 1304987 | -0. 050472 | 0. 959746 | NA |
| LO017771. 1 | 119. 593476 | -0. 157952714 | 0. 1930187 | -0. 818329 | 0. 41317 | 0. 905365 |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| CT573476. 2 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0. 341366344 | 1. 891903201 | 3. 2128156 | 0. 5888614 | 0. 555954 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 1. 171705999 | -0. 419722109 | 1. 7420638 | -0. 240934 | 0. 809606 | NA |
| RF00001 | 9. 057596074 | 0. 552936037 | 0. 6384004 | 0. 8661274 | 0. 38642 | NA |
| RF00001 | 0. 158795395 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| CR847523. 1 | 6. 289536087 | -0. 617716673 | 0. 770143 | -0. 802081 | 0. 422506 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0. 476506538 | 2. 394892832 | 2. 8161716 | 0. 8504073 | 0. 395099 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| CABZ01084774. 1 | 0 NA | | NA | NA | NA | NA |
| BX571760. 1 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0. 333314908 | -1. 858695402 | 3. 5126701 | -0. 52914 | 0. 596708 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0. 476747244 | 2. 393381959 | 3. 0525537 | 0. 7840589 | 0. 433006 | NA |

| | | | | | | |
|-------------------|--------------|---------------|------------|------------|-----------|-----------|
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 1. 020882972 | 1. 110886363 | 2. 0729323 | 0. 5359009 | 0. 592027 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0. 158915748 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 2. 169483209 | -0. 184654375 | 1. 2705773 | -0. 145331 | 0. 884449 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0. 157187365 | -0. 955901296 | 4. 0804729 | -0. 234262 | 0. 814781 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0. 317831496 | 1. 808837541 | 3. 5779923 | 0. 5055454 | 0. 613176 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0. 182570949 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| RF00001 | 0. 173729368 | -0. 955901296 | 4. 0804729 | -0. 234262 | 0. 814781 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0. 158795395 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0. 166657454 | -0. 955901296 | 4. 0804729 | -0. 234262 | 0. 814781 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| LT631684. 1 | 122. 0736997 | -0. 053064802 | 0. 1871499 | -0. 283542 | 0. 776762 | 0. 975826 |
| RF00001 | 0. 158795395 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| FO393424. 1 | 0. 341486697 | 1. 892317624 | 3. 2124068 | 0. 5890654 | 0. 555817 | NA |
| RF00001 | 0. 158915748 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| si:ch211-283g2. 2 | 2. 907975581 | -0. 142879554 | 1. 1900869 | -0. 120058 | 0. 904437 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0. 173729368 | -0. 955901296 | 4. 0804729 | -0. 234262 | 0. 814781 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| LO017648. 1 | 202. 5619133 | 0. 120182868 | 0. 1601545 | 0. 7504183 | 0. 453003 | 0. 919774 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| BX322587. 2 | 2. 038779303 | 1. 633036174 | 1. 4333532 | 1. 1393117 | 0. 254573 | NA |
| LO018336. 1 | 16. 89511232 | -0. 191658237 | 0. 4838259 | -0. 396131 | 0. 692009 | 0. 96733 |
| RF00001 | 0. 333314908 | -1. 858695402 | 3. 5126701 | -0. 52914 | 0. 596708 | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0. 158915748 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| CR385077. 1 | 1. 645614941 | 0. 616136869 | 1. 5879404 | 0. 3880101 | 0. 698009 | NA |
| BX537277. 1 | 0 | NA | NA | NA | NA | NA |
| CU570894. 1 | 42. 19815261 | 0. 228872938 | 0. 3240559 | 0. 7062761 | 0. 480016 | 0. 92721 |

| | | | | | | |
|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 4.077526523 | -0.136459383 | 0.9406014 | -0.145077 | 0.88465 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| AL845330.1 | 4.968265072 | -0.002862773 | 0.8521644 | -0.003359 | 0.99732 | NA |
| otos | 1280.649372 | -0.080497753 | 0.0836703 | -0.962083 | 0.336008 | 0.876088 |
| RF00001 | 0.317831496 | 1.808837541 | 3.5779923 | 0.5055454 | 0.613176 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 1.141917121 | 1.240920176 | 1.9907629 | 0.623339 | 0.533062 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| CR749167.2 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| psmb11a | 0 | NA | NA | NA | NA | NA |
| CABZ01072077.1 | 186.3138022 | 0.136782461 | 0.1522713 | 0.8982815 | 0.369035 | 0.888432 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.794578739 | 3.129658898 | 2.5486248 | 1.2279794 | 0.219455 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.824755418 | -0.635765236 | 2.1193875 | -0.299976 | 0.764196 | NA |
| RF00001 | 1.836714239 | -0.353314448 | 1.6329825 | -0.216361 | 0.828706 | NA |
| RF00001 | 1.948323087 | 0.00658955 | 1.3760757 | 0.0047887 | 0.996179 | NA |
| RF00001 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| CABZ01084774.2 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| BX572621.1 | 0 | NA | NA | NA | NA | NA |
| GALNT3 | 14.57383419 | -0.452895426 | 0.4941681 | -0.916481 | 0.359415 | 0.884844 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.365141898 | 1.973577737 | 3.3927314 | 0.5817076 | 0.560764 | NA |
| RF00001 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| FITM1 (1 of many) | 4.781639844 | 1.150846655 | 0.8890388 | 1.2944842 | 0.195498 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.347458735 | -1.908042286 | 3.4571486 | -0.551912 | 0.581009 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |

| | | | | | | |
|------------------|-------------|--------------|-----------|-----------|----------|----------|
| RF00001 | 0 | NA | NA | NA | NA | NA |
| CU929317.2 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.317831496 | 1.808837541 | 3.5779923 | 0.5055454 | 0.613176 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.665211163 | 0.04738924 | 2.3079847 | 0.0205327 | 0.983618 | NA |
| RF00001 | 0.658218317 | -0.061628513 | 2.4342948 | -0.025317 | 0.979802 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| C14orf132 | 102.6323991 | 0.202478605 | 0.197895 | 1.0231616 | 0.306231 | 0.860027 |
| TRIM67 | 6.396764968 | 0.3288162 | 0.7683064 | 0.4279754 | 0.668669 | NA |
| ARSB | 92.32085923 | -0.011593593 | 0.2222247 | -0.052171 | 0.958393 | 0.994893 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| zgc:113886 | 2.47217781 | 0.54205042 | 1.2284433 | 0.4412498 | 0.659032 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| FO704750.1 | 105.9498526 | 0.1088721 | 0.2162641 | 0.5034219 | 0.614668 | 0.95688 |
| FQ378016.1 | 36.92784118 | -0.294313366 | 0.337223 | -0.872756 | 0.382796 | 0.895192 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| si:ch211-283g2.2 | 1.32428865 | 1.606828886 | 1.7292104 | 0.9292269 | 0.352771 | NA |
| RF00001 | 0.678375468 | -2.878459328 | 2.4926399 | -1.154783 | 0.248179 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:dkey-7i4.19 | 0.706628594 | 2.93253102 | 2.4623982 | 1.1909248 | 0.233683 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| WDR70 | 191.0064936 | 0.112685997 | 0.1579385 | 0.71348 | 0.475549 | 0.926088 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.323844819 | -1.825095364 | 3.274639 | -0.557342 | 0.577293 | NA |
| RF00001 | 2.747334859 | 0.862449396 | 1.214295 | 0.710247 | 0.477551 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.500402445 | 2.450713647 | 2.7706722 | 0.8845195 | 0.376416 | NA |
| ftr81 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.499972362 | -2.44370697 | 3.0013188 | -0.814211 | 0.415524 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |

| | | | | | | |
|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| RF00001 | 0.476386185 | 2.392464142 | 3.0533824 | 0.7835455 | 0.433307 | NA |
| RF00001 | 0.983001374 | 0.918633527 | 2.0854433 | 0.440498 | 0.659576 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| F0393424.2 | 2.102991924 | -0.208676943 | 1.3330946 | -0.156536 | 0.875611 | NA |
| RF00001 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 9.79146278 | -0.18392402 | 0.6469759 | -0.284283 | 0.776194 | NA |
| RF00001 | 0.500402445 | 2.450713647 | 2.7706722 | 0.8845195 | 0.376416 | NA |
| RF00001 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| BX324216.3 | 38.8264765 | 0.45515452 | 0.3060642 | 1.4871212 | 0.136983 | 0.673303 |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| BX649416.3 | 16.8085198 | 0.661230785 | 0.4854102 | 1.3622104 | 0.173132 | 0.732435 |
| znf979 | 1.273641835 | -0.001638802 | 1.7360344 | -0.000944 | 0.999247 | NA |
| RF00026 | 0 NA | | NA | NA | NA | NA |
| ighv8-4 | 0 NA | | NA | NA | NA | NA |
| FQ377603.1 | 8.587071618 | -0.165596838 | 0.6631147 | -0.249726 | 0.802799 | NA |
| RF00001 | 0.825734941 | 1.890923829 | 2.1307296 | 0.8874537 | 0.374835 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00026 | 0 NA | | NA | NA | NA | NA |
| CABZ01042417.1 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| F0680692.1 | 0 NA | | NA | NA | NA | NA |
| traj10 | 0 NA | | NA | NA | NA | NA |
| bmp101 | 5.228154829 | 0.931327539 | 0.8564717 | 1.0874003 | 0.27686 | NA |
| BX294375.1 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00026 | 0 NA | | NA | NA | NA | NA |
| CT573356.1 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 1.135274295 | 0.36816485 | 1.9502173 | 0.1887814 | 0.850264 | NA |
| si:dkey-4e4.1 | 9.670363015 | -0.083668378 | 0.604925 | -0.138312 | 0.889994 | NA |
| RF00026 | 0 NA | | NA | NA | NA | NA |
| si:ch211-234c11.2 | 10.67488886 | -0.084107837 | 0.5806205 | -0.144859 | 0.884823 | NA |
| CU855906.1 | 0.341486697 | 1.892317624 | 3.2124068 | 0.5890654 | 0.555817 | NA |
| CABZ01088982.1 | 5.820370154 | -1.082912867 | 0.867272 | -1.248643 | 0.211796 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| CU928131.1 | 5.137070948 | 1.301986456 | 0.8546551 | 1.5234057 | 0.127657 | NA |
| BX640537.3 | 50.70607399 | -0.194316341 | 0.271178 | -0.716564 | 0.473643 | 0.924993 |
| RF00069 | 2.46818515 | -0.966979791 | 1.2744033 | -0.758771 | 0.44799 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 34.48709824 | 0.063726177 | 0.329545 | 0.1933762 | 0.846664 | 0.985174 |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00012 | 0 NA | | NA | NA | NA | NA |
| BX005305.1 | 0 NA | | NA | NA | NA | NA |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| CABZ01068367.1 | 104.5635261 | 0.036088612 | 0.2014091 | 0.1791806 | 0.857796 | 0.985703 |
| CU570800.2 | 1.005048545 | -0.006083169 | 1.9358873 | -0.003142 | 0.997493 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00020 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CU570800.3 | 0 | NA | NA | NA | NA | NA |
| CABZ01078261.1 | 8.343157744 | 0.586199611 | 0.6656473 | 0.880646 | 0.378509 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| mrps15 | 405.4824497 | 0.00231038 | 0.1185614 | 0.0194868 | 0.984453 | 0.996944 |
| pimr152 | 0 | NA | NA | NA | NA | NA |
| CT583728.8 | 0 | NA | NA | NA | NA | NA |
| nitr6b | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| CT583728.9 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| im:7150988 | 135.214213 | -0.097854947 | 0.1871819 | -0.52278 | 0.601127 | 0.956045 |
| znf1030 | 15.95696593 | -0.109649952 | 0.4893144 | -0.224089 | 0.822688 | 0.982189 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.654761552 | -2.837720206 | 2.3559398 | -1.204496 | 0.228398 | NA |
| znf1140 | 10.13472255 | 0.432608386 | 0.5869571 | 0.7370358 | 0.461101 | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| CU104716.1 | 0 | NA | NA | NA | NA | NA |
| nanos1 | 1794.566226 | 0.081603346 | 0.0828181 | 0.9853325 | 0.324461 | 0.871051 |
| CR388042.2 | 0 | NA | NA | NA | NA | NA |
| CR762395.1 | 1.324649708 | 1.608767603 | 1.8121952 | 0.8877452 | 0.374678 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.476747244 | 2.393381959 | 3.0525537 | 0.7840589 | 0.433006 | NA |
| trhde.2 | 67.75137896 | 0.071477979 | 0.2478783 | 0.2883591 | 0.773072 | 0.975687 |
| F0704848.1 | 122.3816991 | 0.038916329 | 0.1852963 | 0.2100221 | 0.83365 | 0.983583 |
| BX005294.2 | 0.515216064 | 0.926382026 | 2.6525479 | 0.3492423 | 0.726907 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| zgc:173720 | 1.963926852 | -0.986816592 | 1.4260025 | -0.692016 | 0.488927 | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| si:dkey-182g1.2 | 0 | NA | NA | NA | NA | NA |
| histlh2ba | 9.005558192 | 0.857077505 | 0.6963499 | 1.2308145 | 0.218392 | NA |
| pdgfaa | 0 | NA | NA | NA | NA | NA |
| tmbim1b | 316.8790126 | -0.105387463 | 0.1275277 | -0.826389 | 0.408583 | 0.90171 |
| RF01848 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00017 | 0 | NA | NA | NA | NA | NA |
| dre-mir-430b-6 | 0 | NA | NA | NA | NA | NA |
| taarl8e | 0.508023798 | 0.926122713 | 2.6636728 | 0.3476864 | 0.728076 | NA |
| atgl1612 | 0.643163992 | 1.4381025 | 2.4329265 | 0.5910999 | 0.554454 | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| si:ch211-66i15.5 | 0.473290478 | -0.833892061 | 2.901156 | -0.287434 | 0.77378 | NA |
| F0681393.1 | 14.89697667 | 0.141824021 | 0.5934966 | 0.2389635 | 0.811134 | 0.981081 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| si:ch1073-110a20.7 | 0 | NA | NA | NA | NA | NA |
| RF00017 | 0 | NA | NA | NA | NA | NA |
| si:dkey-234124.1 | 0.651026051 | -0.042574319 | 2.4423909 | -0.017431 | 0.986092 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |

| | | | | | | |
|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| RF00003 | 0 | NA | NA | NA | NA | NA |
| prfl.7 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| RASL10B | 0.82062886 | -1.887809105 | 2.232843 | -0.845473 | 0.397847 | NA |
| RF00563 | 0.491560863 | 0.853615855 | 2.865157 | 0.2979299 | 0.765757 | NA |
| AL953865.1 | 4.17541146 | -1.35037684 | 0.9956438 | -1.356285 | 0.175008 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| hrc | 15.85741748 | -0.227122942 | 0.4803025 | -0.472875 | 0.636303 | 0.958565 |
| EML4 | 509.4477939 | -0.176263577 | 0.1044406 | -1.687693 | 0.09147 | 0.57849 |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| histlh2a1 | 4.980140988 | 2.018014144 | 0.9903593 | 2.0376586 | 0.041584 | NA |
| si:dkeyp-77c4.5 | 3.285177533 | 1.214709053 | 1.1740267 | 1.034652 | 0.300831 | NA |
| CR352340.1 | 0.339758314 | 0.005883863 | 3.2682461 | 0.0018003 | 0.998564 | NA |
| RF00017 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| CABZ01092745.1 | 151.9835393 | -0.045125481 | 0.1682367 | -0.268226 | 0.788525 | 0.976703 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00015 | 0 | NA | NA | NA | NA | NA |
| RF00017 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| PHF21B | 6.720567412 | 0.161458395 | 0.8096656 | 0.1994137 | 0.841939 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| BX323459.1 | 0.5046461 | -2.45370851 | 2.7629627 | -0.888072 | 0.374502 | NA |
| lsm12b | 1104.380772 | -0.009990136 | 0.0916487 | -0.109005 | 0.913199 | 0.991119 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| CR339054.2 | 41.66434195 | -0.184322293 | 0.2997282 | -0.614965 | 0.538578 | 0.943336 |
| RF00096 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| RF00017 | 2.841207645 | 3.885734333 | 1.6287254 | 2.3857516 | 0.017044 | NA |
| senp7a | 0 | NA | NA | NA | NA | NA |
| BX279525.1 | 1.798018259 | -1.437924379 | 1.5050474 | -0.955401 | 0.339375 | NA |
| BX000363.2 | 1.343586631 | -1.572682111 | 1.7206854 | -0.913986 | 0.360724 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| RF00012 | 0 | NA | NA | NA | NA | NA |
| CT583625.4 | 0 | NA | NA | NA | NA | NA |
| dre-mir-430b-6 | 0 | NA | NA | NA | NA | NA |
| RF00309 | 0 | NA | NA | NA | NA | NA |
| BX571954.3 | 0 | NA | NA | NA | NA | NA |
| CABZ01027551.1 | 2.810180002 | -0.860974518 | 1.1367962 | -0.757369 | 0.448829 | NA |
| zgc:77614 | 0 | NA | NA | NA | NA | NA |
| ft2 | 3.111187504 | -0.473154397 | 1.0605992 | -0.44612 | 0.655511 | NA |
| PLPP7 (1 of many) | 18.78225384 | -0.426707177 | 0.4419101 | -0.965597 | 0.334246 | 0.875298 |
| BX649337.2 | 0.8136773 | -1.876897407 | 2.1384966 | -0.877671 | 0.380122 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| si:ch211-165a10.1 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| CR925744.1 | 1.471225824 | -0.368161838 | 1.7496834 | -0.210416 | 0.833343 | NA |
| taar19n | 0.332524763 | 0.005883742 | 3.292841 | 0.0017868 | 0.998574 | NA |
| CT573366.1 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CU104741.1 | 6.781554772 | 0.338530258 | 0.729267 | 0.4642062 | 0.6425 | NA |

| | | | | | | |
|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| RF00001 | 0 | NA | NA | NA | NA | NA |
| zgc:77614 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| CR855375.3 | 6.607715342 | -0.573718356 | 0.7287942 | -0.787216 | 0.431156 | NA |
| CR847936.4 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| si:dkey-275b16.2 | 0 | NA | NA | NA | NA | NA |
| si:dkey-194g4.1 | 63.1234521 | -0.082256014 | 0.2558951 | -0.321444 | 0.747874 | 0.97419 |
| CU302316.1 | 0 | NA | NA | NA | NA | NA |
| BX323574.1 | 0.658957134 | 2.851427774 | 2.5143902 | 1.1340434 | 0.256776 | NA |
| znf1026 | 3.344456597 | -0.579794968 | 1.1134537 | -0.520718 | 0.602563 | NA |
| FP236810.1 | 13.23820778 | 0.052641784 | 0.6329249 | 0.0831722 | 0.933715 | 0.992702 |
| RF00001 | 0.500161739 | 2.450146464 | 2.7711133 | 0.8841741 | 0.376602 | NA |
| si:ch73-129a22.11 | 0 | NA | NA | NA | NA | NA |
| CABZ01066611.1 | 0 | NA | NA | NA | NA | NA |
| si:ch211-226h7.3 | 79.10879723 | 0.585619335 | 0.2789524 | 2.0993526 | 0.035786 | 0.368633 |
| CR944667.2 | 0 | NA | NA | NA | NA | NA |
| CU896691.3 | 3.910859867 | 1.873206992 | 1.0497367 | 1.7844541 | 0.07435 | NA |
| L0018548.1 | 7.730307739 | 0.319102801 | 0.7173331 | 0.4448461 | 0.656431 | NA |
| si:ch211-153a8.4 | 154.1810057 | -0.260854403 | 0.1710136 | -1.525343 | 0.127174 | 0.656588 |
| si:ch211-147m6.1 | 68.43249042 | -0.131123515 | 0.3029405 | -0.432836 | 0.665134 | 0.964736 |
| BX571720.1 | 0.844404414 | -1.887811648 | 2.2150205 | -0.852277 | 0.39406 | NA |
| RF00271 | 20.37276408 | 0.03059396 | 0.438679 | 0.0697411 | 0.9444 | 0.993364 |
| cmklr12 | 3.12227691 | -1.093039824 | 1.1410017 | -0.957965 | 0.33808 | NA |
| BX470083.1 | 0 | NA | NA | NA | NA | NA |
| CR792453.2 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX005442.1 | 0 | NA | NA | NA | NA | NA |
| L0016987.2 | 131.1819979 | -0.024561922 | 0.1771674 | -0.138637 | 0.889737 | 0.989291 |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| CR550302.3 | 0 | NA | NA | NA | NA | NA |
| dapl1b | 0.647019846 | -1.455099716 | 2.4289208 | -0.599073 | 0.549125 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| zgc:77614 | 0 | NA | NA | NA | NA | NA |
| F0904885.1 | 0 | NA | NA | NA | NA | NA |
| si:ch211-59p23.1 | 3.780714602 | 0.632089269 | 0.9643714 | 0.6554417 | 0.512183 | NA |
| CU459012.3 | 0.341366344 | 1.891903201 | 3.2128156 | 0.5888614 | 0.555954 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| pimr152 | 0 | NA | NA | NA | NA | NA |
| znf1025 | 26.68521069 | 0.196375437 | 0.3997703 | 0.4912207 | 0.62327 | 0.957354 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| F0834825.1 | 0 | NA | NA | NA | NA | NA |
| BX510309.1 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00017 | 0 | NA | NA | NA | NA | NA |
| dre-mir-430b-10 | 0 | NA | NA | NA | NA | NA |
| tradv10.0.2 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| sncgb | 3095.904527 | 0.178022225 | 0.0730198 | 2.4380002 | 0.014769 | 0.22242 |
| SLC35E2A | 124.7142991 | -0.052770733 | 0.1893839 | -0.278644 | 0.780518 | 0.97627 |
| RF00001 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| PLCB1 | 27.48632994 | 0.249898346 | 0.3609914 | 0.6922556 | 0.488777 | 0.931926 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00003 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |

| | | | | | | |
|------------------|-------------|--------------|-----------|-----------|----------|----------|
| RF00001 | 0 | NA | NA | NA | NA | NA |
| zgc:171759 | 9.839248954 | 0.975803616 | 0.6458279 | 1.5109345 | 0.130805 | NA |
| si:dkeyp-44b5.4 | 0 | NA | NA | NA | NA | NA |
| GPR139 | 57.12388331 | 0.025629817 | 0.2703933 | 0.0947872 | 0.924484 | 0.992676 |
| BX324227.2 | 0 | NA | NA | NA | NA | NA |
| CR847936.5 | 0 | NA | NA | NA | NA | NA |
| si:ch211-162i8.7 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00012 | 0 | NA | NA | NA | NA | NA |
| CU570800.4 | 0 | NA | NA | NA | NA | NA |
| histlh2a3 | 4.767369996 | 0.241665595 | 0.8964234 | 0.2695887 | 0.787477 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| CR376779.1 | 8.601145578 | -0.935180931 | 0.6627011 | -1.411165 | 0.158196 | NA |
| RF01848 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00017 | 0.365141898 | 1.973577737 | 3.3927314 | 0.5817076 | 0.560764 | NA |
| BX322614.1 | 0.340386822 | -1.882368278 | 3.2159502 | -0.585323 | 0.558331 | NA |
| L0017835.1 | 72.47704335 | 0.286388116 | 0.254363 | 1.1259031 | 0.260207 | 0.828288 |
| CABZ01117348.1 | 384.385023 | 0.035407765 | 0.1230848 | 0.2876696 | 0.7736 | 0.975687 |
| BX530407.5 | 0 | NA | NA | NA | NA | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| igsf11 | 6.166640651 | 0.242136739 | 0.7761301 | 0.3119796 | 0.755056 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| BX324003.2 | 1.477118795 | -1.82826838 | 1.6745074 | -1.091825 | 0.27491 | NA |
| CR936457.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| FP101875.2 | 0.635422286 | 2.809933352 | 2.5211574 | 1.114541 | 0.265047 | NA |
| BX323083.1 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| SPATA48 | 0.853245996 | -0.479250517 | 2.1942342 | -0.218414 | 0.827107 | NA |
| NPAS3 | 1219.44136 | -0.025388843 | 0.0832193 | -0.305084 | 0.760302 | 0.975374 |
| si:dkey-156j15.1 | 2.533206454 | 1.072379882 | 1.302768 | 0.8231549 | 0.41042 | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| pdxp | 28.56519417 | 0.427452757 | 0.3731581 | 1.1455005 | 0.252002 | 0.821478 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| BX649559.2 | 3.020298793 | -3.985206909 | 1.5079127 | -2.642863 | 0.008221 | NA |
| taar19h | 1.49653034 | 0.347267774 | 1.4998516 | 0.2315348 | 0.816899 | NA |
| SFMBT1 | 408.3187472 | -0.154823456 | 0.1164577 | -1.329439 | 0.183703 | 0.747284 |
| znf993 | 1.837776331 | 0.836483473 | 1.3925256 | 0.6006952 | 0.548043 | NA |
| BX664742.3 | 1.473503647 | -0.365440209 | 1.5699691 | -0.232769 | 0.815941 | NA |
| BX901962.2 | 48.82173225 | -0.568432133 | 0.3600589 | -1.57872 | 0.1144 | 0.633833 |
| RF00020 | 0 | NA | NA | NA | NA | NA |
| F0681286.1 | 10.53361741 | 0.08373423 | 0.5898638 | 0.1419552 | 0.887115 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| CABZ01072242.1 | 51.65771676 | -0.025864591 | 0.2782788 | -0.092945 | 0.925947 | 0.992702 |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| crygm2d17 | 18844.36486 | 0.170710858 | 0.0689195 | 2.4769599 | 0.013251 | 0.206152 |
| htrlfa | 23.25037388 | -0.32202579 | 0.4095311 | -0.786328 | 0.431675 | 0.91277 |
| CU896602.2 | 0 | NA | NA | NA | NA | NA |
| znf995 | 2.398388446 | 1.017571019 | 1.3850419 | 0.7346861 | 0.462531 | NA |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| pimr58 | 0 | NA | NA | NA | NA | NA |
| zgc:174719 | 4.428281475 | 0.034715811 | 0.9264869 | 0.0374704 | 0.97011 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| CR388047.2 | 0 | NA | NA | NA | NA | NA |
| dre-mir-430a-2 | 0 | NA | NA | NA | NA | NA |
| pimr145 | 0 | NA | NA | NA | NA | NA |
| CR848715.1 | 0 | NA | NA | NA | NA | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| RF00611 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| tmem254 | 249.4501921 | -0.234060944 | 0.1564619 | -1.495962 | 0.134664 | 0.670689 |
| BX649502.11 | 0 | NA | NA | NA | NA | NA |
| CU138548.1 | 0 | NA | NA | NA | NA | NA |
| si:dkey-58b18.10 | 0 | NA | NA | NA | NA | NA |
| CU570781.2 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.341366344 | 1.891903201 | 3.2128156 | 0.5888614 | 0.555954 | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| pimr156 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| si:ch211-113a14.19 | 22.08888991 | -0.01963926 | 0.421313 | -0.046614 | 0.962821 | 0.995927 |
| RF00001 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00012 | 0 | NA | NA | NA | NA | NA |
| CABZ01058721.1 | 127.1615217 | -0.026956104 | 0.1842326 | -0.146316 | 0.883672 | 0.988706 |
| BX681417.4 | 0 | NA | NA | NA | NA | NA |
| CR356242.1 | 1.552641039 | 1.042638452 | 1.5969266 | 0.6529032 | 0.513819 | NA |
| RF00012 | 0 | NA | NA | NA | NA | NA |
| RF00012 | 0 | NA | NA | NA | NA | NA |
| BX004816.3 | 0 | NA | NA | NA | NA | NA |
| dre-mir-430b-10 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| BX005027.2 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| mrp122 | 233.0386803 | -0.155151962 | 0.1398442 | -1.109463 | 0.26723 | 0.833191 |
| pimr167 | 0 | NA | NA | NA | NA | NA |
| TCERG1L | 350.1936896 | -0.083429199 | 0.1392252 | -0.599239 | 0.549013 | 0.946312 |
| dre-mir-430b-10 | 0 | NA | NA | NA | NA | NA |
| BX537120.1 | 0 | NA | NA | NA | NA | NA |
| tmem186 | 0 | NA | NA | NA | NA | NA |
| taar20o | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| v2rh12 | 0 | NA | NA | NA | NA | NA |
| pimr120 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.332524763 | 0.005883742 | 3.292841 | 0.0017868 | 0.998574 | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| CABZ01101996.1 | 50.73030781 | 0.050793336 | 0.2718609 | 0.1868358 | 0.851789 | 0.985174 |
| RF00001 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| BX005085.4 | 85.05846548 | -0.369075399 | 0.2123228 | -1.738275 | 0.082162 | 0.553176 |
| CR855257.2 | 0.964851341 | -0.019994509 | 2.0736065 | -0.009642 | 0.992307 | NA |
| dre-mir-430c-1 | 0 NA | NA | NA | NA | NA | NA |
| znf1004 | 0.815164977 | -0.617697568 | 2.1259573 | -0.29055 | 0.771395 | NA |
| RF00001 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| msc | 37.62792044 | -0.019489802 | 0.3287986 | -0.059276 | 0.952732 | 0.994003 |
| CABZ01079267.1 | 35.08239857 | -0.510840963 | 0.3868134 | -1.320639 | 0.186622 | 0.750951 |
| zgc:56628 | 43.03097945 | 0.207651923 | 0.2943965 | 0.7053478 | 0.480594 | 0.927601 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| FQ377903.3 | 127.3964636 | -0.0913154 | 0.1822447 | -0.501059 | 0.616329 | 0.95688 |
| RF00001 | 0.547712847 | 2.559541715 | 2.9076406 | 0.8802813 | 0.378707 | NA |
| BX548011.1 | 0.506415768 | -0.866825728 | 2.6674086 | -0.324969 | 0.745204 | NA |
| BX649328.3 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| SAMD5 | 35.95058788 | -0.094731208 | 0.3449222 | -0.274645 | 0.783589 | 0.97627 |
| zgc:165555 | 6.925091595 | 0.471986233 | 0.8518845 | 0.5540495 | 0.579545 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| CABZ01092781.1 | 193.8276623 | 0.017012944 | 0.1823825 | 0.0932817 | 0.92568 | 0.992689 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| igl3v1 | 0 NA | NA | NA | NA | NA | NA |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| dre-mir-430a-4 | 0 NA | NA | NA | NA | NA | NA |
| CR854927.4 | 0.317711143 | 1.810477155 | 3.2978238 | 0.5489915 | 0.583011 | NA |
| CU929160.1 | 79.65797161 | -0.164772821 | 0.2286749 | -0.720555 | 0.471183 | 0.924838 |
| RF00001 | 0.476747244 | 2.393381959 | 3.0525537 | 0.7840589 | 0.433006 | NA |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0.820749213 | -1.887809118 | 2.2327507 | -0.845508 | 0.397827 | NA |
| pdgfaa | 95.13672549 | 0.504958937 | 0.21488 | 2.3499576 | 0.018776 | 0.255518 |
| si:ch211-139n6.10 | 0 NA | NA | NA | NA | NA | NA |
| CU929402.2 | 2.820939343 | 0.897678522 | 1.1253748 | 0.7976707 | 0.425062 | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| CT573264.1 | 1.568873311 | -0.94347161 | 1.724889 | -0.546975 | 0.584396 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| CR854942.1 | 0.687217049 | -1.490137326 | 2.387795 | -0.624064 | 0.532585 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| si:ch73-92e7.4 | 30.56656528 | -0.146316666 | 0.3433632 | -0.426128 | 0.670015 | 0.965223 |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| traj31 | 0 NA | NA | NA | NA | NA | NA |
| F0834799.1 | 160.8488967 | -0.362296489 | 0.161044 | -2.249674 | 0.02447 | 0.3019 |
| CABZ01044235.1 | 38.32746524 | -0.080119059 | 0.3069455 | -0.26102 | 0.794077 | 0.977937 |
| si:dkey-20i20.4 | 25.4534062 | -0.518644173 | 0.3823998 | -1.356288 | 0.175008 | 0.735545 |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| CU929146.1 | 5.886534784 | 0.829289508 | 0.7974345 | 1.0399469 | 0.298365 | NA |
| F0704648.1 | 1.794991576 | -0.789655873 | 1.4053064 | -0.56191 | 0.574177 | NA |
| CU929414.1 | 0.530029684 | -0.939524117 | 2.7937867 | -0.336291 | 0.736652 | NA |
| dre-mir-430c-1 | 0 NA | NA | NA | NA | NA | NA |
| RF00017 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-31m5.3 | 0 NA | NA | NA | NA | NA | NA |

| | | | | | | |
|------------------|-------------|--------------|-----------|-----------|----------|----------|
| RF00026 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| pimr79 | 0.471562095 | -2.373056629 | 3.0645586 | -0.774355 | 0.438721 | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00002 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.99074308 | -0.066552202 | 1.9437949 | -0.034238 | 0.972687 | NA |
| si:dkey-240e12.6 | 0.508144151 | 0.926490632 | 2.6634746 | 0.3478504 | 0.727953 | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| CU633838.1 | 190.8183733 | -0.074967728 | 0.1484128 | -0.50513 | 0.613468 | 0.95688 |
| CABZ01113818.1 | 45.73818741 | 0.472902972 | 0.3025794 | 1.5629054 | 0.118075 | 0.641526 |
| BX324164.5 | 4.270557127 | -0.255929653 | 0.9690645 | -0.2641 | 0.791703 | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| zgc:85789 | 137.6012294 | 0.1063312 | 0.1786178 | 0.5953003 | 0.551643 | 0.947138 |
| ank3b | 401.6865555 | 0.104962957 | 0.1200942 | 0.8740055 | 0.382115 | 0.895192 |
| zgc:165555 | 6.624877646 | 0.86219365 | 0.7959551 | 1.083219 | 0.278711 | NA |
| CR450812.1 | 2.141581097 | -0.644273583 | 1.3502102 | -0.477165 | 0.633244 | NA |
| SBSPON | 49.90086543 | -0.013590757 | 0.2926282 | -0.046444 | 0.962957 | 0.995927 |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| CU459155.1 | 0.476747244 | 2.393381959 | 3.0525537 | 0.7840589 | 0.433006 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| CABZ01041996.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 1.000684536 | 3.450436576 | 2.0457121 | 1.6866678 | 0.091667 | NA |
| BX323861.3 | 1.364416829 | -0.705571612 | 1.7443167 | -0.404497 | 0.685847 | NA |
| CABZ01066694.1 | 7.069900456 | -0.003769431 | 0.7541542 | -0.004998 | 0.996012 | NA |
| AL929305.1 | 5.117030894 | 0.876162338 | 0.8453941 | 1.0363952 | 0.300018 | NA |
| CABZ01070631.1 | 26.27958768 | -0.124086511 | 0.3677152 | -0.337453 | 0.735776 | 0.972535 |
| LO018535.1 | 290.9443277 | -0.062111254 | 0.1395619 | -0.445045 | 0.656288 | 0.961833 |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| RF00334 | 2.955138044 | -0.975972046 | 1.1761363 | -0.829812 | 0.406645 | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| BX510309.2 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00012 | 0 | NA | NA | NA | NA | NA |
| taar18f | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CABZ01085887.1 | 85.45405372 | 0.251256581 | 0.2508279 | 1.001709 | 0.316484 | 0.867129 |
| RF00001 | 0.31759079 | 1.807926197 | 3.579045 | 0.5051421 | 0.613459 | NA |
| RF00017 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| pimr168 | 0 | NA | NA | NA | NA | NA |
| BX511056.1 | 0 | NA | NA | NA | NA | NA |
| zgc:173702 | 1.188797441 | -1.322727039 | 1.8673491 | -0.708345 | 0.478731 | NA |
| zgc:91850 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| kctd14 | 26.45015219 | -0.762362627 | 0.3791337 | -2.010802 | 0.044346 | 0.414025 |
| BX323083.2 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| BX784025.1 | 3.11845205 | 1.894216838 | 1.1650053 | 1.6259298 | 0.103965 | NA |
| BX548067.2 | 0 | NA | NA | NA | NA | NA |

| | | | | | | |
|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| RF00017 | 0.665211163 | 0.04738924 | 2.3079847 | 0.0205327 | 0.983618 | NA |
| AL929237.4 | 0 NA | | NA | NA | NA | NA |
| si:ch211-200p22.4 | 477.4494627 | 0.163901437 | 0.1160215 | 1.412682 | 0.157749 | 0.709035 |
| tmem107 | 75.67290195 | -0.357773232 | 0.2601112 | -1.375462 | 0.168988 | 0.725955 |
| RF00003 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0.521188103 | -2.493476766 | 2.9577741 | -0.843025 | 0.399215 | NA |
| traj35 | 0 NA | | NA | NA | NA | NA |
| si:rp71-1f1.6 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |
| BX296549.1 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| CT583625.5 | 1.63835365 | -1.196460847 | 1.6095803 | -0.743337 | 0.457278 | NA |
| BX005380.1 | 7.854895511 | 0.839200696 | 0.6831833 | 1.2283682 | 0.219309 | NA |
| CABZ01044731.1 | 219.0511664 | -0.046287953 | 0.1441652 | -0.321076 | 0.748153 | 0.97419 |
| mbd4 | 125.4933603 | -0.249447209 | 0.1879804 | -1.326985 | 0.184514 | 0.747376 |
| BX571681.5 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| CT583728.10 | 0.849510495 | 1.927128725 | 2.1168069 | 0.9103942 | 0.362615 | NA |
| si:dkey-13p1.4 | 21.1195644 | -0.00841967 | 0.4118702 | -0.020443 | 0.98369 | 0.996944 |
| BX640512.4 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| znf986 | 7.645494587 | 0.539013421 | 0.7124337 | 0.7565804 | 0.449301 | NA |
| zgc:153733 | 92.89015419 | 0.063680589 | 0.2026239 | 0.3142797 | 0.753309 | 0.974864 |
| CABZ01040626.1 | 0 NA | | NA | NA | NA | NA |
| CR792453.3 | 1.49492231 | -0.276158482 | 1.5635535 | -0.176622 | 0.859805 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| hsd11b11b | 59.75314475 | -0.503800214 | 0.2553739 | -1.972794 | 0.048519 | 0.433449 |
| L0018557.1 | 704.7056292 | -0.075930964 | 0.1008916 | -0.7526 | 0.451691 | 0.918761 |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| BX897685.1 | 0 NA | | NA | NA | NA | NA |
| CR847571.2 | 0.365141898 | 1.973577737 | 3.3927314 | 0.5817076 | 0.560764 | NA |
| txndc15 | 167.5152989 | -0.01407617 | 0.1594721 | -0.088267 | 0.929664 | 0.992702 |
| FQ976913.1 | 163.3820728 | -0.339504438 | 0.1652823 | -2.054088 | 0.039967 | 0.391511 |
| cmklr12 | 0.365141898 | 1.973577737 | 3.3927314 | 0.5817076 | 0.560764 | NA |
| RF00001 | 1.004928192 | -0.005789997 | 1.8593771 | -0.003114 | 0.997515 | NA |
| zgc:77614 | 0 NA | | NA | NA | NA | NA |
| F0904880.1 | 15.90575849 | -0.055918265 | 0.5000501 | -0.111825 | 0.910962 | 0.991059 |
| CABZ01086293.1 | 25.91410226 | 0.044413407 | 0.3912256 | 0.1135238 | 0.909615 | 0.990702 |
| BX324212.2 | 0.9751806 | 2.205383087 | 2.0107884 | 1.0967753 | 0.27274 | NA |
| RF00026 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| CR788249.3 | 0 NA | | NA | NA | NA | NA |
| RF00026 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| nitr1k | 0.789393591 | -0.56601807 | 2.4000363 | -0.235837 | 0.813559 | NA |
| CR394532.1 | 8.758329411 | 0.266417276 | 0.6459977 | 0.4124121 | 0.680037 | NA |
| RF00004 | 0 NA | | NA | NA | NA | NA |
| CR388363.3 | 0 NA | | NA | NA | NA | NA |
| AL954848.1 | 0.999584661 | 0.976925822 | 1.8949579 | 0.5155396 | 0.606176 | NA |
| RF00001 | 0.347458735 | -1.908042286 | 3.4571486 | -0.551912 | 0.581009 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |

| | | | | | | |
|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| BX537296.1 | 0 | NA | NA | NA | NA | NA |
| BX901962.3 | 43.46652476 | -0.273135635 | 0.3278647 | -0.833074 | 0.404803 | 0.901305 |
| CABZ01057488.1 | 12.88800875 | -0.663038287 | 0.5392772 | -1.229494 | 0.218886 | 0.785734 |
| taar20a1 | 0.658218317 | -0.061628513 | 2.4342948 | -0.025317 | 0.979802 | NA |
| BX548073.6 | 0 | NA | NA | NA | NA | NA |
| znf997 | 3.420847211 | -0.730704325 | 1.0710489 | -0.682232 | 0.495092 | NA |
| apls3a | 129.6625713 | -0.695738809 | 0.1817415 | -3.828177 | 0.000129 | 0.006006 |
| BX571853.2 | 1.659731029 | -1.161818817 | 1.5334322 | -0.757659 | 0.448655 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| dre-mir-430c-1 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| CABZ01086877.1 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 1.221603953 | 2.539597172 | 1.9939066 | 1.2736791 | 0.202777 | NA |
| BX005380.2 | 12.17921565 | -0.004567322 | 0.5423768 | -0.008421 | 0.993281 | 0.998554 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| si:ch211-156118.4 | 2.127395985 | -0.674516466 | 1.2886138 | -0.523443 | 0.600666 | NA |
| ptpro | 676.66403 | -0.05583597 | 0.0964264 | -0.579053 | 0.562553 | 0.948728 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| si:ch73-42p12.2 | 202.8837675 | 0.188141683 | 0.1512107 | 1.2442355 | 0.213413 | 0.781631 |
| si:dkey-199f5.4 | 0 | NA | NA | NA | NA | NA |
| FP236318.1 | 90.09887791 | -0.046361468 | 0.2320118 | -0.199824 | 0.841618 | 0.985174 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| BX510941.2 | 0.496945679 | -0.834564081 | 2.8549631 | -0.29232 | 0.770042 | NA |
| zgc:162989 | 269.8765985 | 0.04144902 | 0.1303451 | 0.3179943 | 0.750489 | 0.97419 |
| F0744840.1 | 0.325573202 | 0.005883621 | 3.3172783 | 0.0017736 | 0.998585 | NA |
| BX510960.2 | 6.375809918 | -0.47395724 | 0.7884304 | -0.60114 | 0.547747 | NA |
| RF00001 | 1.171747284 | -0.345931323 | 1.8089853 | -0.191229 | 0.848346 | NA |
| taar20q | 0.507044276 | -2.459587493 | 2.7586536 | -0.89159 | 0.372613 | NA |
| CU459094.1 | 7.532743583 | -0.323672945 | 0.6969234 | -0.464431 | 0.642339 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| BX088713.2 | 0 | NA | NA | NA | NA | NA |
| sypa | 10486.92016 | 0.114774607 | 0.0709914 | 1.6167385 | 0.105935 | 0.615567 |
| si:dkey-31m5.7 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| CU571382.4 | 0 | NA | NA | NA | NA | NA |
| BX119963.3 | 0.523937293 | 2.50362281 | 2.7291625 | 0.9173594 | 0.358954 | NA |
| CABZ01113373.1 | 239.1836284 | -0.136851288 | 0.1614488 | -0.847645 | 0.396636 | 0.899672 |
| zgc:77614 | 0 | NA | NA | NA | NA | NA |
| RF00137 | 0 | NA | NA | NA | NA | NA |
| BX470083.2 | 0 | NA | NA | NA | NA | NA |
| si:dkey-23f9.7 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| BX004779.2 | 7.511054215 | -0.728375636 | 0.7008941 | -1.039209 | 0.298707 | NA |
| CABZ01090785.1 | 80.44949214 | -0.219030522 | 0.231274 | -0.947061 | 0.343608 | 0.878434 |
| CABZ01080042.1 | 1.006577507 | 1.047948733 | 1.9691602 | 0.5321805 | 0.594601 | NA |
| mapk4 | 278.4939245 | 0.227734382 | 0.1280476 | 1.7785132 | 0.07532 | 0.534207 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| si:dkey-27d5.6 | 0 | NA | NA | NA | NA | NA |
| RF00003 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| CABZ01079179.1 | 250.5732648 | -0.033703402 | 0.1493058 | -0.225734 | 0.821408 | 0.981845 |
| pimr152 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| CABZ01030278.1 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF01848 | 0 NA | NA | NA | NA | NA | NA |
| dre-mir-430b-1 | 0 NA | NA | NA | NA | NA | NA |
| pimr97 | 0 NA | NA | NA | NA | NA | NA |
| CABZ01115113.1 | 235.9205612 | -0.298609829 | 0.1428916 | -2.089765 | 0.036639 | 0.374263 |
| BX950868.3 | 0 NA | NA | NA | NA | NA | NA |
| CU681855.1 | 6.807106782 | -0.510503529 | 0.7526085 | -0.678312 | 0.497574 | NA |
| ugt2a7 | 7.03467268 | -0.331582758 | 0.8386423 | -0.39538 | 0.692562 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| CABZ01068209.1 | 5.299488279 | -0.36050362 | 0.83747 | -0.430467 | 0.666856 | NA |
| RF00138 | 0 NA | NA | NA | NA | NA | NA |
| F0905027.1 | 0 NA | NA | NA | NA | NA | NA |
| zgc:171310 | 0 NA | NA | NA | NA | NA | NA |
| pimr8 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| CABZ01061508.1 | 14.95640162 | 0.684269851 | 0.50168 | 1.3639569 | 0.172581 | 0.731348 |
| BX321875.2 | 1.865994961 | -0.80082671 | 1.5155802 | -0.528396 | 0.597224 | NA |
| si:ch211-212k5.1 | 12.98737532 | 0.154785901 | 0.5209116 | 0.2971443 | 0.766356 | 0.97547 |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| cacna1db | 13.61659165 | -0.069661871 | 0.5127752 | -0.135853 | 0.891938 | 0.989291 |
| taar13d | 0.69491747 | -2.908930307 | 2.6707877 | -1.089166 | 0.276081 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| CABZ01088049.1 | 4.50785815 | -0.303446804 | 0.9259929 | -0.327699 | 0.743139 | NA |
| wdr21 | 493.4842388 | -0.24883249 | 0.1117974 | -2.225744 | 0.026031 | 0.311101 |
| CT025875.1 | 25.66130311 | 0.232899847 | 0.3833866 | 0.6074804 | 0.543532 | 0.945438 |
| zgc:174696 | 35.27767213 | 0.783359692 | 0.3444918 | 2.2739576 | 0.022969 | 0.290396 |
| AL954137.1 | 0 NA | NA | NA | NA | NA | NA |
| BX510335.1 | 0 NA | NA | NA | NA | NA | NA |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| znf1092 | 3.283467225 | -2.48429585 | 1.2409179 | -2.001983 | 0.045287 | NA |
| CT573103.2 | 3.801583826 | 0.929502916 | 0.9928142 | 0.9362305 | 0.349155 | NA |
| BX537296.2 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| AL590152.1 | 0 NA | NA | NA | NA | NA | NA |
| BX284640.1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| CABZ01061524.1 | 4088.47309 | 0.339213497 | 0.1048544 | 3.2350916 | 0.001216 | 0.036159 |
| COX7A2 (1 of many) | 294.8571446 | -0.39039487 | 0.12955 | -3.013468 | 0.002583 | 0.064485 |
| zgc:162154 | 0.514116189 | -2.475533565 | 2.7461255 | -0.901464 | 0.367342 | NA |
| zdhhc21 | 211.676198 | 0.059634286 | 0.1489218 | 0.4004404 | 0.688832 | 0.966672 |
| CU210890.1 | 10.33799104 | 0.879706477 | 0.6105013 | 1.4409575 | 0.149597 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| BX247865.1 | 0.681245011 | 1.537021632 | 2.3941387 | 0.6419936 | 0.520877 | NA |
| BX470214.1 | 0.507044276 | -2.459587493 | 2.7586536 | -0.89159 | 0.372613 | NA |
| CABZ01092907.1 | 17.29628551 | 0.013535414 | 0.5056028 | 0.0267708 | 0.978643 | 0.996762 |
| AL935195.1 | 3.822918924 | -0.111527712 | 0.9560778 | -0.116651 | 0.907136 | NA |
| PCP4 | 1373.616763 | 0.046463189 | 0.1176991 | 0.3947624 | 0.693018 | 0.96736 |
| RF00001 | 0.325452849 | 0.005883619 | 3.3177086 | 0.0017734 | 0.998585 | NA |
| RF00001 | 0.689615224 | -1.495598879 | 2.3854835 | -0.626958 | 0.530687 | NA |
| CU499311.1 | 0.317831496 | 1.808837541 | 3.5779923 | 0.5055454 | 0.613176 | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| RF00001 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CR388207.2 | 3.488865199 | -0.407756555 | 1.0081921 | -0.404443 | 0.685887 | NA |
| CABZ01086797.1 | 144.558944 | -0.068566164 | 0.1913226 | -0.35838 | 0.720059 | 0.969318 |
| znf994 | 5.344911916 | 0.18470377 | 0.8130714 | 0.227168 | 0.820293 | NA |
| CABZ01056052.1 | 1.214772745 | 2.539931161 | 1.9967893 | 1.2720076 | 0.20337 | NA |
| nitr6b | 0 | NA | NA | NA | NA | NA |
| CLEC3A | 503.4282058 | 0.007169812 | 0.1381417 | 0.0519019 | 0.958607 | 0.994935 |
| RF00001 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00138 | 0 | NA | NA | NA | NA | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| znf1098 | 12.40839522 | -0.736924148 | 0.5446917 | -1.35292 | 0.176081 | 0.736505 |
| CU137648.2 | 1.763436286 | 2.118973619 | 1.7835463 | 1.1880677 | 0.234807 | NA |
| taar20b1 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| prf1.7 | 0.798743327 | -0.585351522 | 2.137483 | -0.273851 | 0.784199 | NA |
| RF00001 | 0.341366344 | 1.891903201 | 3.2128156 | 0.5888614 | 0.555954 | NA |
| BX681417.5 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| znf1102 | 12.18558662 | -0.506214309 | 0.5493843 | -0.921421 | 0.356831 | 0.883422 |
| AL772241.1 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| pimr16 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| znf1149 | 0.339758314 | 0.005883863 | 3.2682461 | 0.0018003 | 0.998564 | NA |
| PARD3 (1 of many) | 6.752425643 | 0.939578819 | 0.7354479 | 1.2775599 | 0.201405 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| si:ch211-221n20.1 | 0.9926331 | 0.990524899 | 2.0829487 | 0.4755397 | 0.634402 | NA |
| F0203514.1 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| hist1h2a3 | 2.086838566 | 1.054253713 | 1.4430912 | 0.7305524 | 0.465053 | NA |
| si:dkey-3h2.2 | 14.76342756 | 0.283005664 | 0.5169602 | 0.5474418 | 0.584075 | 0.952214 |
| zgc:165555 | 4.03558848 | 0.285577744 | 1.0046077 | 0.2842679 | 0.776205 | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| BX548073.7 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00015 | 0 | NA | NA | NA | NA | NA |
| pimr12 | 0 | NA | NA | NA | NA | NA |
| pimr153 | 0 | NA | NA | NA | NA | NA |
| tmem14ca | 318.4663224 | -0.176067671 | 0.1268776 | -1.387697 | 0.165229 | 0.721223 |
| agbl4 | 34.21443209 | -0.360749087 | 0.3348798 | -1.077249 | 0.281369 | 0.84357 |
| si:dkey-108k21.14 | 9.160810255 | -0.25377392 | 0.6205936 | -0.408921 | 0.682597 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| pimr107 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| RF00017 | 1.300513096 | 1.583274097 | 1.7585478 | 0.9003304 | 0.367944 | NA |
| znf1111 | 9.101293741 | 0.810451126 | 0.6484657 | 1.249798 | 0.211373 | NA |
| CABZ01020455.1 | 1.503990056 | -0.34389662 | 1.5791308 | -0.217776 | 0.827604 | NA |
| RF00003 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:dkey-9i5.2 | 4.756922798 | -0.09836913 | 0.8543464 | -0.11514 | 0.908334 | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |

| | | | | | | |
|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| BX629348.1 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| CR847537.1 | 7.04353961 | -0.424110262 | 0.7478659 | -0.567094 | 0.57065 | NA |
| F0834855.1 | 7.939798022 | -0.229041419 | 0.6945061 | -0.32979 | 0.741558 | NA |
| si:dkey-28k24.2 | 9.146566061 | -0.829817701 | 0.6802962 | -1.219789 | 0.222545 | NA |
| BX908804.2 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| BX276128.1 | 10.91125732 | 0.102534041 | 0.5965794 | 0.1718699 | 0.86354 | NA |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| FP103007.1 | 0.333314908 | -1.858695402 | 3.5126701 | -0.52914 | 0.596708 | NA |
| RF01848 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| zgc:173552 | 5.792502292 | 0.602524811 | 0.7901015 | 0.7625916 | 0.445707 | NA |
| BX649312.1 | 0 NA | NA | NA | NA | NA | NA |
| pimr101 | 0 NA | NA | NA | NA | NA | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-223a21.6 | 1.464703351 | -1.022086365 | 1.5936908 | -0.641333 | 0.521306 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| CR847936.6 | 162.9696928 | 0.010556571 | 0.1849343 | 0.0570828 | 0.954479 | 0.994533 |
| RF00001 | 0.347458735 | -1.908042286 | 3.4571486 | -0.551912 | 0.581009 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00012 | 0 NA | NA | NA | NA | NA | NA |
| CU137681.5 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-27d5.14 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| ptprsa | 1026.142648 | -0.114283684 | 0.1073342 | -1.064746 | 0.286991 | 0.845979 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| znf1110 | 3.916371824 | -0.327256535 | 1.0512527 | -0.311301 | 0.755571 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| BX324227.3 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CU929544.1 | 51.38870119 | 0.285833346 | 0.2831885 | 1.0093395 | 0.312812 | 0.864748 |
| CABZ01043952.1 | 30.83371348 | -0.658605207 | 0.344043 | -1.914311 | 0.05558 | 0.461579 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| dre-mir-430b-10 | 0 NA | NA | NA | NA | NA | NA |
| BX769173.1 | 0 NA | NA | NA | NA | NA | NA |
| zgc:110045 | 123.8425972 | -0.250120672 | 0.1869888 | -1.337624 | 0.181019 | 0.741859 |
| trib1 | 366.4000651 | 0.337276573 | 0.1200469 | 2.8095412 | 0.004961 | 0.102608 |
| RF00001 | 17.51550874 | -0.306200869 | 0.459757 | -0.666006 | 0.505407 | 0.935724 |
| BX950205.3 | 0 NA | NA | NA | NA | NA | NA |
| FP102169.1 | 6.351729133 | -0.290234711 | 0.7566914 | -0.383558 | 0.701306 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-58b18.3 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |
| tln2b | 46.93639952 | 0.006790846 | 0.3161032 | 0.021483 | 0.98286 | 0.996944 |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| ftr32 | 1.803671519 | -0.263747218 | 1.3709897 | -0.192377 | 0.847447 | NA |
| RF00015 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 3.265618891 | 0.578447752 | 1.0514627 | 0.5501362 | 0.582226 | NA |
| pimr163 | 0 NA | NA | NA | NA | NA | NA |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |

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|---------------------|--------------|---------------|------------|------------|-----------|-----------|
| BX908796. 2 | 0. 657349104 | 1. 487939685 | 2. 418178 | 0. 6153144 | 0. 538347 | NA |
| ZNF276 | 343. 367077 | -0. 128523714 | 0. 1275901 | -1. 007318 | 0. 313782 | 0. 865132 |
| VMAC | 0 NA | NA | NA | NA | NA | NA |
| taar20z | 0. 157187365 | -0. 955901296 | 4. 0804729 | -0. 234262 | 0. 814781 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| CU694317. 1 | 2. 994197343 | -0. 334911441 | 1. 0731182 | -0. 312092 | 0. 754971 | NA |
| CT583728. 11 | 0 NA | NA | NA | NA | NA | NA |
| dicpl. 1 | 0 NA | NA | NA | NA | NA | NA |
| L0018430. 1 | 36. 81371749 | 0. 114662111 | 0. 315123 | 0. 3638646 | 0. 715959 | 0. 96909 |
| RF00001 | 1. 80822816 | 2. 162857379 | 1. 5753167 | 1. 3729667 | 0. 169763 | NA |
| si:dkey-112g5. 3 | 0 NA | NA | NA | NA | NA | NA |
| FP016018. 4 | 0 NA | NA | NA | NA | NA | NA |
| BX511056. 2 | 0 NA | NA | NA | NA | NA | NA |
| BX000981. 6 | 0 NA | NA | NA | NA | NA | NA |
| BX927193. 2 | 22. 87641387 | -0. 314148186 | 0. 4276562 | -0. 734581 | 0. 462595 | 0. 922698 |
| si:ch211-165a10. 10 | 0 NA | NA | NA | NA | NA | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| L0018128. 1 | 20. 00000756 | -0. 530732326 | 0. 4677031 | -1. 134763 | 0. 256474 | 0. 824773 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| F0681288. 3 | 23. 34436466 | 0. 047812529 | 0. 396764 | 0. 1205062 | 0. 904082 | 0. 990291 |
| RF00017 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| znf1116 | 5. 450435161 | -0. 595471477 | 0. 8135924 | -0. 731904 | 0. 464227 | NA |
| si:ch211-165a10. 5 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-58b18. 2 | 0. 158915748 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00017 | 1. 38602487 | 1. 708040649 | 1. 9015945 | 0. 898215 | 0. 369071 | NA |
| lgi2a | 93. 04397712 | 0. 325396268 | 0. 2242948 | 1. 4507528 | 0. 146849 | 0. 693524 |
| pimr44 | 0 NA | NA | NA | NA | NA | NA |
| RF00017 | 0. 508144151 | 0. 926490632 | 2. 6634746 | 0. 3478504 | 0. 727953 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0. 173729368 | -0. 955901296 | 4. 0804729 | -0. 234262 | 0. 814781 | NA |
| F0082779. 1 | 98. 96896502 | 0. 181352142 | 0. 1966706 | 0. 9221111 | 0. 356471 | 0. 883422 |
| RF00017 | 1. 000134101 | 0. 001091541 | 2. 0514706 | 0. 0005321 | 0. 999575 | NA |
| CR354547. 2 | 0 NA | NA | NA | NA | NA | NA |
| si:ch73-106115. 2 | 0. 339758314 | 0. 005883863 | 3. 2682461 | 0. 0018003 | 0. 998564 | NA |
| pimr155 | 0 NA | NA | NA | NA | NA | NA |
| camk2n2 | 795. 9222353 | 0. 022807458 | 0. 0970302 | 0. 2350554 | 0. 814166 | 0. 981081 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| arl311 | 591. 8878882 | 0. 09221544 | 0. 1128322 | 0. 8172796 | 0. 413769 | 0. 905864 |
| CT009620. 1 | 0 NA | NA | NA | NA | NA | NA |
| taar10d | 0. 639947932 | -1. 440068751 | 2. 4365394 | -0. 59103 | 0. 5545 | NA |
| CABZ01086611. 1 | 61. 40038386 | 0. 562688207 | 0. 2531715 | 2. 2225571 | 0. 026246 | 0. 312439 |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| BX005470. 1 | 0. 173729368 | -0. 955901296 | 4. 0804729 | -0. 234262 | 0. 814781 | NA |
| RF00001 | 0. 158795395 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| BX537263. 1 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| FP102888. 2 | 1. 286327984 | 1. 536233356 | 1. 8938746 | 0. 811159 | 0. 417274 | NA |

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|------------------|-------------|--------------|-----------|-----------|----------|----------|
| CR931980.1 | 0.317831496 | 1.808837541 | 3.5779923 | 0.5055454 | 0.613176 | NA |
| acyl | 104.5713027 | 0.100422562 | 0.1974024 | 0.50872 | 0.610949 | 0.95688 |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00026 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00026 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| CR848784.2 | 0 NA | | NA | NA | NA | NA |
| RF00017 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| zgc:165555 | 7.476851932 | 0.803842499 | 0.8694959 | 0.9244926 | 0.35523 | NA |
| CU138548.2 | 0 NA | | NA | NA | NA | NA |
| si:dkeyp-67e1.2 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00026 | 0 NA | | NA | NA | NA | NA |
| RF00003 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00026 | 0 NA | | NA | NA | NA | NA |
| RF00026 | 0 NA | | NA | NA | NA | NA |
| cdaa | 67.34246394 | -0.370588658 | 0.2376842 | -1.559164 | 0.118958 | 0.642772 |
| CR450686.4 | 0 NA | | NA | NA | NA | NA |
| RF00003 | 0 NA | | NA | NA | NA | NA |
| BX640461.1 | 0.988386189 | 0.023110674 | 1.8675822 | 0.0123746 | 0.990127 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| BX537296.3 | 0 NA | | NA | NA | NA | NA |
| AL844518.1 | 8.607163153 | -0.238183201 | 0.6696985 | -0.355657 | 0.722097 | NA |
| prokr1b | 8.496709258 | -0.841299385 | 0.6765164 | -1.243576 | 0.213656 | NA |
| RF00003 | 0 NA | | NA | NA | NA | NA |
| si:ch211-14p21.3 | 1.648092184 | 0.560848653 | 1.4446106 | 0.3882352 | 0.697842 | NA |
| RF00026 | 0 NA | | NA | NA | NA | NA |
| BX323588.1 | 0 NA | | NA | NA | NA | NA |
| pimr152 | 0 NA | | NA | NA | NA | NA |
| nrsn1 | 1590.184024 | 0.011934811 | 0.0882019 | 0.1353125 | 0.892365 | 0.989291 |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| CT583728.12 | 39.69877145 | 1.154427589 | 0.8898568 | 1.2973183 | 0.194522 | 0.758506 |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| dhrrs13a.2 | 519.6782152 | 0.162133117 | 0.1094006 | 1.4820131 | 0.138337 | 0.676093 |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| si:dkey-27d5.3 | 0 NA | | NA | NA | NA | NA |
| BX324132.3 | 16.66908378 | 0.782425334 | 0.4743284 | 1.6495436 | 0.099036 | 0.598346 |
| zgc:165555 | 7.626111622 | 1.025488398 | 0.7286708 | 1.4073411 | 0.159326 | NA |
| RF00003 | 0 NA | | NA | NA | NA | NA |
| CR394528.1 | 75.03019763 | -0.509948701 | 0.2369588 | -2.152056 | 0.031393 | 0.343463 |
| RF00001 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00012 | 0 NA | | NA | NA | NA | NA |
| RF00003 | 0 NA | | NA | NA | NA | NA |
| BX927243.2 | 0 NA | | NA | NA | NA | NA |
| GNG4 | 5.082685224 | 0.41491091 | 0.8871449 | 0.4676924 | 0.640005 | NA |
| F0834850.1 | 175.8341524 | -0.129727455 | 0.1614595 | -0.803467 | 0.421705 | 0.90651 |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| CABZ01087224.1 | 1.030353061 | 1.083094909 | 1.9769175 | 0.5478706 | 0.583781 | NA |
| CR847936.7 | 0 NA | | NA | NA | NA | NA |
| RF00026 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| BX510996.1 | 24.92009063 | 0.209744817 | 0.3899688 | 0.5378503 | 0.59068 | 0.954193 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| ERG28 | 62.65828546 | -0.172979291 | 0.2453003 | -0.705174 | 0.480702 | 0.927601 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| pimr24 | 0 | NA | NA | NA | NA | NA |
| pimr4 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| AL935126.2 | 1.487286415 | -0.390430437 | 1.7741443 | -0.220067 | 0.825819 | NA |
| CT583642.2 | 4.728982656 | 0.484328739 | 0.8827058 | 0.5486865 | 0.583221 | NA |
| pimr11 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| CR759968.2 | 3.298002109 | -1.232628963 | 1.060587 | -1.162214 | 0.245149 | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| si:ch211-51i16.1 | 5.491721949 | 1.002514728 | 0.822547 | 1.2187933 | 0.222923 | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| dre-mir-430c-1 | 0 | NA | NA | NA | NA | NA |
| BX323820.1 | 96.40613848 | 0.344957568 | 0.201195 | 1.7145437 | 0.086429 | 0.563483 |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| pimr90 | 0 | NA | NA | NA | NA | NA |
| traj18 | 0 | NA | NA | NA | NA | NA |
| BX936418.1 | 0 | NA | NA | NA | NA | NA |
| dre-mir-430b-10 | 0 | NA | NA | NA | NA | NA |
| LO018238.1 | 0.323844819 | -1.825095364 | 3.274639 | -0.557342 | 0.577293 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00017 | 4.962631592 | 1.72011567 | 0.9708223 | 1.771813 | 0.076426 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| tnfsf14 | 0.978606371 | -3.418616644 | 2.0564823 | -1.662361 | 0.09644 | NA |
| CABZ01050062.1 | 103.6247493 | -0.097396496 | 0.1991771 | -0.488994 | 0.624846 | 0.957354 |
| si:ch211-221n20.4 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX005305.2 | 0.332524763 | 0.005883742 | 3.292841 | 0.0017868 | 0.998574 | NA |
| CR383662.7 | 1.459669549 | 1.801334326 | 1.6829353 | 1.0703527 | 0.284461 | NA |
| BX088713.3 | 0 | NA | NA | NA | NA | NA |
| CABZ01079178.1 | 7.78262937 | 0.536499514 | 0.757137 | 0.7085897 | 0.478579 | NA |
| CABZ01068469.1 | 366.5945818 | -0.152231799 | 0.1155435 | -1.317528 | 0.187662 | 0.752195 |
| RF00001 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| zgc:173552 | 15.06912294 | 0.432504202 | 0.6006723 | 0.7200335 | 0.471504 | 0.924838 |
| CR589947.3 | 2.805695641 | 0.191177633 | 1.1645026 | 0.1641711 | 0.869596 | NA |
| CR848784.3 | 0 | NA | NA | NA | NA | NA |
| dre-mir-430a-4 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.31598276 | 0.005883445 | 3.3523626 | 0.001755 | 0.9986 | NA |
| CU856623.1 | 0.341486697 | 1.892317624 | 3.2124068 | 0.5890654 | 0.555817 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 1.157159828 | -0.479018393 | 1.9216574 | -0.249274 | 0.803149 | NA |
| RF00001 | 0.332645115 | 0.005883744 | 3.2924249 | 0.0017871 | 0.998574 | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| CT033803.1 | 0 | NA | NA | NA | NA | NA |
| si:ch73-27e22.1 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| nitr6b | 0 | NA | NA | NA | NA | NA |
| CR933528.1 | 2.33197282 | -0.83366184 | 1.2522951 | -0.665707 | 0.505598 | NA |
| pimr194 | 0.356300316 | 0.005884122 | 3.214964 | 0.0018302 | 0.99854 | NA |
| zgc:100951 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| CR792437.1 | 0 | NA | NA | NA | NA | NA |
| wu:fi09b08 | 0.681124658 | 1.536768532 | 2.394256 | 0.6418564 | 0.520966 | NA |
| BX548011.2 | 0 | NA | NA | NA | NA | NA |
| zgc:77614 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| znf1104 | 0.808093063 | -0.606086435 | 2.2353763 | -0.271134 | 0.786288 | NA |
| RF00001 | 0.365141898 | 1.973577737 | 3.3927314 | 0.5817076 | 0.560764 | NA |
| cfap100 | 26.97948717 | 0.44814923 | 0.3727088 | 1.2024112 | 0.229204 | 0.796702 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.482760567 | -0.866527181 | 2.7059286 | -0.320233 | 0.748792 | NA |
| CABZ01084501.1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| zgc:165555 | 3.00488766 | 0.312551712 | 1.0953229 | 0.2853512 | 0.775375 | NA |
| AL929334.1 | 68.41991871 | 0.026267448 | 0.2366992 | 0.110974 | 0.911637 | 0.991066 |
| RF00012 | 0 | NA | NA | NA | NA | NA |
| zgc:165555 | 0 | NA | NA | NA | NA | NA |
| BX539332.2 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00015 | 0 | NA | NA | NA | NA | NA |
| BX470259.1 | 87.60327985 | 0.000122689 | 0.21899 | 0.0005603 | 0.999553 | 0.999704 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| dtwd1 | 76.24215693 | 0.437583512 | 0.2265051 | 1.9318923 | 0.053373 | 0.45286 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| CABZ01061498.1 | 8.163570028 | -0.085243422 | 0.7100791 | -0.120048 | 0.904445 | NA |
| si:dkey-16p6.1 | 5.635204618 | 0.168151792 | 0.8037219 | 0.2092164 | 0.834279 | NA |
| traj15 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| CABZ01084081.1 | 0.838778893 | -0.672501496 | 2.3563046 | -0.285405 | 0.775334 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| si:ch211-113a14.19 | 9.547196722 | 0.152896838 | 0.6985786 | 0.2188685 | 0.826752 | NA |
| dre-mir-430a-2 | 0 | NA | NA | NA | NA | NA |
| CABZ01002702.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| F0904980.1 | 4.607716849 | -1.078140962 | 0.945621 | -1.140141 | 0.254228 | NA |
| RF00067 | 1.227857982 | 0.512196292 | 1.8357735 | 0.2790084 | 0.780238 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 1.474923542 | -1.683781257 | 1.8542961 | -0.908043 | 0.363855 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| L0018550.2 | 5.622965251 | 0.712078298 | 0.8334309 | 0.854394 | 0.392887 | NA |
| CABZ01048666.1 | 22.85782107 | -0.389222401 | 0.4194227 | -0.927996 | 0.35341 | 0.881808 |
| RF00276 | 2.16322918 | 0.697500211 | 1.2852221 | 0.5427079 | 0.587331 | NA |
| CABZ01103860.1 | 11.00393337 | 0.187432736 | 0.5731192 | 0.3270397 | 0.743638 | NA |
| zgc:162898 | 38.24385748 | 0.046740161 | 0.3377407 | 0.1383907 | 0.889932 | 0.989291 |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| BX470197.1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| CABZ01043826.1 | 1.504900554 | -1.003731862 | 1.5361977 | -0.653387 | 0.513507 | NA |

| | | | | | | |
|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| mapkapk3 | 112.1675167 | 0.247034695 | 0.1902247 | 1.2986468 | 0.194065 | 0.75784 |
| znf1183 | 62.06937513 | 0.14865588 | 0.2548384 | 0.5833339 | 0.559669 | 0.948478 |
| BX908757.2 | 0 NA | NA | NA | NA | NA | NA |
| zgc:165555 | 13.69015132 | 0.72457825 | 0.5214289 | 1.3896013 | 0.16465 | 0.720786 |
| CU915775.1 | 0.317831496 | 1.808837541 | 3.5779923 | 0.5055454 | 0.613176 | NA |
| RF00012 | 0 NA | NA | NA | NA | NA | NA |
| taar20i | 0.365141898 | 1.973577737 | 3.3927314 | 0.5817076 | 0.560764 | NA |
| wu:fc75a09 | 34.07162627 | -0.697556199 | 0.3313094 | -2.105453 | 0.035252 | 0.365357 |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-19p15.4 | 5.928512942 | 0.530098536 | 0.8377648 | 0.6327534 | 0.526895 | NA |
| FQ377660.1 | 0.838940531 | -0.561526863 | 2.0217856 | -0.277738 | 0.781213 | NA |
| CABZ01040998.1 | 29.08291517 | -0.37188044 | 0.3628335 | -1.024934 | 0.305394 | 0.85982 |
| RF00001 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| CR925720.1 | 0 NA | NA | NA | NA | NA | NA |
| CABZ01085137.1 | 6.294134013 | 0.009445951 | 0.8019483 | 0.0117788 | 0.990602 | NA |
| hist1h2a3 | 7.604848086 | -0.031892597 | 0.7478267 | -0.042647 | 0.965983 | NA |
| CR956623.2 | 0.688986717 | 0.114008068 | 2.399209 | 0.047519 | 0.9621 | NA |
| RF00001 | 0.325573202 | 0.005883621 | 3.3172783 | 0.0017736 | 0.998585 | NA |
| CABZ01081490.1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| BX322657.2 | 75.54156735 | 0.031369645 | 0.2232625 | 0.1405056 | 0.88826 | 0.989291 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| BX324230.2 | 0.524057646 | 2.503896172 | 2.7289583 | 0.9175282 | 0.358866 | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0.339758314 | 0.005883863 | 3.2682461 | 0.0018003 | 0.998564 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| si:ch73-267c23.10 | 13.60649531 | 0.006152313 | 0.5055207 | 0.0121702 | 0.99029 | 0.997679 |
| taar20x | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| BX000981.7 | 0 NA | NA | NA | NA | NA | NA |
| BX322608.1 | 0 NA | NA | NA | NA | NA | NA |
| pimr117 | 0 NA | NA | NA | NA | NA | NA |
| CABZ01002690.1 | 18.00807912 | -0.008385699 | 0.4671171 | -0.017952 | 0.985677 | 0.996944 |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| tnfsf18 | 1.642748653 | 1.188727732 | 1.5296627 | 0.7771176 | 0.437089 | NA |
| CZQB01146713.1 | 0.88633 | -0.542564367 | 2.3109422 | -0.234781 | 0.814379 | NA |
| lbh | 118.6369015 | -0.113737143 | 0.1933199 | -0.588336 | 0.556307 | 0.947902 |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| CABZ01096573.1 | 34.01171693 | 0.032807239 | 0.3545034 | 0.0925442 | 0.926266 | 0.992702 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| CU972454.5 | 4.12668566 | 0.109277836 | 0.9104872 | 0.1200213 | 0.904466 | NA |
| RF00004 | 0 NA | NA | NA | NA | NA | NA |
| CU138548.3 | 0 NA | NA | NA | NA | NA | NA |
| adgr12b.1 | 10.41284405 | -0.515449898 | 0.5951809 | -0.866039 | 0.386469 | NA |
| BOLA2 | 94.53938376 | -0.189828625 | 0.2018758 | -0.940324 | 0.347052 | 0.879707 |
| si:ch211-162i8.5 | 5.161722503 | -0.287522153 | 0.8814761 | -0.326183 | 0.744286 | NA |
| ftr36 | 158.4093958 | -0.090518635 | 0.1647704 | -0.549362 | 0.582757 | 0.952214 |
| CU138548.4 | 0 NA | NA | NA | NA | NA | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |

| | | | | | | |
|-------------------|--------------|---------------|------------|------------|-----------|-----------|
| znf972 | 1. 318275326 | 3. 852130961 | 1. 8593768 | 2. 0717323 | 0. 03829 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| CABZ01059626. 1 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0. 158795395 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| LT631676. 1 | 5. 603577049 | -0. 201196393 | 0. 8790888 | -0. 228869 | 0. 818971 | NA |
| bloc1s5 | 162. 4590589 | -0. 285239498 | 0. 1630383 | -1. 749525 | 0. 0802 | 0. 549641 |
| dre-mir-430a-4 | 0 NA | | NA | NA | NA | NA |
| RF00026 | 0 NA | | NA | NA | NA | NA |
| CR318614. 1 | 0. 482760567 | -0. 866527181 | 2. 7059286 | -0. 320233 | 0. 748792 | NA |
| RF00026 | 0 NA | | NA | NA | NA | NA |
| zgc:165555 | 38. 20670355 | 0. 179612348 | 0. 369511 | 0. 4860812 | 0. 62691 | 0. 957354 |
| CT030017. 1 | 0. 475018861 | 0. 853207185 | 2. 8976509 | 0. 2944479 | 0. 768416 | NA |
| BX530407. 6 | 0. 538871265 | 0. 999144257 | 2. 7784799 | 0. 359601 | 0. 719146 | NA |
| ccdc62 | 40. 42865357 | 0. 161328255 | 0. 30563 | 0. 5278548 | 0. 5976 | 0. 95534 |
| igl3v4 | 0. 635662991 | 2. 808056561 | 2. 7492814 | 1. 0213784 | 0. 307075 | NA |
| RF00003 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| pimr152 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0. 325573202 | 0. 005883621 | 3. 3172783 | 0. 0017736 | 0. 998585 | NA |
| BX681417. 6 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00026 | 0 NA | | NA | NA | NA | NA |
| CR388195. 1 | 0. 182570949 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| F0393424. 3 | 0 NA | | NA | NA | NA | NA |
| trappc21 | 245. 3286854 | -0. 158373929 | 0. 1533634 | -1. 032671 | 0. 301758 | 0. 856944 |
| BX511067. 1 | 0 NA | | NA | NA | NA | NA |
| BX571665. 1 | 0 NA | | NA | NA | NA | NA |
| zgc:194418 | 0 NA | | NA | NA | NA | NA |
| BX323461. 1 | 1. 33883482 | 1. 656278454 | 1. 8742517 | 0. 8837012 | 0. 376858 | NA |
| RF00137 | 0. 166657454 | -0. 955901296 | 4. 0804729 | -0. 234262 | 0. 814781 | NA |
| CR855311. 5 | 10. 50136257 | 0. 009409697 | 0. 6021517 | 0. 0156268 | 0. 987532 | NA |
| CABZ01050238. 1 | 1. 300513096 | 1. 583274097 | 1. 7585478 | 0. 9003304 | 0. 367944 | NA |
| znf1011 | 0. 681245011 | 1. 537021632 | 2. 3941387 | 0. 6419936 | 0. 520877 | NA |
| CABZ01080599. 1 | 4. 206258928 | -1. 338204945 | 1. 0032685 | -1. 333845 | 0. 182255 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| timp4. 1 | 18. 44293126 | 0. 168566121 | 0. 4701608 | 0. 3585286 | 0. 719948 | 0. 969318 |
| pimr176 | 0. 475018861 | 0. 853207185 | 2. 8976509 | 0. 2944479 | 0. 768416 | NA |
| RF00001 | 0. 158915748 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| dre-mir-2185-1 | 0 NA | | NA | NA | NA | NA |
| lhfp14a | 20. 67032445 | -0. 152089413 | 0. 4910197 | -0. 309742 | 0. 756757 | 0. 975374 |
| RF01848 | 0 NA | | NA | NA | NA | NA |
| RF00020 | 0 NA | | NA | NA | NA | NA |
| CABZ01053748. 1 | 0. 182570949 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| RF00001 | 0. 317831496 | 1. 808837541 | 3. 5779923 | 0. 5055454 | 0. 613176 | NA |
| pimr98 | 0 NA | | NA | NA | NA | NA |
| si:dkey-199m13. 7 | 3. 472002181 | -0. 450485393 | 1. 0627145 | -0. 423901 | 0. 671638 | NA |
| zgc:174354 | 0. 157187365 | -0. 955901296 | 4. 0804729 | -0. 234262 | 0. 814781 | NA |
| rcvrnb | 62. 21785032 | 0. 456374873 | 0. 2531975 | 1. 802446 | 0. 071475 | 0. 522931 |
| RF00026 | 0 NA | | NA | NA | NA | NA |
| CR407594. 1 | 0. 996127896 | -0. 965496869 | 1. 8966759 | -0. 509047 | 0. 610719 | NA |
| CABZ01046996. 1 | 1. 482224875 | 0. 310728574 | 1. 5024135 | 0. 2068196 | 0. 836151 | NA |
| BX511311. 4 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| trhde. 2 | 148. 923821 | 0. 23484485 | 0. 1802343 | 1. 3029976 | 0. 192576 | 0. 756795 |

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|------------------|-------------|--------------|-----------|-----------|----------|----------|
| cxcl18a.1 | 9.252327721 | -0.075823912 | 0.6422221 | -0.118065 | 0.906016 | NA |
| BX511056.3 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 25.23441055 | 0.112608265 | 0.3813282 | 0.2953054 | 0.767761 | 0.975687 |
| si:ch211-225k7.2 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| BX571738.1 | 2.695148885 | 0.771142461 | 1.1619549 | 0.6636595 | 0.506908 | NA |
| BX649490.4 | 4.886059806 | -1.083857972 | 1.0101954 | -1.072919 | 0.283307 | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| taar20n | 0 | NA | NA | NA | NA | NA |
| exorh | 79.86071562 | 0.441660256 | 0.2321524 | 1.9024587 | 0.057111 | 0.468896 |
| BX927341.1 | 0 | NA | NA | NA | NA | NA |
| CR450785.2 | 0.513487682 | -0.887846295 | 2.6557956 | -0.334305 | 0.738149 | NA |
| bcl7ba | 218.9511578 | 0.110718404 | 0.1450517 | 0.7633032 | 0.445283 | 0.917117 |
| si:ch211-194m7.4 | 2.144446142 | -1.212961122 | 1.4194549 | -0.854526 | 0.392814 | NA |
| RF00001 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| CR450827.5 | 0 | NA | NA | NA | NA | NA |
| pimr106 | 0 | NA | NA | NA | NA | NA |
| BX649471.2 | 0 | NA | NA | NA | NA | NA |
| zgc:171435 | 70.11926236 | 0.010808923 | 0.2573049 | 0.0420082 | 0.966492 | 0.996315 |
| taar20c1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00002 | 74.35823289 | 0.741207053 | 0.2667187 | 2.778984 | 0.005453 | 0.109579 |
| RF00020 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.672283077 | 0.02892376 | 2.3005571 | 0.0125725 | 0.989969 | NA |
| CR932017.1 | 0 | NA | NA | NA | NA | NA |
| cplx2 | 1503.661263 | 0.080582507 | 0.0850162 | 0.9478485 | 0.343207 | 0.878434 |
| RF00001 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| CU694445.1 | 2.41729763 | -1.996278774 | 1.3784004 | -1.448258 | 0.147545 | NA |
| zgc:112234 | 42.02000388 | 0.182854111 | 0.3116731 | 0.5866856 | 0.557415 | 0.948478 |
| BX769173.2 | 9.241416786 | -0.958087296 | 0.628259 | -1.524988 | 0.127262 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| atf4a | 5501.061229 | -0.144904303 | 0.0663185 | -2.184974 | 0.028891 | 0.329785 |
| sptbn4b | 61.84165827 | -0.076464335 | 0.2614898 | -0.292418 | 0.769967 | 0.975687 |
| dre-mir-430a-11 | 0 | NA | NA | NA | NA | NA |
| CU928071.1 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CABZ01069040.1 | 25.20087737 | 0.389494741 | 0.3790027 | 1.0276832 | 0.304099 | 0.858423 |
| BX649315.1 | 0.547712847 | 2.559541715 | 2.9076406 | 0.8802813 | 0.378707 | NA |
| BX005442.2 | 0 | NA | NA | NA | NA | NA |
| CT027583.1 | 1.195402485 | -0.299708368 | 1.9014202 | -0.157623 | 0.874754 | NA |
| AL929435.2 | 4.091322838 | -0.822116232 | 0.9643988 | -0.852465 | 0.393956 | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| si:dkeyp-44b5.4 | 0.332645115 | 0.005883744 | 3.2924249 | 0.0017871 | 0.998574 | NA |
| zgc:171759 | 19.33946961 | 0.392997152 | 0.4825435 | 0.8144285 | 0.4154 | 0.906237 |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| FQ377628.1 | 9.325348269 | -0.715617471 | 0.6339735 | -1.128781 | 0.25899 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| dre-mir-430a-2 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| gjd1a | 530.8282026 | 0.131808192 | 0.1012272 | 1.3021019 | 0.192882 | 0.756795 |
| CR394552.1 | 10.2587681 | -0.19880306 | 1.3609173 | -0.14608 | 0.883858 | NA |
| L0018585.1 | 26.823404 | 0.726728388 | 0.3744967 | 1.9405469 | 0.052313 | 0.449084 |
| sb:cb470 | 0.671303554 | -2.865684129 | 2.3396875 | -1.224815 | 0.220645 | NA |
| taarl6g | 0 NA | NA | NA | NA | NA | NA |
| npffr1 | 30.28308726 | -0.33526863 | 0.3454752 | -0.970456 | 0.331819 | 0.874653 |
| znf1099 | 3.762601357 | -0.6769597 | 1.039792 | -0.651053 | 0.515012 | NA |
| NUP85 (1 of many) | 152.7661088 | -0.15548823 | 0.1718633 | -0.90472 | 0.365614 | 0.887073 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-181m19.17 | 0.83198897 | -0.546504737 | 2.1106392 | -0.258929 | 0.79569 | NA |
| CR387935.1 | 2.145828008 | -0.204385529 | 1.2594206 | -0.162285 | 0.871081 | NA |
| CR381686.5 | 23.6637999 | 0.263540813 | 0.4090298 | 0.6443071 | 0.519376 | 0.938945 |
| taarl3b | 9.264862276 | -0.206654078 | 0.6107811 | -0.338344 | 0.735104 | NA |
| CABZ01065423.1 | 8.125881309 | 0.282931671 | 0.7110576 | 0.3979026 | 0.690702 | NA |
| si:dkey-4c23.4 | 0.48448895 | 0.85344211 | 2.878836 | 0.2964539 | 0.766883 | NA |
| L0017821.1 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-76m11.3 | 5.185649651 | 0.314619795 | 0.8442548 | 0.3726598 | 0.709402 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| CU929418.2 | 36.40448321 | -0.067374547 | 0.3190137 | -0.211196 | 0.832734 | 0.983557 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| L0017711.1 | 40.77379523 | 0.520887075 | 0.2993872 | 1.7398441 | 0.081886 | 0.552725 |
| CABZ01062996.1 | 2.068757557 | 2.420409238 | 1.678714 | 1.4418235 | 0.149352 | NA |
| CR774179.5 | 5.131502548 | -1.314793215 | 0.8898563 | -1.477534 | 0.139532 | NA |
| RF00012 | 0 NA | NA | NA | NA | NA | NA |
| znf1091 | 4.832496371 | 0.120181524 | 0.8721614 | 0.1377973 | 0.890401 | NA |
| AXL | 253.1831149 | 0.073760418 | 0.1514386 | 0.4870649 | 0.626212 | 0.957354 |
| CT583728.13 | 0 NA | NA | NA | NA | NA | NA |
| RF00026 | 1.647584029 | 1.236502647 | 1.5155869 | 0.8158573 | 0.414582 | NA |
| c1dn15a | 240.7503308 | -0.90858764 | 0.154141 | -5.894524 | 3.76E-09 | 6.88E-07 |
| F0907124.1 | 0.855482533 | -0.59192753 | 2.095231 | -0.282512 | 0.777551 | NA |
| CABZ01066921.1 | 8.347740133 | 0.457697021 | 0.6897693 | 0.6635509 | 0.506978 | NA |
| RF00015 | 0 NA | NA | NA | NA | NA | NA |
| CT737127.1 | 11.52771244 | 0.66800534 | 0.5709638 | 1.169961 | 0.242017 | 0.810713 |
| CU179759.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| CR361551.2 | 7.178529452 | -0.75998396 | 0.7122036 | -1.067088 | 0.285932 | NA |
| BX510335.2 | 0 NA | NA | NA | NA | NA | NA |
| CABZ01046407.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| znf1121 | 4.987165207 | 0.023824411 | 0.8428933 | 0.028265 | 0.977451 | NA |
| RF00001 | 10.59287855 | 0.471005825 | 0.6156884 | 0.7650069 | 0.444267 | NA |
| CABZ01043953.1 | 36.12646629 | -0.168517381 | 0.3337118 | -0.504979 | 0.613574 | 0.95688 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-59p5.1 | 0 NA | NA | NA | NA | NA | NA |
| ube213a | 819.6983422 | 0.081159482 | 0.0934832 | 0.8681723 | 0.3853 | 0.89551 |
| AL935174.2 | 160.3456271 | -0.040369537 | 0.1613521 | -0.250195 | 0.802436 | 0.979528 |
| neto2b | 111.5248568 | -0.067787607 | 0.1948959 | -0.347814 | 0.72798 | 0.970402 |
| RF00001 | 4.398143996 | -0.150198626 | 0.9707899 | -0.154718 | 0.877044 | NA |
| si:dkey-16p19.1 | 1.339342975 | 0.752240637 | 1.5961401 | 0.4712874 | 0.637436 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| pimr166 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-58b18.5 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |

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|------------------|-------------|--------------|-----------|-----------|----------|----------|--|----|--|----|
| FP236331.1 | | 0 NA | | NA | | NA | | NA | | NA |
| znf995 | 3.047133266 | -0.599001039 | 1.1146361 | -0.537396 | 0.590994 | NA | | | | |
| RF00001 | 1.79153481 | -2.121951289 | 1.6038116 | -1.323068 | 0.185813 | NA | | | | |
| zgc:173552 | 7.124998347 | 0.472915317 | 0.7964812 | 0.5937558 | 0.552675 | NA | | | | |
| BX470182.1 | 0.650476611 | 1.436325931 | 2.5890223 | 0.5547754 | 0.579048 | NA | | | | |
| CABZ01079748.1 | 12.99916765 | -0.414656186 | 0.5828834 | -0.711388 | 0.476844 | 0.926826 | | | | |
| znf1169 | 26.01126805 | -0.158318542 | 0.4050911 | -0.390822 | 0.695929 | 0.96736 | | | | |
| znf1174 | 44.40509815 | 0.154133012 | 0.305484 | 0.5045534 | 0.613873 | 0.95688 | | | | |
| RF00001 | | 0 NA | | NA | | NA | | | | |
| RF00001 | | 0 NA | | NA | | NA | | | | |
| RF00001 | | 0 NA | | NA | | NA | | | | |
| CR522881.1 | 2.61652089 | -0.301733003 | 1.3199504 | -0.228594 | 0.819184 | NA | | | | |
| RF00026 | | 0 NA | | NA | | NA | | | | |
| CU914811.1 | 0.690594747 | 1.536595024 | 2.3851901 | 0.6442233 | 0.519431 | NA | | | | |
| BX537291.1 | 1.665654994 | 2.026647392 | 1.623649 | 1.2482054 | 0.211956 | NA | | | | |
| rabepk | 95.10210105 | -0.101390611 | 0.2128018 | -0.476456 | 0.63375 | 0.957737 | | | | |
| RF00003 | | 0 NA | | NA | | NA | | | | |
| RF00001 | | 0 NA | | NA | | NA | | | | |
| klh110b.2 | 2.807493047 | 1.718795558 | 1.2196335 | 1.4092722 | 0.158755 | NA | | | | |
| si:dkey-149i17.9 | 0.347458735 | -1.908042286 | 3.4571486 | -0.551912 | 0.581009 | NA | | | | |
| zgc:173552 | 16.1020907 | 0.570954201 | 0.4999283 | 1.1420721 | 0.253424 | 0.823246 | | | | |
| BX537120.2 | 1.037424974 | 1.067088564 | 1.9721499 | 0.5410788 | 0.588453 | NA | | | | |
| RF00003 | | 0 NA | | NA | | NA | | | | |
| pimr154 | | 0 NA | | NA | | NA | | | | |
| RF00001 | 0.538871265 | 0.999144257 | 2.7784799 | 0.359601 | 0.719146 | NA | | | | |
| RF00001 | | 0 NA | | NA | | NA | | | | |
| RF00001 | 1.140109671 | 0.438235627 | 1.7543529 | 0.249799 | 0.802743 | NA | | | | |
| RF00001 | | 0 NA | | NA | | NA | | | | |
| si:dkey-31m5.2 | | 0 NA | | NA | | NA | | | | |
| RF00026 | | 0 NA | | NA | | NA | | | | |
| pimr147 | | 0 NA | | NA | | NA | | | | |
| RF00334 | | 0 NA | | NA | | NA | | | | |
| BX323801.2 | | 0 NA | | NA | | NA | | | | |
| RF00017 | | 0 NA | | NA | | NA | | | | |
| RF00001 | 0.349228403 | 0.005884014 | 3.2372587 | 0.0018176 | 0.99855 | NA | | | | |
| BX005321.1 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA | | | | |
| RF00001 | | 0 NA | | NA | | NA | | | | |
| SHISAL2A | 1.972057356 | -0.013639503 | 1.3052274 | -0.01045 | 0.991662 | NA | | | | |
| RF01848 | | 0 NA | | NA | | NA | | | | |
| RF00001 | 0.341486697 | 1.892317624 | 3.2124068 | 0.5890654 | 0.555817 | NA | | | | |
| RF00017 | 3.143402296 | -0.163384804 | 1.0518137 | -0.155336 | 0.876556 | NA | | | | |
| RF00001 | 0.330916733 | -1.849579229 | 3.2489867 | -0.569279 | 0.569167 | NA | | | | |
| RF00001 | | 0 NA | | NA | | NA | | | | |
| endouc | 1098.055381 | 0.041397273 | 0.0877257 | 0.4718942 | 0.637002 | 0.958872 | | | | |
| RF00001 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA | | | | |
| RF00001 | | 0 NA | | NA | | NA | | | | |
| CT573817.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA | | | | |
| BX248136.1 | 2.519419188 | -0.595573162 | 1.2058478 | -0.493904 | 0.621374 | NA | | | | |
| rpp25b | 160.0382227 | -0.069319232 | 0.1769975 | -0.39164 | 0.695325 | 0.96736 | | | | |
| CABZ01067002.1 | 1.330381041 | -0.013681077 | 1.5829989 | -0.008643 | 0.993104 | NA | | | | |
| RF00001 | | 0 NA | | NA | | NA | | | | |
| CABZ01022569.1 | | 0 NA | | NA | | NA | | | | |
| RF00001 | | 0 NA | | NA | | NA | | | | |
| AL935186.6 | 9.352986928 | 0.396026186 | 0.6820912 | 0.5806059 | 0.561506 | NA | | | | |

| | | | | | | |
|------------------|-------------|--------------|-----------|-----------|----------|----------|
| RF00001 | 0 | NA | NA | NA | NA | NA |
| zgc:66156 | 449.3538214 | -0.038710644 | 0.1235755 | -0.313255 | 0.754087 | 0.975056 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| thsd1 | 0 | NA | NA | NA | NA | NA |
| CT583728.14 | 0 | NA | NA | NA | NA | NA |
| dre-mir-430b-10 | 0 | NA | NA | NA | NA | NA |
| CU570881.2 | 98.52440099 | 0.001036231 | 0.2133605 | 0.0048567 | 0.996125 | 0.998888 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| BX537263.2 | 2.219460231 | 1.199206597 | 1.3211151 | 0.9077231 | 0.364025 | NA |
| CABZ01084617.1 | 22.48337713 | -0.057551896 | 0.4166793 | -0.13812 | 0.890145 | 0.989291 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00017 | 0 | NA | NA | NA | NA | NA |
| RF00006 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| CU179759.2 | 0.349228403 | 0.005884014 | 3.2372587 | 0.0018176 | 0.99855 | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 2.461700459 | -1.489031409 | 1.3447378 | -1.107302 | 0.268163 | NA |
| mindy4b | 56.82168751 | -0.228188207 | 0.2567899 | -0.888618 | 0.374208 | 0.893914 |
| RF00001 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| CABZ01046980.1 | 8.709758738 | 0.053876422 | 0.6349567 | 0.0848505 | 0.93238 | NA |
| LO018437.1 | 4.966017248 | 0.566812589 | 0.8933143 | 0.6345053 | 0.525751 | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| CABZ01015105.1 | 37.13425773 | 0.311467172 | 0.3138287 | 0.9924752 | 0.320966 | 0.868715 |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| BX649641.6 | 0 | NA | NA | NA | NA | NA |
| si:dkey-102c8.2 | 4.243235696 | 0.01415039 | 0.9653876 | 0.0146577 | 0.988305 | NA |
| zgc:174353 | 0 | NA | NA | NA | NA | NA |
| si:dkey-179k24.2 | 0.50625413 | -0.940106488 | 2.8357787 | -0.331516 | 0.740255 | NA |
| FQ377918.1 | 4.927503887 | -0.040869325 | 0.8856726 | -0.046145 | 0.963195 | NA |
| taar20o | 0 | NA | NA | NA | NA | NA |
| RF00017 | 0.987286314 | -2.211408174 | 2.0055936 | -1.10262 | 0.270192 | NA |
| CR762436.1 | 5.059270728 | 0.40690952 | 0.8809686 | 0.4618888 | 0.644161 | NA |
| BX324194.2 | 0.317831496 | 1.808837541 | 3.5779923 | 0.5055454 | 0.613176 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:ch73-236c18.2 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00017 | 0.657977612 | -0.062339112 | 2.4345873 | -0.025606 | 0.979572 | NA |
| BX664705.3 | 0 | NA | NA | NA | NA | NA |
| taar19c | 0 | NA | NA | NA | NA | NA |
| BX511013.1 | 0 | NA | NA | NA | NA | NA |
| zgc:77614 | 0 | NA | NA | NA | NA | NA |
| CT583728.15 | 0 | NA | NA | NA | NA | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| FP003590.2 | 4.388554549 | 0.72980949 | 0.9767193 | 0.7472049 | 0.45494 | NA |
| RF00017 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| si:ch211-62a1.3 | 1142.733007 | -0.217034066 | 0.0859365 | -2.525516 | 0.011553 | 0.188176 |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| BX908757.3 | 0 | NA | NA | NA | NA | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| AL808129.2 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00003 | 0.317831496 | 1.808837541 | 3.5779923 | 0.5055454 | 0.613176 | NA |
| LO018598.1 | 47.78927803 | -0.118514687 | 0.3212537 | -0.368913 | 0.712193 | 0.969006 |
| F0818699.1 | 5.97849551 | -0.175322943 | 0.7833382 | -0.223815 | 0.822901 | NA |
| CR769778.1 | 552.6111344 | 0.022124535 | 0.1066306 | 0.2074876 | 0.835629 | 0.984089 |
| CABZ01092982.1 | 22.82758752 | 0.171963523 | 0.3955786 | 0.434714 | 0.66377 | 0.964736 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| zgc:174354 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |
| BX248122.1 | 53.83446576 | 0.03895177 | 0.2682097 | 0.1452288 | 0.88453 | 0.98879 |
| si:ch211-238e22.2 | 6.420611836 | -0.954290648 | 0.8056919 | -1.184436 | 0.23624 | NA |
| F0834823.1 | 19.20141253 | 0.214647363 | 0.444789 | 0.4825824 | 0.629392 | 0.957354 |
| crebbpb | 1691.003984 | 0.011995534 | 0.0884038 | 0.1356902 | 0.892066 | 0.989291 |
| F0818722.1 | 4.829427407 | -0.482467541 | 0.8546033 | -0.564551 | 0.572379 | NA |
| F0744833.2 | 29.12008536 | -0.218380745 | 0.3770963 | -0.579111 | 0.562514 | 0.948728 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| CR848049.1 | 0.339758314 | 0.005883863 | 3.2682461 | 0.0018003 | 0.998564 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| BX572103.1 | 2.129983538 | 0.69036231 | 1.3142718 | 0.5252812 | 0.599388 | NA |
| CU927887.1 | 0 NA | NA | NA | NA | NA | NA |
| surf2 | 133.1464139 | -0.115896676 | 0.1771117 | -0.65437 | 0.512873 | 0.936253 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| rnf168 | 334.4995771 | -0.069228238 | 0.1230334 | -0.562678 | 0.573654 | 0.949904 |
| CR450780.1 | 12.08682596 | -0.675098964 | 0.554276 | -1.217983 | 0.22323 | 0.789115 |
| RF00001 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| CU855936.2 | 72.2203779 | -0.30802402 | 0.2427227 | -1.269037 | 0.204428 | 0.772327 |
| zgc:165555 | 4.803794912 | 1.635907081 | 0.9727366 | 1.6817576 | 0.092616 | NA |
| BX088712.1 | 7.414459619 | 0.562072899 | 0.7109801 | 0.7905607 | 0.4292 | NA |
| mmp21 | 2.149954567 | 0.226479605 | 1.3449599 | 0.1683913 | 0.866275 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| dre-mir-430a-2 | 0 NA | NA | NA | NA | NA | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| CABZ01087629.1 | 108.3304461 | -0.156379965 | 0.1919087 | -0.814866 | 0.415149 | 0.906237 |
| CABZ01114581.1 | 2.486173545 | -0.607687447 | 1.1882682 | -0.511406 | 0.609067 | NA |
| FP325130.1 | 334.4775583 | -0.312047709 | 0.130206 | -2.39657 | 0.016549 | 0.237307 |
| zgc:165555 | 7.138313004 | 0.590410306 | 0.7747592 | 0.7620566 | 0.446026 | NA |
| RF00001 | 86.34447511 | 0.315623182 | 0.2238147 | 1.4101987 | 0.158481 | 0.709224 |
| RF00392 | 1.008426242 | 2.234978276 | 1.9960971 | 1.1196742 | 0.262853 | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| cst14b.2 | 0.325573202 | 0.005883621 | 3.3172783 | 0.0017736 | 0.998585 | NA |
| znf1093 | 12.4177704 | 0.379610268 | 0.5884893 | 0.6450589 | 0.518889 | 0.938919 |
| ftr50 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| CR352223.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF01848 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-108k21.11 | 2.672751942 | 0.078425227 | 1.2678541 | 0.0618567 | 0.950677 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |

| | | | | | | |
|--------------------|--------------|---------------|------------|------------|-----------|-----------|
| v2ra18 | 3. 969755701 | 0. 733796862 | 1. 0608495 | 0. 6917068 | 0. 489121 | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| BX321875. 3 | 6. 673206771 | 0. 586378166 | 0. 7284575 | 0. 8049586 | 0. 420844 | NA |
| CR293507. 1 | 104. 5619753 | 0. 176498371 | 0. 203949 | 0. 8654045 | 0. 386817 | 0. 89551 |
| CU467905. 1 | 96. 88416978 | -0. 475389393 | 0. 2155901 | -2. 205061 | 0. 02745 | 0. 320231 |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| cmssl | 121. 1786195 | -0. 000135398 | 0. 1852985 | -0. 000731 | 0. 999417 | 0. 999704 |
| RF00591 | 0 NA | NA | NA | NA | NA | NA |
| TMEM87B | 17. 48616349 | -0. 190701218 | 0. 4507131 | -0. 42311 | 0. 672215 | 0. 965257 |
| RF00001 | 11. 19943009 | 0. 399121633 | 0. 6092869 | 0. 6550636 | 0. 512427 | 0. 936253 |
| si:ch211-283116. 1 | 0. 948188986 | 0. 012505608 | 2. 084136 | 0. 0060004 | 0. 995212 | NA |
| si:ch211-199m3. 1 | 0. 62874946 | -2. 787682787 | 2. 7593918 | -1. 010253 | 0. 312374 | NA |
| histlh2a3 | 6. 869643058 | 0. 670860971 | 0. 7777907 | 0. 8625212 | 0. 388401 | NA |
| BX511311. 5 | 0 NA | NA | NA | NA | NA | NA |
| BX510335. 3 | 0 NA | NA | NA | NA | NA | NA |
| BX000981. 8 | 0 NA | NA | NA | NA | NA | NA |
| F0704673. 1 | 1. 144594032 | -2. 465288488 | 1. 9220008 | -1. 282668 | 0. 199608 | NA |
| pimr15 | 0 NA | NA | NA | NA | NA | NA |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0. 166657454 | -0. 955901296 | 4. 0804729 | -0. 234262 | 0. 814781 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-238p8. 35 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0. 967947048 | 2. 173210408 | 2. 1170557 | 1. 0265249 | 0. 304644 | NA |
| si:ch211-106j21. 6 | 6. 249848034 | -0. 167443652 | 0. 7896776 | -0. 212041 | 0. 832075 | NA |
| BX681416. 2 | 0. 524057646 | 2. 503896172 | 2. 7289583 | 0. 9175282 | 0. 358866 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| F0744854. 1 | 66. 3968195 | 0. 193649428 | 0. 2591582 | 0. 7472248 | 0. 454928 | 0. 921022 |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| BX649423. 1 | 0 NA | NA | NA | NA | NA | NA |
| CU459056. 1 | 423. 0701372 | 0. 096185707 | 0. 1096939 | 0. 8768556 | 0. 380565 | 0. 895192 |
| si:dkey-108k21. 24 | 16. 31793329 | 0. 259118935 | 0. 4962217 | 0. 5221838 | 0. 601542 | 0. 956045 |
| si:dkeyp-82b4. 2 | 0. 332524763 | 0. 005883742 | 3. 292841 | 0. 0017868 | 0. 998574 | NA |
| RF00020 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-23f9. 8 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| tp53rk | 187. 5916481 | 0. 141235121 | 0. 1549452 | 0. 9115167 | 0. 362023 | 0. 885944 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| taar19m | 0 NA | NA | NA | NA | NA | NA |
| smim20 | 158. 11488 | 0. 068187938 | 0. 1797593 | 0. 379329 | 0. 704444 | 0. 968134 |
| RF00001 | 0. 158795395 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| AL954682. 1 | 475. 920046 | 0. 416355523 | 0. 1147847 | 3. 6272724 | 0. 000286 | 0. 011419 |
| CABZ01068208. 1 | 4. 463351523 | 0. 556155727 | 1. 0368873 | 0. 5363705 | 0. 591703 | NA |
| CT033790. 1 | 0. 182570949 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| BX649279. 1 | 0. 182570949 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| CR931802. 4 | 146. 9395765 | 0. 094907155 | 0. 1658215 | 0. 5723452 | 0. 567088 | 0. 948739 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| st7 | 147.235233 | -0.3687398 | 0.185667 | -1.986028 | 0.04703 | 0.425619 |
| RF00001 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CR556713.1 | 0 NA | NA | NA | NA | NA | NA |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| taarl8g | 0 NA | NA | NA | NA | NA | NA |
| BX537263.3 | 25.29269021 | 0.985927475 | 0.4997833 | 1.9727098 | 0.048529 | 0.433449 |
| CU013534.1 | 0.330916733 | -1.849579229 | 3.2489867 | -0.569279 | 0.569167 | NA |
| CR450827.6 | 0 NA | NA | NA | NA | NA | NA |
| pimr152 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| zgc:77614 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-58b18.5 | 0 NA | NA | NA | NA | NA | NA |
| RF00017 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:dkey-4j21.2 | 0 NA | NA | NA | NA | NA | NA |
| L0018508.1 | 8.995346461 | -0.292158215 | 0.7257484 | -0.402561 | 0.687271 | NA |
| si:dkey-22h13.2 | 13.6500121 | 0.885240055 | 0.5442457 | 1.6265449 | 0.103834 | 0.610348 |
| KLHL12 | 161.1088674 | 0.09836603 | 0.1797452 | 0.5472527 | 0.584205 | 0.952277 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| CR847970.1 | 8.191293998 | 0.808708209 | 0.7408984 | 1.0915237 | 0.275042 | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-58b18.6 | 0.682973393 | 2.892694129 | 2.4661364 | 1.172966 | 0.240809 | NA |
| FP015810.1 | 98.19244274 | 0.089680044 | 0.2164649 | 0.4142936 | 0.678659 | 0.965257 |
| si:ch211-165a10.5 | 0 NA | NA | NA | NA | NA | NA |
| BX511129.2 | 59.8455229 | 0.009811191 | 0.2514831 | 0.0390133 | 0.96888 | 0.996315 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| BX681417.7 | 0 NA | NA | NA | NA | NA | NA |
| CR394546.4 | 4.815428416 | -0.696695048 | 0.9469829 | -0.7357 | 0.461913 | NA |
| CU468896.1 | 1.029332253 | -1.013131007 | 1.9737904 | -0.513292 | 0.607747 | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-122124.6 | 0.339758314 | 0.005883863 | 3.2682461 | 0.0018003 | 0.998564 | NA |
| L0017951.1 | 222.6161782 | 0.127708695 | 0.1496557 | 0.8533498 | 0.393465 | 0.898076 |
| CR381647.3 | 316.4128736 | -0.024776508 | 0.1280045 | -0.19356 | 0.846521 | 0.985174 |
| BX664750.4 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| pimr95 | 0 NA | NA | NA | NA | NA | NA |
| pimr152 | 0 NA | NA | NA | NA | NA | NA |
| CT583728.16 | 0 NA | NA | NA | NA | NA | NA |
| taarl3c | 0 NA | NA | NA | NA | NA | NA |
| CU695011.1 | 0 NA | NA | NA | NA | NA | NA |
| dre-mir-430b-18 | 0 NA | NA | NA | NA | NA | NA |
| RF00012 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0.476506538 | 2.394892832 | 2.8161716 | 0.8504073 | 0.395099 | NA |
| AL928875.1 | 0.817013712 | 0.525058354 | 2.1207741 | 0.2475786 | 0.80446 | NA |
| CZQB01141835.1 | 331.7815658 | 0.039931737 | 0.1224621 | 0.3260742 | 0.744368 | 0.974094 |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |

| | | | | | | |
|-----------------|-------------|--------------|-----------|-----------|----------|----------|
| RF00001 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |
| RF00001 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00026 | 0 NA | | NA | NA | NA | NA |
| CABZ01058107.1 | 0.69605863 | 0.094390757 | 2.3912825 | 0.0394729 | 0.968513 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| znf1116 | 6.508919753 | 0.235687322 | 0.7667531 | 0.3073836 | 0.758551 | NA |
| RF00020 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00017 | 0 NA | | NA | NA | NA | NA |
| BX005424.1 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| histlh2a10 | 7.118826888 | 0.784727868 | 0.9062164 | 0.8659387 | 0.386524 | NA |
| si:dkey-61f9.1 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| BX908796.3 | 0.316103113 | 0.005883447 | 3.3519121 | 0.0017553 | 0.9986 | NA |
| si:dkey-65b13.8 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| BX323083.3 | 0 NA | | NA | NA | NA | NA |
| CT033790.2 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00015 | 0.698456806 | 0.09172817 | 2.5265115 | 0.0363063 | 0.971038 | NA |
| RASSF10 | 121.3501334 | -0.236304114 | 0.1834858 | -1.28786 | 0.197795 | 0.76301 |
| RF00026 | 0 NA | | NA | NA | NA | NA |
| RASSF4 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| BX681417.8 | 0 NA | | NA | NA | NA | NA |
| CABZ01073424.2 | 67.09673732 | 0.543696778 | 0.2466979 | 2.203897 | 0.027532 | 0.320429 |
| CABZ01021599.1 | 9.479669594 | -1.071168878 | 0.6747198 | -1.587576 | 0.112382 | NA |
| RF00003 | 0 NA | | NA | NA | NA | NA |
| si:dkey-23f9.11 | 0 NA | | NA | NA | NA | NA |
| znf1067 | 25.8431944 | 0.255808962 | 0.4017846 | 0.6366818 | 0.524332 | 0.939399 |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| znf1101 | 7.084142812 | -0.31964852 | 0.7256706 | -0.440487 | 0.659584 | NA |
| CT030005.3 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| rab38b | 17.1154656 | -0.27268162 | 0.470861 | -0.579113 | 0.562513 | 0.948728 |
| CT027598.1 | 0.330916733 | -1.849579229 | 3.2489867 | -0.569279 | 0.569167 | NA |
| F0834857.1 | 7.029091699 | 0.342113743 | 0.7411945 | 0.4615708 | 0.644389 | NA |
| BX000981.9 | 0 NA | | NA | NA | NA | NA |
| st3ga12 | 88.08249298 | 0.079083164 | 0.2122002 | 0.3726818 | 0.709385 | 0.968809 |
| RF00001 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00026 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00026 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00017 | 0 NA | | NA | NA | NA | NA |
| ZNF462 | 60.60606998 | 0.265339387 | 0.2754927 | 0.963145 | 0.335475 | 0.876088 |
| RF00001 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| BX927362.2 | 2.756804948 | 0.855360153 | 1.162591 | 0.7357361 | 0.461891 | NA |
| PQLC1 | 15.3999937 | -0.39475139 | 0.5128568 | -0.769711 | 0.441471 | 0.916336 |
| CABZ01088036.1 | 9.068749264 | -0.264363552 | 0.6503003 | -0.406525 | 0.684357 | NA |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| CR450780.2 | 3.702953408 | -0.498268928 | 0.9995409 | -0.498498 | 0.618133 | NA |
| CT737184.2 | 25.14281427 | -0.089415491 | 0.3847542 | -0.232396 | 0.81623 | 0.981594 |
| ndufaf3 | 547.1582347 | -0.14651807 | 0.1261847 | -1.16114 | 0.245585 | 0.815431 |
| taar20b1 | 0.547712847 | 2.559541715 | 2.9076406 | 0.8802813 | 0.378707 | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| CT573263.1 | 0.814536469 | 0.637862482 | 2.230678 | 0.28595 | 0.774916 | NA |
| pimr174 | 1.32237089 | -1.549165965 | 1.8087987 | -0.856461 | 0.391743 | NA |
| BX908770.1 | 11.80113444 | -0.023821463 | 0.5551049 | -0.042913 | 0.965771 | 0.996315 |
| adgre5b.3 | 127.3084312 | -0.160017031 | 0.1893684 | -0.845004 | 0.398109 | 0.899783 |
| L0018564.1 | 58.95654344 | 0.322797751 | 0.2564787 | 1.2585755 | 0.208184 | 0.775404 |
| BX294110.2 | 0.333314908 | -1.858695402 | 3.5126701 | -0.52914 | 0.596708 | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| zgc:165555 | 10.9374093 | 1.402893632 | 0.6351063 | 2.2089116 | 0.027181 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| CT009745.1 | 0 NA | NA | NA | NA | NA | NA |
| F0704758.2 | 20.96488242 | -0.010825673 | 0.4320898 | -0.025054 | 0.980012 | 0.996879 |
| CABZ01072309.1 | 1139.400756 | 0.429751656 | 0.085671 | 5.0163004 | 5.27E-07 | 5.88E-05 |
| si:dkey-7i4.7 | 51.17514783 | 0.039497041 | 0.2746271 | 0.1438206 | 0.885642 | 0.988936 |
| L0017848.1 | 54.28871983 | -0.34927133 | 0.271654 | -1.285721 | 0.19854 | 0.763597 |
| CR762436.2 | 6.115086593 | 0.714474973 | 0.7842429 | 0.9110378 | 0.362275 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| BX571719.1 | 75.47696723 | 0.297566443 | 0.25999 | 1.1445303 | 0.252404 | 0.821887 |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| CABZ01061591.1 | 129.2687974 | -0.285034413 | 0.1794746 | -1.58816 | 0.11225 | 0.627572 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00003 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00325 | 0.333314908 | -1.858695402 | 3.5126701 | -0.52914 | 0.596708 | NA |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| BX897729.1 | 6.55217941 | -0.49961682 | 0.7633707 | -0.654488 | 0.512798 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| efnb3a | 127.4295351 | 0.021726378 | 0.1898952 | 0.1144125 | 0.908911 | 0.990702 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:dkey-47k16.4 | 1.020882972 | 1.110886363 | 2.0729323 | 0.5359009 | 0.592027 | NA |
| dre-mir-738 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-58b18.10 | 0 NA | NA | NA | NA | NA | NA |
| F0704721.1 | 23.64540396 | -0.597098068 | 0.3942561 | -1.514493 | 0.129901 | 0.662538 |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| zgc:113102 | 41.79891336 | 0.166781762 | 0.298831 | 0.5581139 | 0.576767 | 0.950653 |
| CU207245.1 | 10.79356721 | -0.054226485 | 0.6192041 | -0.087574 | 0.930215 | NA |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| si:ch211-207e19.15 | 1.462064469 | -1.02189199 | 1.6689875 | -0.612283 | 0.540351 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| BX005073.3 | 7.185806549 | -0.737002036 | 0.7561235 | -0.974711 | 0.329704 | NA |
| si:dkey-58b18.8 | 1.537397336 | -0.267812461 | 1.570452 | -0.170532 | 0.864592 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| tradv10.0.3 | 0 NA | NA | NA | NA | NA | NA |
| BX681417.9 | 0 NA | NA | NA | NA | NA | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| RF00001 | 0 | NA | NA | NA | NA | NA |
| BX000981.10 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| pimr58 | 0 | NA | NA | NA | NA | NA |
| CABZ01063543.1 | 6.415558202 | 0.531793885 | 0.7742482 | 0.686852 | 0.492176 | NA |
| RF00001 | 0.538871265 | 0.999144257 | 2.7784799 | 0.359601 | 0.719146 | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00016 | 1.158070327 | -1.364965424 | 1.9101513 | -0.714585 | 0.474866 | NA |
| F0834800.2 | 2.030175172 | -0.943293113 | 1.4749274 | -0.639552 | 0.522464 | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| ighv9-4 | 0 | NA | NA | NA | NA | NA |
| CR392045.1 | 6.363158419 | 0.372430042 | 0.7925947 | 0.4698871 | 0.638436 | NA |
| AL929276.1 | 3.697255607 | -2.645293546 | 1.1972071 | -2.209554 | 0.027136 | NA |
| RF00001 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| dre-mir-430b-6 | 0 | NA | NA | NA | NA | NA |
| CU468723.2 | 0.524057646 | 2.503896172 | 2.7289583 | 0.9175282 | 0.358866 | NA |
| si:ch211-182p11.1 | 54.2137488 | 0.680761827 | 0.275507 | 2.4709419 | 0.013476 | 0.20818 |
| zgc:91850 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| CU138512.1 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 2.458512138 | -1.034924858 | 1.2999489 | -0.796127 | 0.425958 | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| BX569796.1 | 0 | NA | NA | NA | NA | NA |
| dre-mir-430b-10 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:ch211-1n9.6 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| BX530077.1 | 68.24894102 | 0.348577207 | 0.26069 | 1.337133 | 0.181179 | 0.742302 |
| BX649468.1 | 5.045553728 | 0.222882314 | 0.8410748 | 0.264997 | 0.791012 | NA |
| CABZ01085275.1 | 4.563112935 | 0.336211673 | 0.9340839 | 0.3599373 | 0.718894 | NA |
| BX681417.10 | 0 | NA | NA | NA | NA | NA |
| DGKD | 21.05580337 | -0.155836497 | 0.4323004 | -0.360482 | 0.718487 | 0.96909 |
| NRXN2 | 291.4572932 | -0.173853615 | 0.1533923 | -1.133392 | 0.25705 | 0.82528 |
| AL929345.1 | 0 | NA | NA | NA | NA | NA |
| CR848784.4 | 0.521188103 | -2.493476766 | 2.9577741 | -0.843025 | 0.399215 | NA |
| RF00003 | 0.497574187 | -2.437446738 | 2.6012773 | -0.937019 | 0.348749 | NA |
| CABZ01061501.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00017 | 0 | NA | NA | NA | NA | NA |
| BX548073.8 | 0 | NA | NA | NA | NA | NA |
| BX276107.1 | 29.06231161 | 0.304610754 | 0.3953709 | 0.7704431 | 0.441037 | 0.916336 |
| CR855318.1 | 2.636209929 | -0.718087261 | 1.1839565 | -0.606515 | 0.544173 | NA |
| znf1018 | 7.39088249 | 0.018877777 | 0.7063773 | 0.0267248 | 0.978679 | NA |
| AL929009.2 | 1.571622502 | 1.077834218 | 1.7704471 | 0.6087921 | 0.542662 | NA |
| RF00012 | 0 | NA | NA | NA | NA | NA |
| fth131 | 13.01030704 | 1.357825534 | 0.573239 | 2.36869 | 0.017851 | 0.247192 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| CU464134.2 | 1.275009159 | 0.723505083 | 1.8885879 | 0.3830931 | 0.701651 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |

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|-----------------|-------------|--------------|-----------|-----------|----------|----------|
| RF00003 | 0 | NA | NA | NA | NA | NA |
| RF00017 | 0.547712847 | 2.559541715 | 2.9076406 | 0.8802813 | 0.378707 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| CABZ01078858.1 | 230.0889425 | 0.129031416 | 0.1939198 | 0.6653853 | 0.505804 | 0.935724 |
| RF00001 | 0.365141898 | 1.973577737 | 3.3927314 | 0.5817076 | 0.560764 | NA |
| BX957362.5 | 0 | NA | NA | NA | NA | NA |
| pigr13.5 | 0 | NA | NA | NA | NA | NA |
| si:dkey-29p23.2 | 2.30802884 | 2.581419231 | 1.4867555 | 1.7362769 | 0.082515 | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| CR352226.6 | 0.365141898 | 1.973577737 | 3.3927314 | 0.5817076 | 0.560764 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| BX511311.6 | 0 | NA | NA | NA | NA | NA |
| zgc:163040 | 9.254362178 | 0.27538616 | 0.6304385 | 0.4368169 | 0.662244 | NA |
| pimr85 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| FP236810.2 | 37.1263543 | -0.675912432 | 0.3148876 | -2.14652 | 0.031832 | 0.34636 |
| taar19u | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.325573202 | 0.005883621 | 3.3172783 | 0.0017736 | 0.998585 | NA |
| RF00012 | 0 | NA | NA | NA | NA | NA |
| CR450764.3 | 1.861390247 | 0.809609919 | 1.4440815 | 0.5606401 | 0.575043 | NA |
| CR384055.1 | 5.661956768 | 0.555606298 | 0.8235598 | 0.6746399 | 0.499905 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00415 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| BX957281.1 | 4.755074062 | -0.293614688 | 0.8706555 | -0.337234 | 0.73594 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| BX511224.1 | 3.942109678 | 1.906102372 | 1.1584065 | 1.645452 | 0.099877 | NA |
| CABZ01028298.1 | 0 | NA | NA | NA | NA | NA |
| BX572627.1 | 1.473854661 | 1.840539378 | 1.7103251 | 1.0761343 | 0.281867 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| zgc:77058 | 930.2967742 | 0.06324077 | 0.0947236 | 0.6676346 | 0.504367 | 0.935541 |
| CABZ01070469.1 | 140.6301553 | 0.405931241 | 0.1746473 | 2.3242919 | 0.02011 | 0.266523 |
| F0704821.1 | 68.64307795 | 0.2931056 | 0.251167 | 1.1669748 | 0.243221 | 0.812077 |
| BX546453.1 | 2.085540265 | 2.386163972 | 1.5668988 | 1.5228578 | 0.127794 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| BX005397.1 | 4.4927648 | -0.108464044 | 0.9063359 | -0.119673 | 0.904742 | NA |
| ctxn1 | 2.692991415 | 0.774103381 | 1.181602 | 0.6551304 | 0.512384 | NA |
| RF00494 | 97.07614139 | -0.36249235 | 0.2037904 | -1.778751 | 0.075281 | 0.534207 |
| RF00020 | 0 | NA | NA | NA | NA | NA |
| AL929536.3 | 291.4080183 | -0.989519719 | 0.147846 | -6.692907 | 2.19E-11 | 5.85E-09 |
| dre-mir-430c-1 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| BX510335.4 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| znf1146 | 3.443042474 | -0.163047671 | 1.0258465 | -0.15894 | 0.873716 | NA |
| L0017802.1 | 3.709399227 | -0.125478213 | 1.0211202 | -0.122883 | 0.9022 | NA |
| L0017722.1 | 214.7563236 | 0.02088558 | 0.148958 | 0.1402112 | 0.888493 | 0.989291 |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| CR382326.1 | 0 | NA | NA | NA | NA | NA |
| L0018260.3 | 1.317574539 | -1.543547076 | 1.8100622 | -0.852759 | 0.393793 | NA |
| CT583662.1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| CR925756.1 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |

| | | | | | | | | | | |
|------------------|-------------|--------------|-----------|-----------|----------|----------|--|----|--|----|
| ighv9-2 | | 0 NA | | NA | | NA | | NA | | NA |
| CR394532.2 | 1.332030356 | 0.764519523 | 1.7290471 | 0.4421623 | 0.658372 | NA | | | | |
| zgc:153932 | 123.6766501 | 0.125398024 | 0.2183665 | 0.5742548 | 0.565795 | 0.948739 | | | | |
| si:dkey-88n24.5 | 5.717564858 | -0.339079123 | 0.8024329 | -0.422564 | 0.672614 | NA | | | | |
| RF00001 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA | | | | |
| RF00017 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA | | | | |
| CR388148.2 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA | | | | |
| CU571081.1 | 19.01436159 | -0.030339267 | 0.4318293 | -0.070258 | 0.943989 | 0.993364 | | | | |
| CABZ01084501.2 | 65.95009659 | -0.224554899 | 0.2416701 | -0.929179 | 0.352796 | 0.881552 | | | | |
| RF00001 | | 0 NA | | NA | | NA | | | | |
| RF00003 | | 0 NA | | NA | | NA | | | | |
| RF00026 | | 0 NA | | NA | | NA | | | | |
| RF00026 | | 0 NA | | NA | | NA | | | | |
| CR749763.6 | | 0 NA | | NA | | NA | | | | |
| RF00001 | | 0 NA | | NA | | NA | | | | |
| RF01848 | | 0 NA | | NA | | NA | | | | |
| zgc:153659 | | 0 NA | | NA | | NA | | | | |
| FO904868.1 | | 0 NA | | NA | | NA | | | | |
| RF00001 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA | | | | |
| RF00001 | | 0 NA | | NA | | NA | | | | |
| RF00001 | | 0 NA | | NA | | NA | | | | |
| RF00026 | | 0 NA | | NA | | NA | | | | |
| dre-mir-430c-1 | | 0 NA | | NA | | NA | | | | |
| CU571384.1 | 0.489712128 | -0.887840729 | 2.693685 | -0.329601 | 0.741702 | NA | | | | |
| BX322657.3 | 36.20442223 | -0.149006681 | 0.3211603 | -0.463964 | 0.642674 | 0.959994 | | | | |
| insig2 | 95.47008403 | 0.050411547 | 0.2202162 | 0.2289185 | 0.818932 | 0.981594 | | | | |
| dre-mir-430c-1 | | 0 NA | | NA | | NA | | | | |
| CABZ01086139.1 | 4.359082284 | -0.653028743 | 0.9264496 | -0.704872 | 0.48089 | NA | | | | |
| BX248501.2 | 66.62632474 | -0.112383373 | 0.242462 | -0.463509 | 0.642999 | 0.959994 | | | | |
| RF00001 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA | | | | |
| BX510922.3 | 22.68597804 | -0.306366602 | 0.4384847 | -0.698694 | 0.484743 | 0.93001 | | | | |
| RF00001 | | 0 NA | | NA | | NA | | | | |
| CU138548.5 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA | | | | |
| si:dkey-83f18.15 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA | | | | |
| RF00003 | | 0 NA | | NA | | NA | | | | |
| L0018432.1 | 4.991047804 | -0.563120175 | 0.8765745 | -0.64241 | 0.520607 | NA | | | | |
| si:dkey-265e15.2 | 4.304501543 | 0.244828421 | 0.9292805 | 0.2634602 | 0.792196 | NA | | | | |
| golim4a | 387.9083898 | 0.080856275 | 0.1155496 | 0.699754 | 0.484081 | 0.929461 | | | | |
| BX548045.2 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA | | | | |
| RF00001 | | 0 NA | | NA | | NA | | | | |
| FP236630.1 | 6.472523819 | -0.199513179 | 0.7721253 | -0.258395 | 0.796102 | NA | | | | |
| RF00026 | | 0 NA | | NA | | NA | | | | |
| RF00001 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA | | | | |
| lrrc4ca | 127.7197319 | 0.067218784 | 0.1827637 | 0.3677908 | 0.713029 | 0.96909 | | | | |
| RF00003 | | 0 NA | | NA | | NA | | | | |
| RF00001 | | 0 NA | | NA | | NA | | | | |
| zgc:173545 | | 0 NA | | NA | | NA | | | | |
| RF00001 | 0.514116189 | -2.475533565 | 2.7461255 | -0.901464 | 0.367342 | NA | | | | |
| RF00001 | 0.661833465 | -2.849573936 | 2.4898884 | -1.144458 | 0.252434 | NA | | | | |
| si:ch211-276i6.1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA | | | | |
| RF00026 | | 0 NA | | NA | | NA | | | | |
| RF00026 | | 0 NA | | NA | | NA | | | | |
| CR318624.2 | 14.3100322 | 0.598088842 | 0.5333027 | 1.121481 | 0.262083 | 0.830166 | | | | |
| RF00003 | 0.332524763 | 0.005883742 | 3.292841 | 0.0017868 | 0.998574 | NA | | | | |

| | | | | | | |
|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| taar18i | | 0 NA | NA | NA | NA | NA |
| CT583626.1 | 0.507044276 | -2.459587493 | 2.7586536 | -0.89159 | 0.372613 | NA |
| CABZ01068600.1 | 63.57293302 | -0.073982095 | 0.2560081 | -0.288983 | 0.772594 | 0.975687 |
| CABZ01058333.1 | 6.486430196 | 0.387607857 | 0.7480964 | 0.5181255 | 0.604371 | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| RF00334 | | 0 NA | NA | NA | NA | NA |
| dre-mir-430a-4 | | 0 NA | NA | NA | NA | NA |
| CABZ01067151.1 | 59.69340254 | 0.573064942 | 0.2773555 | 2.0661746 | 0.038812 | 0.386536 |
| RF00026 | | 0 NA | NA | NA | NA | NA |
| CU856539.3 | 5.329160059 | 0.01414628 | 0.8040722 | 0.0175933 | 0.985963 | NA |
| si:ch211-113a14.19 | 3.087801837 | 0.404144085 | 1.1571118 | 0.3492697 | 0.726887 | NA |
| RF00026 | | 0 NA | NA | NA | NA | NA |
| si:dkey-27d5.5 | 0.365141898 | 1.973577737 | 3.3927314 | 0.5817076 | 0.560764 | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| CR786566.1 | 0.497574187 | -2.437446738 | 2.6012773 | -0.937019 | 0.348749 | NA |
| RF00001 | 6.117244063 | 0.713728682 | 0.7585061 | 0.9409663 | 0.346722 | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| si:ch211-14p21.4 | 0.316103113 | 0.005883447 | 3.3519121 | 0.0017553 | 0.9986 | NA |
| pimr45 | 0.31759079 | 1.807926197 | 3.579045 | 0.5051421 | 0.613459 | NA |
| CU459094.2 | 9.675669512 | 0.610486984 | 0.6325446 | 0.9651288 | 0.33448 | NA |
| RF00017 | 0.960754782 | 2.172439821 | 2.149468 | 1.0106872 | 0.312166 | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| si:ch211-59d8.2 | 3.143254204 | -1.104107012 | 1.1034214 | -1.000621 | 0.31701 | NA |
| si:dkeyp-67e1.6 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| BX088712.2 | 0.497574187 | -2.437446738 | 2.6012773 | -0.937019 | 0.348749 | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| RF00026 | | 0 NA | NA | NA | NA | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| fgf12b | 116.1509834 | 0.039370145 | 0.1947542 | 0.202153 | 0.839797 | 0.984979 |
| BX548011.3 | 0.523937293 | 2.50362281 | 2.7291625 | 0.9173594 | 0.358954 | NA |
| si:ch211-209n20.3 | 0.838940531 | -0.561526863 | 2.0217856 | -0.277738 | 0.781213 | NA |
| CABZ01074363.1 | 32.97514186 | -0.40928195 | 0.3388121 | -1.207991 | 0.227051 | 0.794587 |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| RF00001 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00017 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| L0017656.2 | 0.332524763 | 0.005883742 | 3.292841 | 0.0017868 | 0.998574 | NA |
| CU633775.1 | 46.23554798 | -0.422506046 | 0.2942403 | -1.435922 | 0.151025 | 0.699055 |
| CU571382.5 | 0.473170125 | -0.833888596 | 2.9014002 | -0.287409 | 0.773799 | NA |
| L0018202.1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:dkeyp-82b4.4 | 3.12847961 | -0.738354003 | 1.1101592 | -0.665088 | 0.505994 | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| fam78bb | 18.11548913 | -0.39638033 | 0.4598351 | -0.862005 | 0.388685 | 0.896271 |
| traj23 | | 0 NA | NA | NA | NA | NA |
| si:ch211-221n20.7 | 0.697787013 | 1.536711783 | 2.3781027 | 0.6461924 | 0.518155 | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| znf1107 | 3.007407431 | 0.402037127 | 1.194681 | 0.3365226 | 0.736477 | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| BX927341.2 | | 0 NA | NA | NA | NA | NA |
| CR352226.7 | 0.330916733 | -1.849579229 | 3.2489867 | -0.569279 | 0.569167 | NA |
| RF00091 | 0.325573202 | 0.005883621 | 3.3172783 | 0.0017736 | 0.998585 | NA |
| si:dkey-102c8.3 | 513.3150216 | 0.305627351 | 0.1083028 | 2.8219719 | 0.004773 | 0.099662 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| CU462871.1 | 1.838215462 | -1.418452594 | 1.4563693 | -0.973965 | 0.330074 | NA |
| CR936363.1 | 0.547712847 | 2.559541715 | 2.9076406 | 0.8802813 | 0.378707 | NA |
| CT955984.1 | 0.476506538 | 2.394892832 | 2.8161716 | 0.8504073 | 0.395099 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| znf993 | 18.45637616 | 0.03472943 | 0.467711 | 0.074254 | 0.940808 | 0.992857 |
| pimr30 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| hbbe1.1 | 3206.134541 | 0.126175319 | 0.191328 | 0.6594711 | 0.509593 | 0.936253 |
| BX511311.7 | 0 NA | NA | NA | NA | NA | NA |
| BEND4 | 0.682853041 | 2.891318346 | 2.3286279 | 1.2416403 | 0.214369 | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| TMEM164 | 13.02041125 | 0.678440503 | 0.5305606 | 1.2787239 | 0.200994 | 0.766855 |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| dre-mir-430a-16 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| znf976 | 11.66041797 | -0.558673668 | 0.5834696 | -0.957503 | 0.338314 | 0.876778 |
| RF00001 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00392 | 0 NA | NA | NA | NA | NA | NA |
| pimr64 | 0.791121974 | 0.591938164 | 2.3987483 | 0.2467696 | 0.805087 | NA |
| BX571674.1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX470083.3 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| ralbb | 219.4454072 | -0.168810182 | 0.1503792 | -1.122563 | 0.261623 | 0.829725 |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| CU861574.1 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| LO018363.2 | 240.1147999 | 0.082106488 | 0.1512283 | 0.5429309 | 0.587177 | 0.953319 |
| CU928063.1 | 0.365141898 | 1.973577737 | 3.3927314 | 0.5817076 | 0.560764 | NA |
| si:ch211-196f19.1 | 7.906177622 | 0.068521251 | 0.6790613 | 0.1009058 | 0.919625 | NA |
| BX649423.2 | 0 NA | NA | NA | NA | NA | NA |
| BX901883.4 | 1.166242115 | 0.395001397 | 1.7433393 | 0.2265775 | 0.820752 | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| znf1173 | 47.20748858 | 0.352304197 | 0.2918177 | 1.2072748 | 0.227326 | 0.794617 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| AL935186.8 | 75.10408473 | 0.676871215 | 0.9767728 | 0.6929669 | 0.48833 | 0.93189 |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| CABZ01058222.1 | 81.11844547 | -0.535907268 | 0.2533971 | -2.114891 | 0.034439 | 0.360509 |
| BX511082.1 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0.500161739 | 2.450146464 | 2.7711133 | 0.8841741 | 0.376602 | NA |
| RF00001 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| si:ch211-223g7.6 | 9.175108089 | 0.112865312 | 0.6370826 | 0.1771596 | 0.859383 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |

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|---------------------|--------------|---------------|------------|------------|-----------|-----------|
| RF00015 | 2. 978445486 | -0. 6488162 | 1. 0950752 | -0. 592486 | 0. 553526 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| CR925804. 2 | 217. 1024415 | -0. 06863398 | 0. 1637232 | -0. 419207 | 0. 675065 | 0. 965257 |
| RF00001 | 0. 499972362 | -2. 44370697 | 3. 0013188 | -0. 814211 | 0. 415524 | NA |
| BX511265. 5 | 0 NA | | NA | NA | NA | NA |
| CR925723. 4 | 0 NA | | NA | NA | NA | NA |
| si:ch211-113a14. 19 | 10. 83815179 | 0. 603894095 | 0. 6170455 | 0. 9786865 | 0. 327735 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00026 | 0 NA | | NA | NA | NA | NA |
| si:dkey-31m5. 5 | 0 NA | | NA | NA | NA | NA |
| znf1103 | 3. 130877785 | -0. 740837051 | 1. 0798951 | -0. 686027 | 0. 492696 | NA |
| RF00001 | 1. 36846206 | 0. 063006266 | 1. 7050243 | 0. 0369533 | 0. 970522 | NA |
| baiap2b | 17. 04387222 | 0. 032020692 | 0. 4624801 | 0. 0692369 | 0. 944801 | 0. 993409 |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00015 | 0 NA | | NA | NA | NA | NA |
| RF01848 | 0 NA | | NA | NA | NA | NA |
| RF00017 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| GABRA2 | 31. 45448949 | 0. 421049085 | 0. 3399606 | 1. 2385233 | 0. 215522 | 0. 783025 |
| si:dkey-234124. 7 | 0. 482640214 | -0. 866525639 | 2. 7061322 | -0. 320208 | 0. 748811 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00012 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| DYNC2H1 | 393. 7514594 | 0. 05962624 | 0. 1225146 | 0. 486687 | 0. 62648 | 0. 957354 |
| FP340257. 1 | 0 NA | | NA | NA | NA | NA |
| CU462915. 1 | 5. 964341639 | 0. 326872683 | 0. 7592968 | 0. 430494 | 0. 666836 | NA |
| znf1139 | 6. 394764638 | -0. 301341936 | 0. 7803656 | -0. 386155 | 0. 699382 | NA |
| GRIK2 | 378. 8734023 | 0. 018857565 | 0. 1188031 | 0. 1587295 | 0. 873882 | 0. 987881 |
| BX908388. 2 | 4. 443915392 | 0. 310950528 | 0. 9030765 | 0. 3443236 | 0. 730603 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| zgc:173615 | 19. 12172892 | -0. 434716106 | 0. 4495487 | -0. 967006 | 0. 333541 | 0. 874933 |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| si:dkeyp-67e1. 6 | 3. 873266053 | -1. 191389972 | 1. 0199117 | -1. 168131 | 0. 242754 | NA |
| CU896602. 3 | 0 NA | | NA | NA | NA | NA |
| BX901942. 2 | 0. 31759079 | 1. 807926197 | 3. 579045 | 0. 5051421 | 0. 613459 | NA |
| taarl3a | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| si:dkey-108k21. 19 | 7. 530751253 | -0. 274794788 | 0. 7484676 | -0. 367143 | 0. 713512 | NA |
| L0017872. 1 | 177. 8504325 | -0. 045451567 | 0. 1667851 | -0. 272516 | 0. 785225 | 0. 97627 |
| si:dkey-205i10. 1 | 5. 369154339 | -0. 015113375 | 0. 8404679 | -0. 017982 | 0. 985653 | NA |
| CR788322. 3 | 0 NA | | NA | NA | NA | NA |
| si:dkeyp-82b4. 6 | 0. 984340959 | -1. 03899679 | 2. 1198949 | -0. 490117 | 0. 624051 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| BX681417. 11 | 0 NA | | NA | NA | NA | NA |
| RF00015 | 0 NA | | NA | NA | NA | NA |
| BX681417. 12 | 0 NA | | NA | NA | NA | NA |
| cyp46a1. 4 | 15. 39357775 | 0. 669815383 | 0. 484315 | 1. 3830159 | 0. 16666 | 0. 723339 |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| pimr158 | 0 NA | | NA | NA | NA | NA |
| si:ch211-223k15. 1 | 10. 30182593 | -0. 673279685 | 0. 6015224 | -1. 119293 | 0. 263015 | NA |
| RF00017 | 0. 182570949 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |

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|-----------------|-------------|--------------|-----------|-----------|----------|----------|
| ighj2-2 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| CABZ01112461.1 | 14.11874678 | 0.79942819 | 0.5446009 | 1.4679156 | 0.142127 | 0.683801 |
| BX537305.1 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| L0018029.2 | 43.8888834 | 0.163258256 | 0.2906947 | 0.5616142 | 0.574379 | 0.950037 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00012 | 0 | NA | NA | NA | NA | NA |
| AL844172.1 | 0 | NA | NA | NA | NA | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| L0018629.1 | 17.09291402 | 0.528692531 | 0.4720375 | 1.1200224 | 0.262704 | 0.830166 |
| RF00012 | 0 | NA | NA | NA | NA | NA |
| BX649502.12 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| AL928650.4 | 0.690594747 | 1.536595024 | 2.3851901 | 0.6442233 | 0.519431 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00017 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| RF00017 | 0 | NA | NA | NA | NA | NA |
| hoxc13b | 6.473625707 | 0.662048566 | 0.8010118 | 0.8265153 | 0.408512 | NA |
| RF00067 | 0.489712128 | -0.887840729 | 2.693685 | -0.329601 | 0.741702 | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| zgc:174355 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00017 | 0 | NA | NA | NA | NA | NA |
| si:dkey-30g5.1 | 0 | NA | NA | NA | NA | NA |
| si:dkey-29p23.1 | 17.12305536 | -0.251582398 | 0.5066929 | -0.496518 | 0.619529 | 0.957354 |
| CT955962.1 | 0.656369582 | -1.475482481 | 2.3019817 | -0.640962 | 0.521547 | NA |
| zgc:77650 | 700.2992792 | 0.031300563 | 0.0960548 | 0.3258615 | 0.744529 | 0.974094 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF01848 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| F0904860.1 | 2.106569042 | 0.673678775 | 1.3041266 | 0.5165747 | 0.605453 | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| BX530407.7 | 0.31759079 | 1.807926197 | 3.579045 | 0.5051421 | 0.613459 | NA |
| B3GAT1 | 39.837144 | 0.527102352 | 0.3235661 | 1.6290405 | 0.103304 | 0.609625 |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| L0018011.1 | 0.806605386 | -1.86493339 | 2.2427648 | -0.831533 | 0.405672 | NA |
| pard3ba | 2.334999503 | -1.334803475 | 1.2706675 | -1.050474 | 0.2935 | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| BX649628.2 | 0 | NA | NA | NA | NA | NA |
| BX005462.3 | 0 | NA | NA | NA | NA | NA |
| igl3v2 | 0.491320158 | 0.8528132 | 2.8656354 | 0.2976 | 0.766008 | NA |
| pimr19 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| BX248331.4 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |

| | | | | | | |
|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| AL953907.2 | 2.755505652 | 0.16322406 | 1.1913363 | 0.1370092 | 0.891024 | NA |
| nudtl5 | 54.71269904 | 0.468647336 | 0.2792037 | 1.6785139 | 0.093247 | 0.580702 |
| traj17 | 0 NA | NA | NA | NA | NA | NA |
| L0018597.2 | 1.48957878 | 0.358997168 | 1.6239385 | 0.2210657 | 0.825041 | NA |
| supt4h1 | 530.6318101 | -0.137276568 | 0.1042756 | -1.316478 | 0.188014 | 0.752739 |
| L0018181.1 | 6.349024636 | -0.087187661 | 0.7664693 | -0.113752 | 0.909434 | NA |
| RF00004 | 0 NA | NA | NA | NA | NA | NA |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| pimr162 | 0 NA | NA | NA | NA | NA | NA |
| fth129 | 53.82941486 | 0.210523793 | 0.2839245 | 0.741478 | 0.458404 | 0.921978 |
| RF00001 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| BX324156.1 | 0.846132797 | -0.5732773 | 2.1012583 | -0.272826 | 0.784987 | NA |
| apobec2b | 6.928949861 | 0.233652653 | 0.7404025 | 0.3155752 | 0.752325 | NA |
| zgc:174354 | 0 NA | NA | NA | NA | NA | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| CU062431.1 | 0.809701093 | 0.53615962 | 2.3788628 | 0.2253848 | 0.82168 | NA |
| CABZ01088149.1 | 76.04381109 | -0.298851416 | 0.2276628 | -1.312693 | 0.189286 | 0.753954 |
| WDR1 | 3612.705138 | -0.110460783 | 0.0804027 | -1.373844 | 0.16949 | 0.726744 |
| CU914780.1 | 2.127395985 | -0.674516466 | 1.2886138 | -0.523443 | 0.600666 | NA |
| CABZ01099833.1 | 19.80622802 | -0.463743478 | 0.4397745 | -1.054503 | 0.291653 | 0.847361 |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| CR759843.2 | 0.482760567 | -0.866527181 | 2.7059286 | -0.320233 | 0.748792 | NA |
| smyhc3 | 143.0025117 | -0.108363309 | 0.1931623 | -0.560996 | 0.5748 | 0.950037 |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| BX248510.5 | 48.61085678 | -0.004201985 | 0.2807586 | -0.014967 | 0.988059 | 0.997369 |
| ska2 | 361.6609234 | 0.043775249 | 0.1307472 | 0.3348083 | 0.73777 | 0.972535 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CU571061.1 | 0 NA | NA | NA | NA | NA | NA |
| CR626887.3 | 2.068647248 | 0.534744295 | 1.3861433 | 0.3857785 | 0.699661 | NA |
| CABZ01018956.1 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| t1r20.3 | 0 NA | NA | NA | NA | NA | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| parml | 86.4250647 | -0.479186333 | 0.2422576 | -1.978004 | 0.047928 | 0.43124 |
| RF00001 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| tspan17 | 65.40909766 | 0.277957351 | 0.2415691 | 1.1506331 | 0.249883 | 0.819849 |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| BX927341.3 | 0 NA | NA | NA | NA | NA | NA |
| stx10 | 1.46631138 | -0.357836611 | 1.5716 | -0.227689 | 0.819888 | NA |
| RF00017 | 2.935171113 | 2.276609462 | 1.3060628 | 1.7431087 | 0.081315 | NA |
| DOCK9 (1 of many) | 594.4816724 | -0.016376506 | 0.1025147 | -0.159748 | 0.87308 | 0.987846 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| trim35-30 | 6.588805163 | -0.138901049 | 0.7484241 | -0.185591 | 0.852765 | NA |
| CT583728.17 | 0 NA | NA | NA | NA | NA | NA |
| RF00003 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |

| | | | | | | |
|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| RF00001 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| zgc:174355 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| BX005085.5 | 80.28040175 | 0.031091758 | 0.2243474 | 0.1385876 | 0.889776 | 0.989291 |
| RF00001 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:dkey-3p4.8 | 3.414202125 | -1.02261613 | 1.0912909 | -0.93707 | 0.348722 | NA |
| si:dkey-261m9.19 | 12.31759153 | 0.968452822 | 0.5708258 | 1.6965822 | 0.089776 | 0.573763 |
| histlh2a5 | 5.687021421 | 1.493981857 | 0.9880005 | 1.5121265 | 0.130502 | NA |
| pimr86 | 0 | NA | NA | NA | NA | NA |
| si:dkeyp-4f2.1 | 60.07100133 | -1.113768002 | 0.2766477 | -4.025943 | 5.67E-05 | 0.003083 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| AL929023.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| CR385053.3 | 0.333314908 | -1.858695402 | 3.5126701 | -0.52914 | 0.596708 | NA |
| FO904989.1 | 26.5393066 | 0.297349954 | 0.3762544 | 0.7902896 | 0.429359 | 0.911489 |
| RF00001 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CR354435.2 | 3.913721657 | 0.376674241 | 1.0415477 | 0.3616486 | 0.717615 | NA |
| RF00001 | 0.514116189 | -2.475533565 | 2.7461255 | -0.901464 | 0.367342 | NA |
| znf996 | 1.960820854 | 1.545180061 | 1.5019148 | 1.0288068 | 0.30357 | NA |
| FP236812.2 | 19.8119784 | -0.298248736 | 0.4365025 | -0.683269 | 0.494437 | 0.931926 |
| zgc:77614 | 0 | NA | NA | NA | NA | NA |
| mkxb | 41.8981028 | 0.566760964 | 0.2988667 | 1.8963671 | 0.057912 | 0.472224 |
| dre-mir-430c-1 | 0 | NA | NA | NA | NA | NA |
| si:busml-105116.2 | 14.82101607 | 0.358967584 | 0.5076995 | 0.7070474 | 0.479537 | 0.927091 |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| BX927212.1 | 1.321192943 | 0.064182614 | 1.7200111 | 0.0373152 | 0.970234 | NA |
| L0018333.1 | 3.909140686 | -0.256456623 | 0.9625748 | -0.266428 | 0.78991 | NA |
| BX548011.4 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX005305.3 | 0 | NA | NA | NA | NA | NA |
| zgc:171759 | 6.878725345 | 0.825845044 | 0.7565407 | 1.0916069 | 0.275006 | NA |
| CR847936.8 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| F0834825.2 | 0.82384492 | 0.497240531 | 2.3644664 | 0.2102971 | 0.833436 | NA |
| dre-mir-430b-9 | 0 | NA | NA | NA | NA | NA |
| CR788322.4 | 0 | NA | NA | NA | NA | NA |
| taar19n | 0 | NA | NA | NA | NA | NA |
| BX005022.1 | 3.663724441 | 0.797036552 | 0.9996784 | 0.797293 | 0.425281 | NA |
| BX548073.9 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| CABZ01102109.1 | 359.0216127 | 0.06633937 | 0.1272002 | 0.521535 | 0.601994 | 0.956045 |
| CABZ01075242.1 | 84.95823988 | 0.00968317 | 0.2254796 | 0.0429448 | 0.965746 | 0.996315 |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| si:ch211-221n20.7 | 0.706628594 | 2.93253102 | 2.4623982 | 1.1909248 | 0.233683 | NA |
| znf974 | 5.488971763 | -0.272858276 | 0.804332 | -0.339236 | 0.734432 | NA |
| bc12116 | 86.53053898 | 0.15580001 | 0.2189031 | 0.7117304 | 0.476632 | 0.926737 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| PLBD2 | 1133.670738 | -0.084204621 | 0.1109021 | -0.75927 | 0.447691 | 0.917154 |
| RF00017 | 0 | NA | NA | NA | NA | NA |
| zgc:91850 | 0 | NA | NA | NA | NA | NA |
| dre-mir-430b-1 | 0 | NA | NA | NA | NA | NA |
| si:dkey-30c15.13 | 64.52081254 | -0.23468749 | 0.2545032 | -0.92214 | 0.356456 | 0.883422 |
| RF00001 | 0.974939894 | 2.204143173 | 2.1427957 | 1.0286297 | 0.303654 | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| RF00001 | 0 | NA | NA | NA | NA | NA |
| CU138548.6 | 0 | NA | NA | NA | NA | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| BX901889.4 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| BX324132.4 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| CU571398.1 | 29.75881411 | 0.18796132 | 0.3502231 | 0.5366903 | 0.591482 | 0.954382 |
| taar19q | 0 | NA | NA | NA | NA | NA |
| znf980 | 0.474778155 | 0.852397662 | 2.898154 | 0.2941175 | 0.768668 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| zgc:77614 | 0 | NA | NA | NA | NA | NA |
| BX530407.8 | 0 | NA | NA | NA | NA | NA |
| BX511120.1 | 26.52162478 | 0.199373797 | 0.3812872 | 0.5228966 | 0.601046 | 0.956045 |
| BX248108.1 | 14.36284342 | 0.269648325 | 0.5541511 | 0.4865971 | 0.626544 | 0.957354 |
| CR354612.1 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| BX005421.3 | 1.702127983 | 1.327679888 | 1.6321143 | 0.8134724 | 0.415947 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| dre-mir-430b-9 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| CR376861.1 | 1.347043396 | -0.03673867 | 1.6478654 | -0.022295 | 0.982213 | NA |
| CR407598.1 | 0 | NA | NA | NA | NA | NA |
| BX927253.3 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| HOOK3 | 623.2378274 | 0.065125889 | 0.0972608 | 0.6696007 | 0.503112 | 0.935304 |
| CT573234.1 | 1.305038742 | -0.701644435 | 1.7364554 | -0.404067 | 0.686163 | NA |
| zgc:173552 | 9.080701835 | 0.66558104 | 0.6413549 | 1.0377733 | 0.299376 | NA |
| si:rp71-1f1.5 | 6.064474153 | -0.328818683 | 0.8244585 | -0.39883 | 0.690019 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| tpbgl | 29.53942816 | -0.509147612 | 0.3632279 | -1.40173 | 0.160996 | 0.714313 |
| RF00001 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| si:dkey-28d5.5 | 1.153435614 | -1.279944679 | 1.813135 | -0.705929 | 0.480232 | NA |
| dre-mir-430a-2 | 0 | NA | NA | NA | NA | NA |
| si:dkey-20i20.15 | 17.72509141 | 0.178347841 | 0.4795555 | 0.3719024 | 0.709966 | 0.968928 |
| AL840638.2 | 0 | NA | NA | NA | NA | NA |
| AL844186.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00017 | 1.336006562 | -0.67423263 | 1.6626322 | -0.405521 | 0.685094 | NA |
| traj12 | 0 | NA | NA | NA | NA | NA |
| RF00002 | 7.190191333 | 0.76857497 | 0.8206434 | 0.9365517 | 0.348989 | NA |
| si:ch211-238p8.31 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00012 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| zgc:77614 | 0 | NA | NA | NA | NA | NA |
| znf985 | 3.959200278 | 0.516498373 | 0.9700914 | 0.5324224 | 0.594434 | NA |
| FQ312024.1 | 9.288818005 | 0.833099384 | 0.6458758 | 1.2898755 | 0.197094 | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |

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|----------------|-------------|--------------|-----------|-----------|----------|----------|
| F0904885.2 | 0 | NA | NA | NA | NA | NA |
| pimr99 | 0 | NA | NA | NA | NA | NA |
| RF00325 | 0.801839034 | 1.849035972 | 2.4180074 | 0.7646941 | 0.444454 | NA |
| BX005305.4 | 0 | NA | NA | NA | NA | NA |
| CABZ01063034.1 | 1.317845244 | 0.720094123 | 1.7511448 | 0.4112134 | 0.680916 | NA |
| CU499336.2 | 0 | NA | NA | NA | NA | NA |
| zgc:77614 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| CR407590.2 | 0 | NA | NA | NA | NA | NA |
| CU929458.1 | 0 | NA | NA | NA | NA | NA |
| znf1017 | 5.814229443 | 1.122200008 | 0.8114151 | 1.3830159 | 0.16666 | NA |
| BX276117.1 | 0 | NA | NA | NA | NA | NA |
| zgc:194989 | 12.88434296 | -0.035474172 | 0.6048658 | -0.058648 | 0.953232 | 0.994157 |
| zgc:77614 | 0 | NA | NA | NA | NA | NA |
| AL954137.2 | 13.14741493 | -0.340696437 | 0.5466913 | -0.623197 | 0.533155 | 0.942971 |
| CR450686.5 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX511178.1 | 3.857342514 | -0.623177831 | 1.0302944 | -0.604854 | 0.545276 | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| CT009714.1 | 1.253241566 | 1.40838817 | 1.9820666 | 0.7105655 | 0.477354 | NA |
| RF00001 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| med8 | 274.3771066 | -0.044215108 | 0.1299119 | -0.340347 | 0.733595 | 0.971993 |
| CT583728.18 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| pimr5 | 0 | NA | NA | NA | NA | NA |
| zgc:173705 | 10.02946075 | -0.418522968 | 0.6099415 | -0.686169 | 0.492607 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| CABZ01079081.1 | 2.145425665 | -0.243978359 | 1.3456858 | -0.181304 | 0.856129 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| mmp13a | 737.0997988 | 0.323453606 | 0.4360299 | 0.7418151 | 0.458199 | 0.921978 |
| RF00415 | 0 | NA | NA | NA | NA | NA |
| CR762483.1 | 67.27550904 | -1.156119948 | 0.3161784 | -3.656543 | 0.000256 | 0.010359 |
| pimr164 | 0 | NA | NA | NA | NA | NA |
| CU694999.1 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| CABZ01056051.1 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| ctxn3 | 32.00432899 | 0.743543738 | 0.3653836 | 2.0349672 | 0.041854 | 0.401564 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| CT027583.2 | 2.69189154 | 0.027219446 | 1.1443641 | 0.0237857 | 0.981024 | NA |
| dre-mir-430c-1 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| pimr142 | 0.508023798 | 0.926122713 | 2.6636728 | 0.3476864 | 0.728076 | NA |
| RF00003 | 1.38441684 | 0.93862059 | 3.8711195 | 0.2424675 | 0.808418 | NA |
| ATP8A1 | 87.55818283 | -0.305596515 | 0.2278603 | -1.341157 | 0.179869 | 0.741062 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| CU302436.1 | 4.940113053 | 1.184809197 | 0.9018592 | 1.3137407 | 0.188933 | NA |
| CR388079.3 | 0.31759079 | 1.807926197 | 3.579045 | 0.5051421 | 0.613459 | NA |
| phtf2 | 333.9846663 | -0.101303245 | 0.1190618 | -0.850846 | 0.394855 | 0.899087 |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| tmem101 | 502.806329 | -0.049788355 | 0.123392 | -0.403497 | 0.686582 | 0.966376 |
| CR385040.1 | 1.455112909 | -1.012777544 | 1.5956806 | -0.634699 | 0.525624 | NA |
| CABZ01021592.1 | 872.811463 | -0.077179383 | 0.1142813 | -0.675345 | 0.499456 | 0.934006 |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| BX511056.4 | 0 | NA | NA | NA | NA | NA |

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|------------------|-------------|--------------|-----------|-----------|----------|----------|
| CR354547.3 | 0.687845557 | -2.894878771 | 2.482332 | -1.166193 | 0.243536 | NA |
| CR388165.2 | 0.666939546 | 1.487980453 | 2.2924711 | 0.6490727 | 0.516291 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| pimr97 | 0 NA | NA | NA | NA | NA | NA |
| zgc:165555 | 4.408595692 | 1.217065556 | 0.9653629 | 1.2607337 | 0.207405 | NA |
| si:dkey-149m13.4 | 7.792424008 | -0.828337844 | 0.6884291 | -1.203229 | 0.228888 | NA |
| taar19e | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| nfr | 4.517331495 | 0.548883111 | 0.8904501 | 0.6164108 | 0.537623 | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| fisl | 328.6488723 | -0.060434181 | 0.1368605 | -0.441575 | 0.658797 | 0.962613 |
| sival | 106.0660435 | -0.211818721 | 0.1898244 | -1.115867 | 0.264479 | 0.830245 |
| cdx1a | 186.8678934 | -1.309723614 | 0.1935446 | -6.767036 | 1.31E-11 | 3.66E-09 |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-233e3.3 | 6.141339638 | 0.111170149 | 0.7728854 | 0.1438378 | 0.885629 | NA |
| RF00001 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| BX323555.4 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 1.529027123 | 1.078442289 | 1.6043169 | 0.6722128 | 0.501448 | NA |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| asb18 | 33.2396453 | -0.106124786 | 0.350468 | -0.302809 | 0.762036 | 0.975374 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| CT025887.1 | 0 NA | NA | NA | NA | NA | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-159n16.2 | 166.0160693 | -0.290413199 | 0.1847354 | -1.57205 | 0.115939 | 0.63841 |
| BX681417.13 | 0 NA | NA | NA | NA | NA | NA |
| BX890543.1 | 0 NA | NA | NA | NA | NA | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| pimr82 | 1.630062504 | 0.008546258 | 1.4562697 | 0.0058686 | 0.995318 | NA |
| AL627164.1 | 0 NA | NA | NA | NA | NA | NA |
| jam3a | 442.8654331 | 0.101264165 | 0.1208801 | 0.8377242 | 0.402186 | 0.90084 |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| dre-mir-430c-1 | 0 NA | NA | NA | NA | NA | NA |
| CU914776.2 | 3.401189167 | 1.668530581 | 1.1084329 | 1.5053059 | 0.132245 | NA |
| zgc:77614 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| BX470182.2 | 0 NA | NA | NA | NA | NA | NA |
| FP085421.1 | 0.795406914 | -3.1255921 | 2.3628864 | -1.322786 | 0.185907 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00017 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| BX942815.1 | 6.592300801 | 0.107630101 | 0.7701348 | 0.1397549 | 0.888854 | NA |
| znf1021 | 10.56991531 | 0.173305893 | 0.627464 | 0.2762005 | 0.782394 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| L0018106.1 | 5.35277723 | 0.738329854 | 0.8543125 | 0.8642386 | 0.387457 | NA |
| BX510335.5 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |

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|--------------------|--------------|---------------|------------|------------|-----------|-----------|
| BX942837. 1 | 0. 333314908 | -1. 858695402 | 3. 5126701 | -0. 52914 | 0. 596708 | NA |
| BX321875. 4 | 0. 31759079 | 1. 807926197 | 3. 579045 | 0. 5051421 | 0. 613459 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0. 182570949 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| ube2c | 356. 492619 | -0. 120208234 | 0. 1310132 | -0. 917527 | 0. 358866 | 0. 884602 |
| BX324233. 1 | 0. 484248244 | 0. 852636534 | 2. 8793247 | 0. 2961238 | 0. 767136 | NA |
| BX908797. 1 | 74. 61754324 | -0. 170970531 | 0. 2399278 | -0. 712592 | 0. 476099 | 0. 926338 |
| RF00001 | 0. 80742327 | 0. 548673017 | 2. 1289713 | 0. 2577174 | 0. 796625 | NA |
| BX248410. 3 | 1. 828546948 | 0. 849641525 | 1. 4505134 | 0. 5857523 | 0. 558042 | NA |
| BX908796. 4 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF01848 | 0 NA | | NA | NA | NA | NA |
| pimr58 | 0 NA | | NA | NA | NA | NA |
| RF00026 | 0 NA | | NA | NA | NA | NA |
| hmox2a | 658. 8052987 | 0. 131778977 | 0. 1101221 | 1. 196662 | 0. 231438 | 0. 799752 |
| BX537118. 1 | 0. 476626891 | 2. 395187592 | 2. 815932 | 0. 8505843 | 0. 395 | NA |
| CABZ01067557. 1 | 25. 74649303 | 0. 214025449 | 0. 3855482 | 0. 5551198 | 0. 578813 | 0. 951052 |
| FP074902. 3 | 0 NA | | NA | NA | NA | NA |
| FP016205. 1 | 93. 89432586 | -0. 051648118 | 0. 202725 | -0. 254769 | 0. 798901 | 0. 979066 |
| taar19i | 0 NA | | NA | NA | NA | NA |
| BX324142. 1 | 11. 57935008 | 0. 407246668 | 0. 620388 | 0. 6564387 | 0. 511542 | 0. 936253 |
| RF00026 | 0 NA | | NA | NA | NA | NA |
| CU570893. 1 | 0. 838940531 | -0. 561526863 | 2. 0217856 | -0. 277738 | 0. 781213 | NA |
| znf1117 | 32. 65324569 | -0. 039288452 | 0. 3646201 | -0. 107752 | 0. 914193 | 0. 991119 |
| taar20p | 0. 508023798 | 0. 926122713 | 2. 6636728 | 0. 3476864 | 0. 728076 | NA |
| CABZ01068246. 1 | 22. 73959075 | -0. 177822087 | 0. 4070597 | -0. 436845 | 0. 662224 | 0. 964665 |
| CT573356. 2 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0. 341366344 | 1. 891903201 | 3. 2128156 | 0. 5888614 | 0. 555954 | NA |
| RF00017 | 11. 1176324 | 0. 736906885 | 0. 5937226 | 1. 2411636 | 0. 214545 | 0. 782493 |
| zgc:77614 | 0 NA | | NA | NA | NA | NA |
| RF00026 | 0 NA | | NA | NA | NA | NA |
| CABZ01008739. 1 | 0. 965521134 | -1. 007308141 | 2. 0818297 | -0. 483857 | 0. 628487 | NA |
| CABZ01072083. 2 | 111. 1562739 | -0. 217330271 | 0. 1965696 | -1. 105615 | 0. 268893 | 0. 834185 |
| si:dkey-11d20. 1 | 2. 606300699 | -0. 010084567 | 1. 1807276 | -0. 008541 | 0. 993185 | NA |
| pimr92 | 0 NA | | NA | NA | NA | NA |
| BX957231. 1 | 2. 74933069 | 0. 826019583 | 1. 2411006 | 0. 6655541 | 0. 505696 | NA |
| RF00001 | 0. 499972362 | -2. 44370697 | 3. 0013188 | -0. 814211 | 0. 415524 | NA |
| BX510309. 3 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| BX957279. 1 | 23. 46151422 | -0. 143084728 | 0. 3942021 | -0. 362973 | 0. 716625 | 0. 96909 |
| asip2b | 295. 346795 | 0. 160540478 | 0. 1347569 | 1. 1913344 | 0. 233522 | 0. 802097 |
| RF00026 | 0. 365141898 | 1. 973577737 | 3. 3927314 | 0. 5817076 | 0. 560764 | NA |
| CABZ01084131. 1 | 301. 657947 | -0. 095925307 | 0. 1352266 | -0. 709367 | 0. 478097 | 0. 926857 |
| RF00001 | 0. 481032184 | -2. 398473301 | 2. 80721 | -0. 854398 | 0. 392885 | NA |
| CU928847. 1 | 0. 697787013 | 1. 536711783 | 2. 3781027 | 0. 6461924 | 0. 518155 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00020 | 0. 158795395 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| si:ch211-238p8. 35 | 0 NA | | NA | NA | NA | NA |
| RF00026 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0. 157187365 | -0. 955901296 | 4. 0804729 | -0. 234262 | 0. 814781 | NA |
| RF00001 | 0. 158795395 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| RF00026 | 0 NA | | NA | NA | NA | NA |
| CT583728. 19 | 0 NA | | NA | NA | NA | NA |
| ighj2-4 | 0 NA | | NA | NA | NA | NA |

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|---------------------|--------------|---------------|------------|------------|-----------|-----------|
| RF00392 | | 0 NA | NA | NA | NA | NA |
| znf985 | 2. 622911725 | 1. 123378738 | 1. 2371861 | 0. 9080111 | 0. 363872 | NA |
| JMY | 75. 44884293 | 0. 179490736 | 0. 2457637 | 0. 7303386 | 0. 465183 | 0. 923671 |
| rab3b | 1282. 826974 | 0. 096894876 | 0. 0808433 | 1. 1985518 | 0. 230702 | 0. 798822 |
| CABZ01032906. 1 | 0. 157187365 | -0. 955901296 | 4. 0804729 | -0. 234262 | 0. 814781 | NA |
| taar19a | | 0 NA | NA | NA | NA | NA |
| CT867973. 1 | | 0 NA | NA | NA | NA | NA |
| RF00026 | | 0 NA | NA | NA | NA | NA |
| L0018106. 2 | 1. 862139108 | 0. 2356309 | 1. 4264702 | 0. 1651846 | 0. 868799 | NA |
| CU469530. 2 | 3. 320128348 | -1. 59740194 | 1. 1062244 | -1. 444013 | 0. 148735 | NA |
| RF00012 | | 0 NA | NA | NA | NA | NA |
| RF00001 | 0. 157187365 | -0. 955901296 | 4. 0804729 | -0. 234262 | 0. 814781 | NA |
| BX294661. 2 | | 0 NA | NA | NA | NA | NA |
| dicpl. 1 | 0. 790881268 | 0. 5906245 | 2. 2495814 | 0. 2625486 | 0. 792899 | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| CR407598. 2 | | 0 NA | NA | NA | NA | NA |
| CU633479. 5 | 103. 2340052 | 0. 017704798 | 0. 2093635 | 0. 0845649 | 0. 932607 | 0. 992702 |
| ighv8-3 | | 0 NA | NA | NA | NA | NA |
| RF00026 | | 0 NA | NA | NA | NA | NA |
| L0018148. 1 | 348. 6886445 | -0. 140840386 | 0. 1303589 | -1. 080405 | 0. 279962 | 0. 843423 |
| SCARF2 | 27. 6494674 | -0. 324852538 | 0. 3656657 | -0. 888387 | 0. 374333 | 0. 893914 |
| CR749777. 1 | 0. 31598276 | 0. 005883445 | 3. 3523626 | 0. 001755 | 0. 9986 | NA |
| RF00001 | 0. 333314908 | -1. 858695402 | 3. 5126701 | -0. 52914 | 0. 596708 | NA |
| dre-mir-430c-1 | | 0 NA | NA | NA | NA | NA |
| RF00017 | 0. 157187365 | -0. 955901296 | 4. 0804729 | -0. 234262 | 0. 814781 | NA |
| CR450805. 1 | 0. 666819193 | 1. 487924459 | 2. 4081466 | 0. 6178712 | 0. 53666 | NA |
| CR974456. 1 | 160. 6667055 | 0. 115355999 | 0. 1671407 | 0. 6901731 | 0. 490085 | 0. 931926 |
| RF00003 | | 0 NA | NA | NA | NA | NA |
| si:dkey-31m5. 5 | 0. 333314908 | -1. 858695402 | 3. 5126701 | -0. 52914 | 0. 596708 | NA |
| zgc:77614 | | 0 NA | NA | NA | NA | NA |
| CABZ01078594. 1 | 882. 6469509 | 0. 120010501 | 0. 1086273 | 1. 1047918 | 0. 26925 | 0. 834636 |
| BX681417. 14 | | 0 NA | NA | NA | NA | NA |
| FP236318. 2 | 240. 2100681 | -0. 03564929 | 0. 1379164 | -0. 258485 | 0. 796033 | 0. 978498 |
| RF00026 | | 0 NA | NA | NA | NA | NA |
| CU467856. 3 | 19. 86185833 | 0. 546582554 | 0. 4380131 | 1. 2478681 | 0. 212079 | 0. 77986 |
| CU655961. 4 | 3. 024577941 | 0. 043760045 | 1. 0942236 | 0. 0399919 | 0. 9681 | NA |
| PXMP4 | 136. 5379919 | -0. 221078976 | 0. 172859 | -1. 278956 | 0. 200913 | 0. 766855 |
| CU076099. 2 | | 0 NA | NA | NA | NA | NA |
| BX571681. 6 | | 0 NA | NA | NA | NA | NA |
| znf1038 | 7. 312631266 | -0. 206065666 | 0. 7985153 | -0. 258061 | 0. 79636 | NA |
| znf1026 | 29. 95190067 | -0. 284651654 | 0. 3543394 | -0. 80333 | 0. 421784 | 0. 90651 |
| si:ch211-113a14. 22 | 35. 79014808 | 0. 474887401 | 0. 330521 | 1. 4367843 | 0. 150779 | 0. 698912 |
| RF00026 | | 0 NA | NA | NA | NA | NA |
| FP236318. 3 | 93. 10614684 | 0. 066970276 | 0. 2335975 | 0. 2866909 | 0. 774349 | 0. 975687 |
| RF00026 | | 0 NA | NA | NA | NA | NA |
| taar20r | 0. 491320158 | 0. 8528132 | 2. 8656354 | 0. 2976 | 0. 766008 | NA |
| tradv11. 0. 3 | | 0 NA | NA | NA | NA | NA |
| znf1089 | 1. 311251486 | -2. 689957487 | 1. 8333782 | -1. 467214 | 0. 142318 | NA |
| F0704772. 1 | 41. 89622201 | 0. 576112378 | 0. 7171216 | 0. 8033678 | 0. 421762 | 0. 90651 |
| CT027677. 1 | 1. 174052845 | 2. 488168036 | 2. 0102134 | 1. 2377632 | 0. 215804 | NA |
| RF00026 | | 0 NA | NA | NA | NA | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| BX649508. 2 | 2. 010216447 | -2. 312787637 | 1. 5274584 | -1. 514141 | 0. 12999 | NA |
| TTC28 | 1001. 563412 | 0. 082246468 | 0. 1061639 | 0. 7747124 | 0. 43851 | 0. 915831 |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| RF00001 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| CU855895.2 | 118.416236 | -0.068751105 | 0.1852188 | -0.371189 | 0.710497 | 0.968985 |
| CT583728.20 | 0 NA | NA | NA | NA | NA | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| BX470137.1 | 0.325452849 | 0.005883619 | 3.3177086 | 0.0017734 | 0.998585 | NA |
| RF00001 | 0.538871265 | 0.999144257 | 2.7784799 | 0.359601 | 0.719146 | NA |
| BX927341.4 | 0 NA | NA | NA | NA | NA | NA |
| si:dkeyp-53e4.4 | 1.965844612 | 1.013004745 | 1.3823505 | 0.7328132 | 0.463672 | NA |
| CABZ01073033.1 | 32.96576724 | 0.209010308 | 0.3383404 | 0.6177516 | 0.536739 | 0.943336 |
| CT025695.2 | 0 NA | NA | NA | NA | NA | NA |
| BX511034.8 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| zgc:194551 | 48.47155814 | -0.471431172 | 0.2807357 | -1.67927 | 0.093099 | 0.580702 |
| zgc:77614 | 0 NA | NA | NA | NA | NA | NA |
| BX005022.2 | 1.972528723 | 1.628884857 | 1.4878117 | 1.0948192 | 0.273596 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| dre-mir-430b-10 | 0 NA | NA | NA | NA | NA | NA |
| zp3 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CABZ01084340.1 | 0.658218317 | -0.061628513 | 2.4342948 | -0.025317 | 0.979802 | NA |
| BX901962.4 | 42.49645631 | 0.347470638 | 0.327461 | 1.0611056 | 0.288642 | 0.845979 |
| pimr80 | 3.444622765 | -0.715088152 | 1.0355396 | -0.690546 | 0.489851 | NA |
| pimr166 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0.332524763 | 0.005883742 | 3.292841 | 0.0017868 | 0.998574 | NA |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| CABZ01065416.1 | 27.78738077 | 0.018493812 | 0.3773318 | 0.0490121 | 0.96091 | 0.9956 |
| AL845320.2 | 1.001591779 | -2.198778422 | 2.0996481 | -1.047213 | 0.295001 | NA |
| si:dkey-234i14.13 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| tmem14cb | 43.41752157 | 0.276528967 | 0.298607 | 0.9260634 | 0.354413 | 0.882105 |
| BX769173.3 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| CABZ01075628.1 | 9.867569144 | -0.249867197 | 0.6765626 | -0.369319 | 0.71189 | NA |
| CU862020.1 | 19.2429336 | 0.057872376 | 0.4494411 | 0.1287652 | 0.897543 | 0.990121 |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| L0017845.1 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| F0704624.1 | 30.94130279 | 0.154117058 | 0.3463112 | 0.4450247 | 0.656302 | 0.961833 |
| znf1033 | 11.87773576 | -0.306254752 | 0.603459 | -0.507499 | 0.611805 | 0.95688 |
| CT583728.21 | 0.513487682 | -0.887846295 | 2.6557956 | -0.334305 | 0.738149 | NA |
| RF00017 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CR932978.2 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| si:dkeyp-123a12.2 | 13.39397835 | 0.404306859 | 0.5141288 | 0.7863922 | 0.431638 | 0.91277 |
| BX000981.11 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| dre-mir-430a-2 | 0 NA | NA | NA | NA | NA | NA |
| RF00017 | 0.365141898 | 1.973577737 | 3.3927314 | 0.5817076 | 0.560764 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-4c23.5 | 2.472339447 | 0.577358399 | 1.1758589 | 0.4910099 | 0.623419 | NA |

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|-------------------|--------------|---------------|------------|------------|-----------|-----------|
| ftr50 | 4. 858947993 | -1. 450567588 | 0. 9429998 | -1. 538248 | 0. 123988 | NA |
| CU138548. 7 | 0 NA | NA | NA | NA | NA | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00016 | 2. 561455083 | 1. 006681515 | 1. 2678067 | 0. 7940339 | 0. 427176 | NA |
| BX324157. 1 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| AL935292. 1 | 2. 943619552 | -0. 020303771 | 1. 1161177 | -0. 018191 | 0. 985486 | NA |
| zgc:165555 | 4. 835348959 | 0. 452211052 | 0. 9586305 | 0. 4717261 | 0. 637122 | NA |
| pimr192 | 0. 157187365 | -0. 955901296 | 4. 0804729 | -0. 234262 | 0. 814781 | NA |
| BX470083. 4 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-65b13. 8 | 0 NA | NA | NA | NA | NA | NA |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| si:dkeyp-74b6. 2 | 0. 330916733 | -1. 849579229 | 3. 2489867 | -0. 569279 | 0. 569167 | NA |
| RF00001 | 0. 166657454 | -0. 955901296 | 4. 0804729 | -0. 234262 | 0. 814781 | NA |
| zgc:174353 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| taar19d | 0. 166657454 | -0. 955901296 | 4. 0804729 | -0. 234262 | 0. 814781 | NA |
| CABZ01057928. 1 | 51. 46833742 | -0. 270591866 | 0. 2686634 | -1. 007178 | 0. 313849 | 0. 865176 |
| v2rh11 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| CABZ01087415. 1 | 3. 599291602 | -0. 816687586 | 1. 0011778 | -0. 815727 | 0. 414656 | NA |
| F0704836. 1 | 0. 31437473 | -1. 788572922 | 3. 5930657 | -0. 497785 | 0. 618636 | NA |
| LHFPL6 | 16. 70137006 | 0. 307455568 | 0. 474943 | 0. 6473525 | 0. 517404 | 0. 938592 |
| RF00271 | 8. 811109489 | -1. 08474038 | 0. 6626254 | -1. 637034 | 0. 101623 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-33c12. 2 | 0. 365141898 | 1. 973577737 | 3. 3927314 | 0. 5817076 | 0. 560764 | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| si:dkeyp-46h3. 1 | 2. 678255868 | -0. 347307114 | 1. 1457186 | -0. 303135 | 0. 761787 | NA |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| BX511056. 5 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-112g5. 12 | 0. 681124658 | 1. 536768532 | 2. 394256 | 0. 6418564 | 0. 520966 | NA |
| RF00001 | 0. 158795395 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| CU466281. 1 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-199f5. 7 | 0. 158795395 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| AL935174. 3 | 10. 52152382 | 0. 529839519 | 0. 5889373 | 0. 8996535 | 0. 368305 | NA |
| RF00001 | 0. 158915748 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| senp7a | 0. 173729368 | -0. 955901296 | 4. 0804729 | -0. 234262 | 0. 814781 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| BX681417. 15 | 0 NA | NA | NA | NA | NA | NA |
| nitr1b | 1. 794351782 | 1. 386458267 | 1. 5674049 | 0. 8845566 | 0. 376396 | NA |
| BX901889. 5 | 0 NA | NA | NA | NA | NA | NA |
| LO018020. 2 | 0 NA | NA | NA | NA | NA | NA |
| RF00276 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0. 158795395 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| RF00001 | 0. 166657454 | -0. 955901296 | 4. 0804729 | -0. 234262 | 0. 814781 | NA |
| CABZ01059407. 1 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| BX000364. 3 | 0 NA | NA | NA | NA | NA | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| im:6904045 | 41.7791797 | 0.01972744 | 0.3304383 | 0.0597008 | 0.952394 | 0.993904 |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| si:dkey-15b23.3 | 2.008797794 | -0.976779242 | 1.367901 | -0.714072 | 0.475183 | NA |
| CR450764.6 | 0 NA | | NA | NA | NA | NA |
| RF00004 | 0 NA | | NA | NA | NA | NA |
| L0017791.1 | 11.14878751 | 0.650786931 | 0.5857463 | 1.111039 | 0.266552 | 0.832634 |
| RF00001 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CU929379.1 | 0.830098949 | -1.902766313 | 2.1285797 | -0.893914 | 0.371368 | NA |
| F0203432.1 | 1.477239148 | -1.829776285 | 1.7262284 | -1.059985 | 0.289151 | NA |
| dicpl.3-4 | 2.107987695 | -0.253224681 | 1.3448436 | -0.188293 | 0.850647 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| BX323062.1 | 0.845032922 | -3.195649681 | 2.1776262 | -1.467492 | 0.142242 | NA |
| RF00004 | 1.863950061 | 0.854367974 | 1.453161 | 0.5879376 | 0.556574 | NA |
| zgc:171445 | 3.852865937 | -0.643768042 | 0.987967 | -0.651609 | 0.514654 | NA |
| L0018680.1 | 0.680145136 | -1.475466752 | 2.2805885 | -0.646968 | 0.517653 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00026 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00015 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX005085.6 | 54.90130347 | -0.285560648 | 0.2604245 | -1.09652 | 0.272851 | 0.838096 |
| MARF1 | 473.1568753 | 0.009102599 | 0.1125683 | 0.0808629 | 0.935551 | 0.992702 |
| RF00026 | 0 NA | | NA | NA | NA | NA |
| BX681417.16 | 0 NA | | NA | NA | NA | NA |
| crygm2b | 8.540852465 | -0.008446182 | 0.6935109 | -0.012179 | 0.990283 | NA |
| CR450720.1 | 0.513487682 | -0.887846295 | 2.6557956 | -0.334305 | 0.738149 | NA |
| BX681417.17 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0.31598276 | 0.005883445 | 3.3523626 | 0.001755 | 0.9986 | NA |
| BX927234.2 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CDK2AP1 | 168.0247702 | 0.149471937 | 0.1751014 | 0.8536309 | 0.39331 | 0.898076 |
| RF00001 | 1.01525745 | 2.235309641 | 2.0936621 | 1.0676554 | 0.285676 | NA |
| dre-mir-430a-2 | 0 NA | | NA | NA | NA | NA |
| CR376730.3 | 0 NA | | NA | NA | NA | NA |
| si:ch73-338o16.4 | 0.332524763 | 0.005883742 | 3.292841 | 0.0017868 | 0.998574 | NA |
| RF00026 | 0 NA | | NA | NA | NA | NA |
| RF00026 | 0 NA | | NA | NA | NA | NA |
| RF00092 | 0.829470442 | -0.541620008 | 2.1123709 | -0.256404 | 0.797639 | NA |
| si:ch211-238p8.18 | 0 NA | | NA | NA | NA | NA |
| BX649300.2 | 24.25324171 | -0.255015461 | 0.4071876 | -0.626285 | 0.531128 | 0.942209 |
| imp3 | 208.061019 | 0.250001232 | 0.1642066 | 1.5224801 | 0.127889 | 0.658732 |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| CR394572.1 | 0.794578739 | 3.129658898 | 2.5486248 | 1.2279794 | 0.219455 | NA |
| RPL37A | 9095.055727 | -0.277223725 | 0.0937834 | -2.955999 | 0.003117 | 0.073687 |
| taarl3e | 0 NA | | NA | NA | NA | NA |
| RF00003 | 0 NA | | NA | NA | NA | NA |
| zgc:165555 | 17.92543455 | 0.144333413 | 0.5236713 | 0.2756183 | 0.782841 | 0.97627 |
| tsnax | 273.7101855 | -0.124455607 | 0.1296142 | -0.9602 | 0.336954 | 0.876088 |
| si:ch211-238p8.10 | 2.215457282 | 3.514524741 | 1.6478464 | 2.1327987 | 0.032941 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00271 | 0.325452849 | 0.005883619 | 3.3177086 | 0.0017734 | 0.998585 | NA |
| RF00017 | 0.347458735 | -1.908042286 | 3.4571486 | -0.551912 | 0.581009 | NA |
| BX510352.1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| zgc:174354 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:ch211-227e10.3 | 4.286003752 | 0.233563751 | 0.9611806 | 0.2429967 | 0.808008 | NA |
| lurapl | 315.0151099 | 0.090831835 | 0.1218856 | 0.7452222 | 0.456137 | 0.921215 |
| pimr146 | 0 NA | NA | NA | NA | NA | NA |
| CU693440.1 | 0 NA | NA | NA | NA | NA | NA |
| pimr159 | 0 NA | NA | NA | NA | NA | NA |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| CU633857.1 | 2.650543133 | 0.37792834 | 1.2251509 | 0.3084749 | 0.757721 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| dre-mir-430b-18 | 0 NA | NA | NA | NA | NA | NA |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| znf1002 | 3.218377513 | 1.566956631 | 1.1512874 | 1.3610473 | 0.173499 | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| BX681417.18 | 0 NA | NA | NA | NA | NA | NA |
| ubald2 | 62.20402526 | -0.204575387 | 0.2441084 | -0.838051 | 0.402002 | 0.90084 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0.31759079 | 1.807926197 | 3.579045 | 0.5051421 | 0.613459 | NA |
| BX908796.5 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| nat14 | 71.97535297 | -0.151667767 | 0.2350405 | -0.645284 | 0.518743 | 0.938914 |
| RF00001 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| CABZ01077555.1 | 9.447900095 | -0.265925632 | 0.6148959 | -0.432473 | 0.665398 | NA |
| CR753816.1 | 0 NA | NA | NA | NA | NA | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| AL928685.3 | 0.5046461 | -2.45370851 | 2.7629627 | -0.888072 | 0.374502 | NA |
| pimr77 | 0 NA | NA | NA | NA | NA | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| LO018532.1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| gnb4b | 244.9091248 | 0.034365412 | 0.1417653 | 0.2424106 | 0.808462 | 0.980642 |
| CABZ01022564.1 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| BX890572.2 | 0.332524763 | 0.005883742 | 3.292841 | 0.0017868 | 0.998574 | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0.349228403 | 0.005884014 | 3.2372587 | 0.0018176 | 0.99855 | NA |
| hbbe1.2 | 2060.684346 | 0.338666334 | 0.2394299 | 1.4144698 | 0.157224 | 0.707876 |
| pimr58 | 3.024299205 | 1.38326486 | 1.1958341 | 1.1567365 | 0.24738 | NA |
| BX664750.5 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| BX649556.2 | 0.488104098 | -2.415107183 | 2.7936704 | -0.864493 | 0.387317 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| n6amt1 | 220.1525911 | -0.170665326 | 0.154279 | -1.106212 | 0.268635 | 0.833906 |
| CABZ01083778.1 | 18.46196029 | 0.029210431 | 0.450679 | 0.0648143 | 0.948322 | 0.99381 |
| CABZ01038524.1 | 10.50027358 | -0.127124387 | 0.5886945 | -0.215943 | 0.829032 | NA |
| CR925768.1 | 0.817013712 | 0.525058354 | 2.1207741 | 0.2475786 | 0.80446 | NA |
| CABZ01101813.1 | 163.9845437 | 0.077976197 | 0.1728532 | 0.4511122 | 0.651909 | 0.960708 |
| RF00392 | 0 NA | NA | NA | NA | NA | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |

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|-------------------|--------------|---------------|------------|------------|-----------|-----------|
| pimr198 | 1. 668410972 | -0. 551125295 | 1. 4848995 | -0. 371153 | 0. 710523 | NA |
| RF00001 | 0. 157187365 | -0. 955901296 | 4. 0804729 | -0. 234262 | 0. 814781 | NA |
| BX547993. 2 | 1. 318206302 | 0. 719384813 | 1. 8578549 | 0. 3872126 | 0. 698599 | NA |
| RF00003 | 0. 157187365 | -0. 955901296 | 4. 0804729 | -0. 234262 | 0. 814781 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00003 | 0. 48448895 | 0. 85344211 | 2. 878836 | 0. 2964539 | 0. 766883 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 95. 35300378 | 0. 207608139 | 0. 2099907 | 0. 9886539 | 0. 322833 | 0. 870543 |
| zgc:173575 | 36. 16674129 | -0. 149457317 | 0. 3217291 | -0. 464544 | 0. 642258 | 0. 959994 |
| zp3. 2 | 0. 82223689 | -0. 634107248 | 2. 2243871 | -0. 285071 | 0. 77559 | NA |
| RF00001 | 0. 365141898 | 1. 973577737 | 3. 3927314 | 0. 5817076 | 0. 560764 | NA |
| tomt | 0. 182570949 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| CR854981. 1 | 0 NA | NA | NA | NA | NA | NA |
| dre-mir-430c-1 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0. 500161739 | 2. 450146464 | 2. 7711133 | 0. 8841741 | 0. 376602 | NA |
| pimr160 | 0 NA | NA | NA | NA | NA | NA |
| RF00017 | 0 NA | NA | NA | NA | NA | NA |
| BX322622. 1 | 1. 46736997 | 0. 931592809 | 1. 6716849 | 0. 5572777 | 0. 577338 | NA |
| klh110b. 1 | 1. 678671207 | -1. 178627462 | 1. 5304903 | -0. 770098 | 0. 441242 | NA |
| BX511028. 1 | 2. 633622377 | -2. 100049574 | 1. 2906803 | -1. 627087 | 0. 103719 | NA |
| RF00211 | 0. 332645115 | 0. 005883744 | 3. 2924249 | 0. 0017871 | 0. 998574 | NA |
| RF00012 | 0 NA | NA | NA | NA | NA | NA |
| BX548073. 10 | 0 NA | NA | NA | NA | NA | NA |
| shisa6 | 71. 50936213 | -0. 067343929 | 0. 2405858 | -0. 279916 | 0. 779542 | 0. 976146 |
| BX004976. 1 | 0. 488104098 | -2. 415107183 | 2. 7936704 | -0. 864493 | 0. 387317 | NA |
| CABZ01080056. 1 | 27. 43696579 | 0. 068761325 | 0. 3906648 | 0. 1760111 | 0. 860285 | 0. 985773 |
| MGAT5B | 2. 898076405 | 0. 190220806 | 1. 1510532 | 0. 1652581 | 0. 868741 | NA |
| si:dkey-122c11. 8 | 1. 831171287 | 0. 220127097 | 1. 4472705 | 0. 1520981 | 0. 87911 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| CU468041. 2 | 20. 88245932 | 0. 568290812 | 0. 4274463 | 1. 3295023 | 0. 183682 | 0. 747284 |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| CR847973. 1 | 0 NA | NA | NA | NA | NA | NA |
| CR293501. 2 | 4. 623201257 | -0. 623971046 | 0. 8698717 | -0. 717314 | 0. 47318 | NA |
| pimr6 | 0. 476626891 | 2. 395187592 | 2. 815932 | 0. 8505843 | 0. 395 | NA |
| znf1118 | 5. 770662419 | -0. 456411695 | 0. 8865449 | -0. 514821 | 0. 606678 | NA |
| AL929520. 3 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0. 341366344 | 1. 891903201 | 3. 2128156 | 0. 5888614 | 0. 555954 | NA |
| F0082780. 1 | 112. 3857518 | -0. 129485538 | 0. 2051529 | -0. 631166 | 0. 527932 | 0. 941647 |
| RF00618 | 0. 349228403 | 0. 005884014 | 3. 2372587 | 0. 0018176 | 0. 99855 | NA |
| dre-mir-430c-1 | 0 NA | NA | NA | NA | NA | NA |
| cacng4a | 22. 31133494 | 0. 010551139 | 0. 4036697 | 0. 026138 | 0. 979147 | 0. 996802 |
| CT030048. 1 | 0. 81823394 | 3. 165585784 | 2. 3439761 | 1. 3505196 | 0. 176849 | NA |
| clec19a | 76. 63446814 | -0. 141705097 | 0. 2445507 | -0. 579451 | 0. 562285 | 0. 948728 |
| CABZ01026681. 1 | 63. 9795225 | 0. 021192915 | 0. 2610551 | 0. 0811818 | 0. 935297 | 0. 992702 |
| NCEH1 | 28. 74589976 | -0. 178626431 | 0. 3700066 | -0. 482766 | 0. 629262 | 0. 957354 |
| FP015862. 4 | 2. 44476966 | -3. 679932498 | 1. 6846894 | -2. 184339 | 0. 028937 | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| CABZ01117752. 1 | 8. 089490643 | 0. 875041224 | 0. 7061946 | 1. 2390935 | 0. 215311 | NA |
| BX323459. 2 | 1. 023239862 | 1. 010298903 | 1. 8853048 | 0. 5358809 | 0. 592041 | NA |
| cox7b | 2170. 488927 | -0. 045607222 | 0. 0978135 | -0. 466267 | 0. 641024 | 0. 959994 |
| traj22 | 0 NA | NA | NA | NA | NA | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| si:ch211-271g18.4 | 1.462226107 | -0.959866663 | 1.6747208 | -0.57315 | 0.566543 | NA |
| RF00012 | 0 | NA | NA | NA | NA | NA |
| si:dkey-235d18.6 | 3.500895102 | -0.389194056 | 1.0285026 | -0.378408 | 0.705127 | NA |
| CR759836.1 | 83.76560667 | -0.057943617 | 0.2192015 | -0.264339 | 0.791518 | 0.977668 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| BX681417.19 | 0 | NA | NA | NA | NA | NA |
| AL928685.4 | 8.945002712 | -1.128571152 | 0.6547716 | -1.72361 | 0.084778 | NA |
| BX681417.20 | 0 | NA | NA | NA | NA | NA |
| si:dkeyp-82b4.3 | 1.428070809 | 2.793119961 | 1.9545841 | 1.4290099 | 0.153001 | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| CR847895.1 | 1.976373291 | 2.296841472 | 1.5253575 | 1.5057726 | 0.132126 | NA |
| pimr160 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| cacnaldb | 16.79759892 | 0.127916217 | 0.5213494 | 0.245356 | 0.806181 | 0.980105 |
| BX649608.2 | 0.641435609 | -0.01573847 | 2.4541227 | -0.006413 | 0.994883 | NA |
| cc125a | 168.1754065 | -0.001084241 | 0.1672858 | -0.006481 | 0.994829 | 0.998694 |
| CU468826.3 | 0 | NA | NA | NA | NA | NA |
| taar19t | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| CR392335.1 | 0.365141898 | 1.973577737 | 3.3927314 | 0.5817076 | 0.560764 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00017 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| BX324110.1 | 0.990114572 | 0.997810867 | 1.9011265 | 0.5248524 | 0.599686 | NA |
| CR293532.1 | 0 | NA | NA | NA | NA | NA |
| si:dkey-83f18.3 | 0 | NA | NA | NA | NA | NA |
| CT030160.1 | 1.139989318 | 0.439423795 | 1.8430523 | 0.2384218 | 0.811554 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| BX511259.2 | 1.778370258 | 1.351853426 | 1.72531 | 0.7835423 | 0.433309 | NA |
| zgc:173552 | 13.16695396 | -0.059003989 | 0.5587563 | -0.105599 | 0.915901 | 0.991314 |
| RF00017 | 0 | NA | NA | NA | NA | NA |
| CR846082.1 | 160.2466052 | 0.014470907 | 0.1834108 | 0.0788989 | 0.937113 | 0.99279 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| L0017917.1 | 104.9988183 | 0.321216296 | 0.1958684 | 1.6399599 | 0.101014 | 0.604004 |
| dre-mir-430a-16 | 0 | NA | NA | NA | NA | NA |
| znf1078 | 9.326048061 | -0.505967812 | 0.6243948 | -0.810333 | 0.417749 | NA |
| RF00001 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| prkaa | 997.0016895 | 0.035918484 | 0.0831563 | 0.4319394 | 0.665785 | 0.964736 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| SAMD12 | 5.249232521 | -0.198399336 | 0.8276573 | -0.239712 | 0.810554 | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| RF00096 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| pimr89 | 0 | NA | NA | NA | NA | NA |
| CU694255.2 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.31759079 | 1.807926197 | 3.579045 | 0.5051421 | 0.613459 | NA |
| si:dkey-27d5.4 | 0 | NA | NA | NA | NA | NA |
| pimr18 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| zgc:101806 | 0 | NA | NA | NA | NA | NA |

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|-----------------|-------------|--------------|-----------|-----------|----------|----------|
| RF00001 | 0 | NA | NA | NA | NA | NA |
| crygm2d9 | 8600.777892 | 0.121832087 | 0.0739959 | 1.6464701 | 0.099667 | 0.600675 |
| BX664750.6 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.325573202 | 0.005883621 | 3.3172783 | 0.0017736 | 0.998585 | NA |
| RF00012 | 0 | NA | NA | NA | NA | NA |
| pimr76 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| twfla | 625.1163201 | -0.133290798 | 0.0991195 | -1.344748 | 0.178707 | 0.739486 |
| CT583728.22 | 0 | NA | NA | NA | NA | NA |
| pigbos1 | 200.9402294 | 0.092332686 | 0.15325 | 0.6024972 | 0.546843 | 0.945526 |
| FO904836.1 | 0 | NA | NA | NA | NA | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| pimr84 | 0.333314908 | -1.858695402 | 3.5126701 | -0.52914 | 0.596708 | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| CT033803.2 | 0 | NA | NA | NA | NA | NA |
| CT583625.6 | 1.727631919 | 2.10820327 | 1.7671101 | 1.1930232 | 0.23286 | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| BX511311.8 | 0 | NA | NA | NA | NA | NA |
| AL954741.2 | 220.9913173 | 0.068584471 | 0.1394348 | 0.4918747 | 0.622808 | 0.957354 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| LO017974.1 | 2.569437495 | 0.599923667 | 1.2389996 | 0.4842001 | 0.628244 | NA |
| CR932978.3 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| zgc:77614 | 1.030002046 | -2.236497097 | 2.086282 | -1.072001 | 0.283719 | NA |
| RF00001 | 0.809821446 | 0.539374789 | 2.2312571 | 0.2417358 | 0.808985 | NA |
| si:dkey-30g5.1 | 0 | NA | NA | NA | NA | NA |
| AL929536.5 | 84.26372053 | 0.086334012 | 0.2241495 | 0.3851626 | 0.700117 | 0.967998 |
| si:dkey-47k20.5 | 0.86511426 | -0.498385432 | 2.3277634 | -0.214105 | 0.830465 | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| si:ch73-36p18.1 | 6.261587144 | 0.345509052 | 0.8088258 | 0.4271736 | 0.669253 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00017 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| BX681417.21 | 0 | NA | NA | NA | NA | NA |
| chrnb5a | 82.39661017 | 0.154471111 | 0.2183866 | 0.7073288 | 0.479362 | 0.927091 |
| CR339041.3 | 1.938265528 | 3.32385196 | 1.747094 | 1.9025032 | 0.057105 | NA |
| CR558302.1 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.365141898 | 1.973577737 | 3.3927314 | 0.5817076 | 0.560764 | NA |
| BX470083.5 | 0 | NA | NA | NA | NA | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| zgc:165555 | 8.349980841 | 1.494435944 | 0.8138668 | 1.8362168 | 0.066326 | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| GGT7 | 183.1572424 | -0.119873598 | 0.1620701 | -0.73964 | 0.459518 | 0.921978 |
| CABZ01043506.1 | 14.41242641 | -0.310703226 | 0.5018622 | -0.619101 | 0.53585 | 0.943336 |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| CR376797.1 | 0.349228403 | 0.005884014 | 3.2372587 | 0.0018176 | 0.99855 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| si:dkey-46g23.2 | 6.206544084 | -0.610451054 | 0.8003754 | -0.762706 | 0.445639 | NA |
| znf1099 | 1.156531321 | 0.4104732 | 1.7646606 | 0.2326074 | 0.816066 | NA |
| CT583728.23 | 0.31759079 | 1.807926197 | 3.579045 | 0.5051421 | 0.613459 | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| RF00026 | 0 | NA | NA | NA | NA | NA |
| BX465228.2 | 38.11941289 | 0.34045522 | 0.337531 | 1.0086635 | 0.313136 | 0.865039 |
| L0018490.1 | 1.125254766 | 1.282480133 | 1.8916897 | 0.6779548 | 0.4978 | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| si:rp71-1k13.6 | 106.4298216 | -0.455028329 | 0.1958532 | -2.323314 | 0.020162 | 0.26686 |
| RF00002 | 0 | NA | NA | NA | NA | NA |
| RF00020 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00563 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| BX276105.1 | 33.98645395 | -0.099728399 | 0.3431153 | -0.290656 | 0.771315 | 0.975687 |
| znf1001 | 7.956015754 | -0.748277459 | 0.6740588 | -1.110107 | 0.266953 | NA |
| vapal | 745.5984216 | 0.029252589 | 0.1069066 | 0.2736275 | 0.784371 | 0.97627 |
| RF00001 | 0.968308107 | 2.170936514 | 2.2853068 | 0.9499541 | 0.342136 | NA |
| sp5l | 88.7066424 | 0.093643053 | 0.214616 | 0.4363285 | 0.662598 | 0.964665 |
| ATP9A | 22.30003282 | 0.193404732 | 0.4089285 | 0.4729549 | 0.636245 | 0.958561 |
| CABZ01117706.1 | 0.981032285 | -0.053008186 | 2.0630462 | -0.025694 | 0.979501 | NA |
| dre-mir-430b-4 | 0 | NA | NA | NA | NA | NA |
| CU855552.1 | 20.1742762 | 0.291731144 | 0.448744 | 0.6501059 | 0.515624 | 0.9377 |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| si:ch211-113a14.19 | 19.15072184 | 0.291182916 | 0.4694402 | 0.620277 | 0.535075 | 0.943336 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| CT573264.2 | 0.682853041 | 2.891318346 | 2.3286279 | 1.2416403 | 0.214369 | NA |
| pimr205 | 0.48448895 | 0.85344211 | 2.878836 | 0.2964539 | 0.766883 | NA |
| CABZ01021532.1 | 0.633814256 | 1.438196278 | 2.4434004 | 0.5886044 | 0.556127 | NA |
| BX681417.22 | 0 | NA | NA | NA | NA | NA |
| si:dkey-1b17.9 | 3.024536655 | 0.016005115 | 1.0895809 | 0.0146892 | 0.98828 | NA |
| CR533578.1 | 0 | NA | NA | NA | NA | NA |
| zgc:194906 | 3.389086833 | -0.576100456 | 1.041582 | -0.553101 | 0.580194 | NA |
| BX323083.5 | 0 | NA | NA | NA | NA | NA |
| pimr165 | 0 | NA | NA | NA | NA | NA |
| CR405710.2 | 0.815405682 | -0.617073648 | 2.125746 | -0.290286 | 0.771598 | NA |
| dre-mir-430c-1 | 0 | NA | NA | NA | NA | NA |
| Inpa | 140.9530776 | 0.180322668 | 0.1770374 | 1.0185568 | 0.308413 | 0.861088 |
| KIRREL3 | 22.2028341 | -0.068333454 | 0.4129896 | -0.16546 | 0.868582 | 0.987245 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| FP016005.2 | 2.124691336 | -0.226559938 | 1.3718063 | -0.165154 | 0.868822 | NA |
| RF00001 | 0.325573202 | 0.005883621 | 3.3172783 | 0.0017736 | 0.998585 | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00017 | 0 | NA | NA | NA | NA | NA |
| t1r20.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| htr2b | 16.40973116 | 0.620701657 | 0.4678742 | 1.3266422 | 0.184627 | 0.747376 |
| CU137681.6 | 0 | NA | NA | NA | NA | NA |
| zgc:171759 | 7.202796329 | 0.487017923 | 0.7577232 | 0.6427385 | 0.520394 | NA |
| F0681393.2 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| galnt8a.1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| L0018551.1 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| AL929453.1 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| CABZ01044281.1 | 1202.729867 | 0.644433234 | 0.1014319 | 6.3533556 | 2.11E-10 | 4.79E-08 |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| L0017799.1 | 19.09547458 | 0.531683465 | 0.4517765 | 1.1768728 | 0.239246 | 0.807768 |
| RF00001 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00137 | 0 NA | NA | NA | NA | NA | NA |
| CU856344.1 | 21.09188821 | 0.062605466 | 0.4163465 | 0.1503687 | 0.880474 | 0.987881 |
| RF00017 | 0 NA | NA | NA | NA | NA | NA |
| AL935186.9 | 10275.63756 | 0.908631387 | 0.4663644 | 1.9483294 | 0.051376 | 0.444245 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| srp14 | 269.7618169 | 0.053279982 | 0.137873 | 0.3864425 | 0.699169 | 0.967998 |
| AL935186.10 | 1928.41561 | 1.181337944 | 0.3188368 | 3.7051496 | 0.000211 | 0.008965 |
| BX323887.1 | 3.944543799 | -0.250534251 | 0.9494519 | -0.263872 | 0.791878 | NA |
| CR382385.1 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-23f9.6 | 0 NA | NA | NA | NA | NA | NA |
| BX649295.2 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| zgc:171446 | 3.055605911 | 2.38765869 | 1.3065198 | 1.8274952 | 0.067625 | NA |
| CABZ01016118.1 | 10.66334813 | 0.66230461 | 0.5966695 | 1.1100025 | 0.266998 | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| RF00020 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| pimr78 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| CR318589.2 | 0 NA | NA | NA | NA | NA | NA |
| dre-mir-430c-1 | 0 NA | NA | NA | NA | NA | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| CR456635.1 | 2.457174813 | -0.242525182 | 1.2673965 | -0.191357 | 0.848246 | NA |
| chst3b | 24.6208391 | 0.317413512 | 0.4014051 | 0.7907561 | 0.429086 | 0.911406 |
| CU459094.3 | 1.021003325 | 1.111073831 | 2.0728727 | 0.5360068 | 0.591954 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| il4r.2 | 59.59624584 | 0.157100347 | 0.2631929 | 0.5969019 | 0.550573 | 0.946549 |
| pimr58 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| rhoac | 1794.628642 | -0.158340654 | 0.0767756 | -2.062384 | 0.039171 | 0.388646 |
| CT998556.1 | 84.33817203 | -0.041240086 | 0.2161909 | -0.190758 | 0.848715 | 0.985174 |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| ADAM12 (1 of many) | 16.21892255 | 0.583485814 | 0.5165266 | 1.1296336 | 0.258631 | 0.826732 |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| CR848040.3 | 0 NA | NA | NA | NA | NA | NA |
| CABZ01084501.3 | 1.275490571 | 0.72455033 | 1.7746658 | 0.4082742 | 0.683072 | NA |
| CU539054.1 | 1.052358947 | 0.081848854 | 2.0216047 | 0.0404871 | 0.967705 | NA |
| FO704772.2 | 2087.080264 | 0.77810474 | 0.3820362 | 2.0367302 | 0.041677 | 0.400593 |
| RF00001 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0.365141898 | 1.973577737 | 3.3927314 | 0.5817076 | 0.560764 | NA |
| si:dkey-193i10.4 | 5.387283544 | 0.448556879 | 0.8454532 | 0.530552 | 0.595729 | NA |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| pimr17 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| CR932364.1 | 0 NA | NA | NA | NA | NA | NA |
| pimr87 | 0 NA | NA | NA | NA | NA | NA |
| RF00276 | 0 NA | NA | NA | NA | NA | NA |

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|-------------------|--------------|---------------|------------|------------|-----------|-----------|
| BX908795. 1 | 1. 454725107 | -0. 285028764 | 1. 6786934 | -0. 169792 | 0. 865174 | NA |
| CABZ01100304. 1 | 60. 85310488 | -0. 161786609 | 0. 2581231 | -0. 626781 | 0. 530803 | 0. 942209 |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0. 316103113 | 0. 005883447 | 3. 3519121 | 0. 0017553 | 0. 9986 | NA |
| RF00001 | 47. 99260215 | -0. 211359632 | 0. 2829667 | -0. 746942 | 0. 455099 | 0. 921022 |
| RF00003 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| si:dkey-40n15. 1 | 3. 338312877 | 0. 910738763 | 1. 0530243 | 0. 8648792 | 0. 387105 | NA |
| msx1a | 37. 90977809 | 0. 181778513 | 0. 3657706 | 0. 4969741 | 0. 619207 | 0. 957354 |
| CABZ01097761. 1 | 339. 96108 | -0. 163856927 | 0. 1259743 | -1. 300717 | 0. 193355 | 0. 757219 |
| RF00026 | 0 NA | | NA | NA | NA | NA |
| CABZ01067150. 1 | 37. 93234057 | -0. 568416954 | 0. 3502016 | -1. 623113 | 0. 104565 | 0. 612567 |
| CR626884. 4 | 0. 158795395 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| BX664625. 5 | 2. 018577612 | 0. 498654123 | 1. 3704078 | 0. 3638728 | 0. 715953 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| RF00017 | 3. 330381794 | 0. 3024499 | 1. 0525507 | 0. 2873495 | 0. 773845 | NA |
| RF00026 | 0 NA | | NA | NA | NA | NA |
| cdx1b | 428. 5836837 | -1. 166755707 | 0. 1208759 | -9. 652512 | 4. 80E-22 | 5. 58E-19 |
| RF00003 | 0 NA | | NA | NA | NA | NA |
| CU137645. 1 | 0 NA | | NA | NA | NA | NA |
| CU633479. 6 | 1. 642198218 | -0. 637391198 | 1. 7197807 | -0. 370624 | 0. 710918 | NA |
| RF00012 | 0 NA | | NA | NA | NA | NA |
| BX005407. 1 | 3. 131468263 | 0. 139440045 | 1. 1069981 | 0. 1259623 | 0. 899762 | NA |
| RF01684 | 0 NA | | NA | NA | NA | NA |
| RF00020 | 0. 158915748 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| RF01848 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| BX322657. 4 | 55. 50435234 | -0. 134473421 | 0. 2757766 | -0. 487617 | 0. 625821 | 0. 957354 |
| crygm2d8 | 17776. 91488 | 0. 02166311 | 0. 0813708 | 0. 2662272 | 0. 790064 | 0. 977338 |
| RF00026 | 0 NA | | NA | NA | NA | NA |
| CU138548. 8 | 0 NA | | NA | NA | NA | NA |
| RF00276 | 0. 158795395 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| znf1127 | 13. 80341389 | -0. 488380967 | 0. 5566134 | -0. 877415 | 0. 380261 | 0. 895192 |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| CT583728. 24 | 0 NA | | NA | NA | NA | NA |
| znf1119 | 36. 31617502 | 0. 126120582 | 0. 3343075 | 0. 3772592 | 0. 705981 | 0. 968412 |
| RF00001 | 0. 157187365 | -0. 955901296 | 4. 0804729 | -0. 234262 | 0. 814781 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| BX005305. 5 | 0. 498674062 | 0. 926637565 | 2. 6784892 | 0. 3459553 | 0. 729376 | NA |
| RF00026 | 0 NA | | NA | NA | NA | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| L0018315. 6 | 0. 482760567 | -0. 866527181 | 2. 7059286 | -0. 320233 | 0. 748792 | NA |
| si:dkeyp-4c4. 2 | 7. 645524616 | -0. 5270725 | 0. 7041543 | -0. 748518 | 0. 454148 | NA |
| BX005372. 1 | 0. 347458735 | -1. 908042286 | 3. 4571486 | -0. 551912 | 0. 581009 | NA |
| RF00001 | 0 NA | | NA | NA | NA | NA |
| si:dkey-19a16. 11 | 0. 489712128 | -0. 887840729 | 2. 693685 | -0. 329601 | 0. 741702 | NA |
| CABZ01102038. 1 | 25. 9495622 | 0. 23879834 | 0. 3811732 | 0. 6264826 | 0. 530998 | 0. 942209 |
| si:dkey-5i16. 5 | 4. 996383304 | 0. 571558346 | 0. 8879678 | 0. 6436701 | 0. 519789 | NA |
| znf1046 | 6. 720126116 | 0. 171064197 | 0. 7656163 | 0. 2234333 | 0. 823198 | NA |
| RF00001 | 6. 437117051 | -0. 299092613 | 0. 7806642 | -0. 383126 | 0. 701626 | NA |
| L0018205. 2 | 3. 024254665 | -0. 011905315 | 1. 102118 | -0. 010802 | 0. 991381 | NA |
| BX901973. 1 | 62. 2219462 | -0. 288575851 | 0. 2544433 | -1. 134146 | 0. 256733 | 0. 824902 |
| CABZ01030282. 1 | 0. 158795395 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| CT583728. 25 | 0 NA | | NA | NA | NA | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| CR848784.5 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| BX323448.1 | 0.317831496 | 1.808837541 | 3.5779923 | 0.5055454 | 0.613176 | NA |
| ccs | 5.418366223 | -1.039953973 | 0.902401 | -1.15243 | 0.249144 | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| RF00069 | 0 | NA | NA | NA | NA | NA |
| BX681417.23 | 0 | NA | NA | NA | NA | NA |
| pimr104 | 0 | NA | NA | NA | NA | NA |
| dre-mir-2185-1 | 0 | NA | NA | NA | NA | NA |
| chia.6 | 54.0885799 | -1.012198659 | 0.2736049 | -3.69949 | 0.000216 | 0.009128 |
| dre-mir-430b-10 | 0 | NA | NA | NA | NA | NA |
| CU138548.9 | 0 | NA | NA | NA | NA | NA |
| BX537277.2 | 0 | NA | NA | NA | NA | NA |
| traj57 | 0 | NA | NA | NA | NA | NA |
| BX470259.2 | 232.7705688 | -0.006554855 | 0.1443204 | -0.045419 | 0.963774 | 0.995927 |
| taar16f | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| BX649628.3 | 0 | NA | NA | NA | NA | NA |
| CU138548.10 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| CABZ01023247.1 | 1.504392399 | -0.28746346 | 1.5447598 | -0.186089 | 0.852375 | NA |
| taar191 | 0 | NA | NA | NA | NA | NA |
| CU024870.2 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| si:ch211-250e5.16 | 0 | NA | NA | NA | NA | NA |
| RF00015 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| FP016239.2 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| CR628395.1 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| zgc:165515 | 69.34630262 | -0.228806338 | 0.2361688 | -0.968825 | 0.332632 | 0.874664 |
| CABZ01039096.1 | 26.80173931 | 0.392336863 | 0.3720557 | 1.0545111 | 0.291649 | 0.847361 |
| CU137681.7 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| CT867973.2 | 0 | NA | NA | NA | NA | NA |
| CR847936.9 | 0 | NA | NA | NA | NA | NA |
| CABZ01053619.1 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.500282092 | 2.45023829 | 2.5970012 | 0.9434876 | 0.345432 | NA |
| CU855758.3 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| BX927341.5 | 0 | NA | NA | NA | NA | NA |
| RF00017 | 0.316103113 | 0.005883447 | 3.3519121 | 0.0017553 | 0.9986 | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| tmem17 | 28.66127281 | -0.040914883 | 0.4160485 | -0.098342 | 0.921661 | 0.992138 |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| BX510922.4 | 22.45998862 | -0.116235853 | 0.4378085 | -0.265495 | 0.790628 | 0.977402 |
| FP103009.1 | 137.8747094 | 0.17002798 | 0.1880044 | 0.9043832 | 0.365792 | 0.887084 |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| CABZ01063556.1 | 173.8480698 | -0.011639483 | 0.1628091 | -0.071492 | 0.943007 | 0.993364 |
| BX511311.9 | 0 | NA | NA | NA | NA | NA |
| CU682604.1 | 0.498553709 | 0.926267934 | 2.6786929 | 0.345791 | 0.7295 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| LRP4 | 26.23669395 | 0.085846795 | 0.3935987 | 0.2181074 | 0.827345 | 0.982696 |

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|--------------------|--------------|---------------|------------|------------|-----------|-----------|
| CT955962. 2 | 0 NA | NA | NA | NA | NA | NA |
| CU607104. 1 | 0. 655741074 | 0. 077611818 | 2. 4374018 | 0. 031842 | 0. 974598 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0. 166657454 | -0. 955901296 | 4. 0804729 | -0. 234262 | 0. 814781 | NA |
| CU929304. 1 | 1. 521872639 | 0. 969710903 | 1. 6500154 | 0. 5876981 | 0. 556735 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-51d8. 1 | 2. 44912462 | -0. 955953592 | 1. 2546457 | -0. 761931 | 0. 446101 | NA |
| BX537120. 3 | 0. 157187365 | -0. 955901296 | 4. 0804729 | -0. 234262 | 0. 814781 | NA |
| chrn2b | 3. 115355348 | -0. 148478368 | 1. 1362818 | -0. 13067 | 0. 896036 | NA |
| RF00001 | 0. 173729368 | -0. 955901296 | 4. 0804729 | -0. 234262 | 0. 814781 | NA |
| ms4a17a. 17 | 19. 20861109 | -2. 269123758 | 0. 4948845 | -4. 585159 | 4. 54E-06 | 0. 000369 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00017 | 0 NA | NA | NA | NA | NA | NA |
| BX546453. 2 | 2. 849078905 | -0. 137979823 | 1. 116776 | -0. 123552 | 0. 90167 | NA |
| CR450764. 8 | 0 NA | NA | NA | NA | NA | NA |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| CABZ01067581. 1 | 36. 6424923 | -0. 111655794 | 0. 3803536 | -0. 293558 | 0. 769096 | 0. 975687 |
| BX548044. 8 | 0. 496945679 | -0. 834564081 | 2. 8549631 | -0. 29232 | 0. 770042 | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| CR388008. 1 | 12. 71368203 | 0. 917258068 | 1. 4304114 | 0. 6412547 | 0. 521357 | 0. 939056 |
| CR925755. 2 | 0. 508023798 | 0. 926122713 | 2. 6636728 | 0. 3476864 | 0. 728076 | NA |
| dre-mir-430b-1 | 0 NA | NA | NA | NA | NA | NA |
| CABZ01086574. 1 | 5. 104681066 | 0. 831410392 | 0. 9659542 | 0. 8607141 | 0. 389396 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF01848 | 0 NA | NA | NA | NA | NA | NA |
| RF00017 | 0 NA | NA | NA | NA | NA | NA |
| RF00012 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| olfcgl | 0 NA | NA | NA | NA | NA | NA |
| taar20h | 0 NA | NA | NA | NA | NA | NA |
| si:ch73-329n5. 2 | 5. 272384981 | 0. 907480109 | 1. 0018392 | 0. 9058141 | 0. 365034 | NA |
| L0017877. 2 | 17. 82287869 | 0. 241669368 | 0. 5175963 | 0. 466907 | 0. 640566 | 0. 959994 |
| CABZ01029422. 1 | 56. 93218404 | 0. 00839458 | 0. 2752763 | 0. 0304951 | 0. 975672 | 0. 996762 |
| TENT5A | 22. 28270281 | -0. 265987113 | 0. 4152684 | -0. 640518 | 0. 521836 | 0. 939056 |
| BX510986. 1 | 0. 323844819 | -1. 825095364 | 3. 274639 | -0. 557342 | 0. 577293 | NA |
| CABZ01046954. 1 | 29. 01136669 | -0. 209290442 | 0. 3495017 | -0. 598825 | 0. 549289 | 0. 946312 |
| RF00017 | 0. 674801605 | 0. 02322667 | 2. 4147609 | 0. 0096186 | 0. 992326 | NA |
| si:ch211-156118. 4 | 0 NA | NA | NA | NA | NA | NA |
| zmp:0000001088 | 34. 24932214 | 0. 316946028 | 0. 3311004 | 0. 9572505 | 0. 338441 | 0. 876992 |
| si:ch211-139n6. 11 | 0 NA | NA | NA | NA | NA | NA |
| BX681417. 24 | 0. 31759079 | 1. 807926197 | 3. 579045 | 0. 5051421 | 0. 613459 | NA |
| BX276101. 2 | 2. 020305995 | 0. 995994924 | 1. 3816761 | 0. 7208599 | 0. 470996 | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| dre-mir-430a-2 | 0 NA | NA | NA | NA | NA | NA |
| dre-mir-430a-4 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 1. 847487126 | 0. 825746177 | 1. 3907326 | 0. 593749 | 0. 55268 | NA |
| dre-mir-430c-1 | 0 NA | NA | NA | NA | NA | NA |
| FP102122. 1 | 3. 120699874 | 0. 786102603 | 1. 1298564 | 0. 6957544 | 0. 486583 | NA |

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|-----------------|-------------|--------------|-----------|-----------|----------|----------|
| BX465198.1 | 1.878093888 | 0.836713984 | 1.3941898 | 0.6001435 | 0.548411 | NA |
| CABZ01039304.1 | 19.50729883 | -0.308045226 | 0.4427304 | -0.695785 | 0.486563 | 0.930854 |
| pimr157 | 0 NA | NA | NA | NA | NA | NA |
| h2afvb | 7851.107391 | -0.206843654 | 0.0675115 | -3.063831 | 0.002185 | 0.057157 |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| GAA | 17.90245146 | 0.321095241 | 0.470299 | 0.682747 | 0.494767 | 0.931926 |
| BX510654.1 | 0 NA | NA | NA | NA | NA | NA |
| phyhip | 115.1751666 | 0.287330621 | 0.1833066 | 1.5674862 | 0.117001 | 0.639994 |
| BX005361.1 | 0 NA | NA | NA | NA | NA | NA |
| FQ378040.1 | 0 NA | NA | NA | NA | NA | NA |
| RF00012 | 0 NA | NA | NA | NA | NA | NA |
| BX681417.25 | 0 NA | NA | NA | NA | NA | NA |
| BX539310.1 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| npas4l | 21.82332671 | 0.122774144 | 0.4106645 | 0.2989646 | 0.764967 | 0.975374 |
| CR792441.1 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0.158915748 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| BX649628.4 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-23f9.9 | 0 NA | NA | NA | NA | NA | NA |
| zgc:103700 | 1.131388442 | -0.435239073 | 1.7579967 | -0.247577 | 0.804462 | NA |
| taar19j | 0 NA | NA | NA | NA | NA | NA |
| CT573303.1 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00006 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| znf987 | 0.641555962 | -0.014184532 | 2.3335058 | -0.006079 | 0.99515 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| im:7142702 | 265.7669393 | -0.05218075 | 0.1437679 | -0.362951 | 0.716641 | 0.96909 |
| pimr81 | 0 NA | NA | NA | NA | NA | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| CT583723.2 | 0.714370301 | 1.588951002 | 2.5174818 | 0.6311668 | 0.527931 | NA |
| pimr3 | 0 NA | NA | NA | NA | NA | NA |
| F0834825.3 | 0.864324114 | 0.61432746 | 2.0894637 | 0.294012 | 0.768749 | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-28k24.2 | 3.128709029 | 0.141998218 | 1.0408787 | 0.1364215 | 0.891488 | NA |
| CR352265.3 | 35.8045532 | 0.190487219 | 0.385269 | 0.4944265 | 0.621005 | 0.957354 |
| si:dkey-27d5.9 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0.31598276 | 0.005883445 | 3.3523626 | 0.001755 | 0.9986 | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 1.689791606 | 2.047579242 | 1.6912512 | 1.210689 | 0.226015 | NA |
| opn7b | 4.298926355 | -1.171458194 | 0.9416637 | -1.24403 | 0.213488 | NA |
| fth127 | 119.1547955 | 0.818114992 | 0.1928742 | 4.2417023 | 2.22E-05 | 0.001384 |
| znf980 | 6.37334697 | 0.278855243 | 0.8605462 | 0.3240445 | 0.745904 | NA |
| BX601646.1 | 4.776141711 | -0.91319748 | 0.8792683 | -1.038588 | 0.298996 | NA |
| dre-mir-430c-1 | 0 NA | NA | NA | NA | NA | NA |
| BX323022.1 | 0.325452849 | 0.005883619 | 3.3177086 | 0.0017734 | 0.998585 | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| BX681417.26 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| pitxl | 342.2629193 | -0.344916892 | 0.1372719 | -2.512654 | 0.011983 | 0.192639 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| BX571678.1 | 1.486819546 | 0.362713966 | 1.643623 | 0.2206795 | 0.825342 | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| spaca41 | 1443.329517 | 0.102732296 | 0.1029403 | 0.9979793 | 0.318289 | 0.867746 |
| si:ch73-27e22.8 | 23.47034685 | 0.024602281 | 0.4226574 | 0.0582086 | 0.953583 | 0.994213 |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| RF00412 | 1.173193676 | 0.383481185 | 1.7405114 | 0.2203267 | 0.825617 | NA |
| ftr50 | 0.325573202 | 0.005883621 | 3.3172783 | 0.0017736 | 0.998585 | NA |
| znf1141 | 41.46630159 | 0.23500196 | 0.3120749 | 0.7530308 | 0.451431 | 0.918761 |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| pimr160 | 0 | NA | NA | NA | NA | NA |
| BX908782.3 | 484.0519772 | -0.301851561 | 0.1244167 | -2.426133 | 0.015261 | 0.22638 |
| RF00001 | 1.702594852 | 0.595742256 | 1.4954742 | 0.3983634 | 0.690362 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 1.060059368 | -0.963745058 | 2.1781796 | -0.442454 | 0.65816 | NA |
| RF00001 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0.635542639 | 2.809903053 | 2.5424041 | 1.1052149 | 0.269066 | NA |
| CR749763.7 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| taar20f | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| ube2e1 | 1180.984791 | -0.192664014 | 0.1094118 | -1.760906 | 0.078254 | 0.545243 |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| si:dkey-261m9.6 | 7.551340652 | 0.370398005 | 0.6938033 | 0.533866 | 0.593434 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| taar18h | 1.113118057 | -1.307738798 | 1.9265899 | -0.678784 | 0.497275 | NA |
| pigr12.3 | 1.536686259 | 0.295078837 | 1.6385808 | 0.180082 | 0.857088 | NA |
| si:ch211-165a10.3 | 0 | NA | NA | NA | NA | NA |
| CABZ01078320.1 | 150.0279185 | 0.083628332 | 0.1765146 | 0.4737758 | 0.63566 | 0.958142 |
| taar10a | 0.499972362 | -2.44370697 | 3.0013188 | -0.814211 | 0.415524 | NA |
| CR354435.3 | 0.31437473 | -1.788572922 | 3.5930657 | -0.497785 | 0.618636 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| pimr25 | 0 | NA | NA | NA | NA | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| zgc:56235 | 994.8888293 | 0.140397943 | 0.09269 | 1.5147042 | 0.129847 | 0.662436 |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| BX470211.2 | 0.339758314 | 0.005883863 | 3.2682461 | 0.0018003 | 0.998564 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| BX936298.2 | 1.1342167 | 2.46307543 | 1.9505303 | 1.2627722 | 0.206671 | NA |
| RF00001 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| si:ch211-79g12.1 | 6.037124736 | -0.008804292 | 0.7982624 | -0.011029 | 0.9912 | NA |
| BX511132.2 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| BX537296.4 | 0 | NA | NA | NA | NA | NA |
| RF00020 | 0.500161739 | 2.450146464 | 2.7711133 | 0.8841741 | 0.376602 | NA |
| CABZ01061894.1 | 229.9742041 | 0.109906523 | 0.1607209 | 0.6838348 | 0.494079 | 0.931926 |
| si:ch73-265d7.2 | 160.7109151 | 0.049455817 | 0.1627608 | 0.3038558 | 0.761238 | 0.975374 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| BX664750.7 | 0 | NA | NA | NA | NA | NA |
| si:dkey-82i20.5 | 1.471696196 | -0.970093287 | 1.6638649 | -0.583036 | 0.559869 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| BX470259.3 | 17.71148373 | 0.250128986 | 0.4718726 | 0.5300774 | 0.596058 | 0.954444 |
| CABZ01114053.1 | 217.244098 | -0.060982841 | 0.1451041 | -0.42027 | 0.674289 | 0.965257 |
| RF00001 | 0.496945679 | -0.834564081 | 2.8549631 | -0.29232 | 0.770042 | NA |

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|--------------------|-------------|--------------|-----------|-----------|----------|----------|
| CABZ01081294.1 | 13.79539511 | -0.664661571 | 0.5256438 | -1.264472 | 0.206061 | 0.773826 |
| CABZ01031870.1 | 18.53402353 | -0.07920736 | 0.4565377 | -0.173496 | 0.862262 | 0.985841 |
| RF00001 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| rnps1 | 735.2801468 | -0.117862115 | 0.0961358 | -1.225996 | 0.2202 | 0.786959 |
| RF00091 | 2.794266507 | -1.263598512 | 1.1746731 | -1.075702 | 0.28206 | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| RF00012 | 0 NA | NA | NA | NA | NA | NA |
| dre-mir-430c-1 | 0 NA | NA | NA | NA | NA | NA |
| BX537263.4 | 25.93314354 | 1.056063561 | 1.003605 | 1.0522701 | 0.292676 | 0.848607 |
| CR936300.2 | 1.972685863 | -0.53316398 | 1.3772144 | -0.387132 | 0.698658 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| c16h2orf66 | 28.00949293 | -0.045682438 | 0.4075232 | -0.112098 | 0.910746 | 0.990926 |
| CABZ01053323.1 | 0 NA | NA | NA | NA | NA | NA |
| pimr205 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| BX649516.5 | 0 NA | NA | NA | NA | NA | NA |
| zgc:162962 | 59.41111554 | -0.224920863 | 0.254907 | -0.882365 | 0.37758 | 0.895192 |
| ZNF521 (1 of many) | 135.5467677 | -0.094529282 | 0.1815749 | -0.520608 | 0.60264 | 0.956045 |
| CR450827.7 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0.515885857 | -0.89611015 | 2.8190897 | -0.317872 | 0.750582 | NA |
| BX511311.10 | 0 NA | NA | NA | NA | NA | NA |
| zgc:165555 | 2.352710405 | 0.832316174 | 1.3259535 | 0.6277114 | 0.530193 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| CR352310.1 | 11.11145645 | 0.54467001 | 0.6194624 | 0.8792625 | 0.379259 | 0.895192 |
| CABZ01065417.1 | 41.31032978 | 0.28752767 | 0.3014662 | 0.9537642 | 0.340203 | 0.87805 |
| RF00001 | 0.323844819 | -1.825095364 | 3.274639 | -0.557342 | 0.577293 | NA |
| nanos2 | 0.484248244 | 0.852636534 | 2.8793247 | 0.2961238 | 0.767136 | NA |
| CABZ01037174.1 | 45.9292867 | 0.254383336 | 0.3112488 | 0.817299 | 0.413758 | 0.905864 |
| CU693479.1 | 1114.103369 | -0.071286956 | 0.1162567 | -0.613186 | 0.539753 | 0.944178 |
| AL935299.1 | 0.173729368 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| CU570894.2 | 156.8918494 | 0.130318229 | 0.1657608 | 0.7861826 | 0.431761 | 0.912787 |
| znf1024 | 101.5705276 | -0.430340271 | 0.2129242 | -2.021096 | 0.04327 | 0.40826 |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| zgc:174356 | 1.314347193 | -0.780724162 | 1.7362445 | -0.449663 | 0.652954 | NA |
| BX511056.6 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| RF00591 | 0 NA | NA | NA | NA | NA | NA |
| pimr41 | 0 NA | NA | NA | NA | NA | NA |
| CR749164.1 | 17.58194631 | 0.71664227 | 0.4656424 | 1.53904 | 0.123795 | 0.652372 |
| CABZ01077220.2 | 40.83843484 | -0.076600725 | 0.3208873 | -0.238715 | 0.811326 | 0.981081 |
| park7 | 628.7897186 | 0.121984291 | 0.0994127 | 1.2270495 | 0.219804 | 0.786537 |
| taar19s | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| BX324216.4 | 0.957779428 | -0.006313964 | 2.0780476 | -0.003038 | 0.997576 | NA |
| izumol | 1.126862796 | 2.435740157 | 2.0195466 | 1.2060827 | 0.227786 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00015 | 0 NA | NA | NA | NA | NA | NA |
| CR383662.8 | 5.738075436 | -0.089757859 | 0.7887577 | -0.113796 | 0.909399 | NA |
| tradv11.0.1 | 0 NA | NA | NA | NA | NA | NA |
| CR933812.1 | 6.316356019 | 0.150379058 | 0.7669421 | 0.1960762 | 0.844551 | NA |

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|--------------------|--------------|---------------|------------|------------|-----------|-----------|
| pimr64 | 5. 554608377 | 0. 124258354 | 0. 840795 | 0. 1477867 | 0. 882511 | NA |
| CU984579. 1 | 54. 98693375 | 0. 275670684 | 0. 2659892 | 1. 0363979 | 0. 300017 | 0. 856146 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| si:dkey-58b18. 10 | 0 NA | NA | NA | NA | NA | NA |
| pimr151 | 0. 166657454 | -0. 955901296 | 4. 0804729 | -0. 234262 | 0. 814781 | NA |
| BX284638. 1 | 2301. 239227 | 0. 049028663 | 0. 088087 | 0. 5565938 | 0. 577805 | 0. 951024 |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| CR352220. 1 | 5. 340695004 | 0. 542269963 | 0. 8407361 | 0. 6449942 | 0. 518931 | NA |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| BX005442. 3 | 0 NA | NA | NA | NA | NA | NA |
| GJD4 | 8. 442793585 | 0. 902969953 | 0. 7399764 | 1. 2202686 | 0. 222363 | NA |
| BX005328. 1 | 3. 313259357 | -1. 537242543 | 1. 1410555 | -1. 347211 | 0. 177912 | NA |
| rln3b | 4. 186373477 | 0. 816550021 | 0. 9620156 | 0. 8487908 | 0. 395998 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| RF00003 | 0 NA | NA | NA | NA | NA | NA |
| AL928657. 2 | 2. 100005283 | 0. 190729671 | 1. 3369556 | 0. 1426597 | 0. 886559 | NA |
| si:ch211-133h13. 1 | 6. 796262827 | -0. 16501756 | 0. 7613074 | -0. 216755 | 0. 828399 | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| BX927243. 3 | 0 NA | NA | NA | NA | NA | NA |
| CABZ01059408. 1 | 35. 78363342 | 0. 056880305 | 0. 3573616 | 0. 1591674 | 0. 873537 | 0. 987858 |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| BX927333. 1 | 150. 5295926 | 0. 114389711 | 0. 1796156 | 0. 6368583 | 0. 524217 | 0. 939336 |
| RF00001 | 0. 158795395 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| CR759875. 1 | 0. 837961008 | -3. 186152199 | 2. 1620582 | -1. 473666 | 0. 140571 | NA |
| RF00001 | 0. 158795395 | 0. 967652056 | 4. 0804729 | 0. 2371421 | 0. 812547 | NA |
| nfil3-3 | 4. 456574797 | 0. 987067986 | 0. 9067877 | 1. 0885326 | 0. 27636 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| BX324134. 2 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00017 | 1. 000564183 | 3. 450262048 | 2. 0260994 | 1. 7029086 | 0. 088585 | NA |
| RF00001 | 0. 802200093 | 1. 852032281 | 2. 2653592 | 0. 8175446 | 0. 413617 | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0. 365141898 | 1. 973577737 | 3. 3927314 | 0. 5817076 | 0. 560764 | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| RF00012 | 0. 476747244 | 2. 393381959 | 3. 0525537 | 0. 7840589 | 0. 433006 | NA |
| CR762392. 2 | 0 NA | NA | NA | NA | NA | NA |
| FO704771. 1 | 1. 657844264 | 0. 599291606 | 1. 5040408 | 0. 3984544 | 0. 690295 | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 0. 471562095 | -2. 373056629 | 3. 0645586 | -0. 774355 | 0. 438721 | NA |
| pimr75 | 0 NA | NA | NA | NA | NA | NA |
| RF00001 | 81. 75749931 | -0. 159836793 | 0. 2386844 | -0. 669658 | 0. 503076 | 0. 935304 |
| parapinopsina | 2. 942534219 | -0. 305163373 | 1. 182621 | -0. 25804 | 0. 796376 | NA |
| RF00026 | 0 NA | NA | NA | NA | NA | NA |
| BX571768. 1 | 2. 895289432 | -0. 8114558 | 1. 1935079 | -0. 679891 | 0. 496573 | NA |
| FO904997. 1 | 9. 181537796 | 0. 488655824 | 0. 6287347 | 0. 7772051 | 0. 437038 | NA |
| AL929276. 2 | 0 NA | NA | NA | NA | NA | NA |
| zgc:172315 | 103. 2298956 | -0. 980171274 | 0. 2047501 | -4. 787159 | 1. 69E-06 | 0. 000155 |
| FP236542. 1 | 37. 89475388 | 0. 287073089 | 0. 3258396 | 0. 8810257 | 0. 378304 | 0. 895192 |

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|----------------|-------------|--------------|-----------|-----------|----------|----------|
| taar12f | 1.188917794 | -1.322455875 | 1.8672776 | -0.708227 | 0.478804 | NA |
| znf1051 | 18.72070124 | -0.292377914 | 0.4519425 | -0.646936 | 0.517673 | 0.938592 |
| CABZ01109480.1 | 4.303094199 | -0.905643628 | 0.9979833 | -0.907474 | 0.364156 | NA |
| taar19o | 0.317831496 | 1.808837541 | 3.5779923 | 0.5055454 | 0.613176 | NA |
| AL929536.6 | 61.66938572 | -0.108178944 | 0.2605849 | -0.415139 | 0.67804 | 0.965257 |
| CABZ01086812.1 | 52.52949314 | -0.173620209 | 0.2920468 | -0.594495 | 0.552181 | 0.947265 |
| BX324142.2 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| CABZ01102201.1 | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| ewsrlb | 24.22368294 | -0.330360968 | 0.9270099 | -0.356373 | 0.721562 | 0.969747 |
| RF00211 | 0.491320158 | 0.8528132 | 2.8656354 | 0.2976 | 0.766008 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| CR388047.3 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| CU896602.4 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00397 | 1.429100817 | -0.987439421 | 1.717413 | -0.574957 | 0.56532 | NA |
| RF00004 | 0.340386822 | -1.882368278 | 3.2159502 | -0.585323 | 0.558331 | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0.476506538 | 2.394892832 | 2.8161716 | 0.8504073 | 0.395099 | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00026 | 0 | NA | NA | NA | NA | NA |
| RF00017 | 0 | NA | NA | NA | NA | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| dre-mir-2185-1 | 0 | NA | NA | NA | NA | NA |
| BX649300.3 | 16.91784432 | 0.232012308 | 0.4570409 | 0.5076401 | 0.611706 | 0.95688 |
| CABZ01060373.1 | 20.38595966 | 0.030761978 | 0.4724968 | 0.0651052 | 0.94809 | 0.99381 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| arsib | 21.86122817 | 0.579216881 | 0.4035871 | 1.435172 | 0.151238 | 0.699388 |
| BX005085.7 | 116.7395057 | -0.230183798 | 0.1995694 | -1.153402 | 0.248745 | 0.81797 |
| BX321886.1 | 6.395043373 | -0.920024474 | 0.7766239 | -1.184646 | 0.236157 | NA |
| RF00003 | 0 | NA | NA | NA | NA | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| RF00156 | 1.84029486 | 0.834261239 | 1.4323092 | 0.5824589 | 0.560258 | NA |
| CKS2 | 152.9517344 | 0.002088959 | 0.1839627 | 0.0113553 | 0.99094 | 0.997679 |
| dipklb | 73.62266694 | 0.056571574 | 0.2534352 | 0.2232191 | 0.823365 | 0.982196 |
| znf1138 | 0.824126911 | 0.609775617 | 2.0333139 | 0.2998925 | 0.764259 | NA |
| crygm2c | 24.95009959 | -0.385408343 | 0.4014815 | -0.959965 | 0.337073 | 0.876088 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| CR388102.1 | 1.156341944 | -2.478415815 | 1.9434244 | -1.275283 | 0.202209 | NA |
| CR749775.2 | 98.48478893 | 0.132102736 | 0.2001685 | 0.6599575 | 0.509281 | 0.936123 |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| CABZ01058647.1 | 2.003025176 | 0.00022568 | 1.3772962 | 0.0001639 | 0.999869 | NA |
| CR626884.5 | 10.50200738 | 0.408574845 | 0.627727 | 0.6508798 | 0.515124 | NA |
| zgc:173607 | 2.099884931 | 0.190231143 | 1.3502735 | 0.1408834 | 0.887962 | NA |
| CR352209.2 | 0 | NA | NA | NA | NA | NA |
| taar12e | 0.157187365 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| RF00001 | 0 | NA | NA | NA | NA | NA |
| BX908804.3 | 0.499182217 | -0.916838237 | 2.6774436 | -0.34243 | 0.732027 | NA |
| CU672228.1 | 0.547712847 | 2.559541715 | 2.9076406 | 0.8802813 | 0.378707 | NA |
| BX664603.1 | 1.045915541 | -0.946726316 | 2.0299428 | -0.466381 | 0.640943 | NA |

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|-------------------|-------------|--------------|-----------|-----------|----------|----------|
| BX510301.1 | | 0 NA | NA | NA | NA | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| RF01848 | | 0 NA | NA | NA | NA | NA |
| BX936439.1 | 52.64126879 | -0.003374589 | 0.2799881 | -0.012053 | 0.990384 | 0.997679 |
| BX663613.1 | 14.5975693 | -0.213774079 | 0.5312118 | -0.402427 | 0.68737 | 0.966376 |
| cst14b.1 | 373.857706 | -0.018174005 | 0.1343647 | -0.135259 | 0.892407 | 0.989291 |
| si:dkey-7814.13 | 0.182570949 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| RF00026 | | 0 NA | NA | NA | NA | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| CT573337.1 | 1.506818314 | 1.778623951 | 1.6944285 | 1.0496896 | 0.293861 | NA |
| notum1b | 227.3762317 | 0.097703321 | 0.1559688 | 0.6264285 | 0.531034 | 0.942209 |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| RF00026 | | 0 NA | NA | NA | NA | NA |
| BX323087.1 | 25.49624166 | 0.225210752 | 0.3777313 | 0.5962195 | 0.551029 | 0.946549 |
| si:dkey-7j22.4 | 3.840560802 | 0.392415398 | 0.9562547 | 0.410367 | 0.681537 | NA |
| CR392001.3 | 0.166657454 | -0.955901296 | 4.0804729 | -0.234262 | 0.814781 | NA |
| znf1114 | 26.93140599 | -0.42451634 | 0.3724453 | -1.139809 | 0.254366 | 0.823475 |
| RF00003 | | 0 NA | NA | NA | NA | NA |
| BX649431.4 | | 0 NA | NA | NA | NA | NA |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| pimr118 | | 0 NA | NA | NA | NA | NA |
| taar10c | 0.365141898 | 1.973577737 | 3.3927314 | 0.5817076 | 0.560764 | NA |
| CT583728.26 | | 0 NA | NA | NA | NA | NA |
| FP326649.1 | 15.22321068 | -0.265650757 | 0.5133689 | -0.517466 | 0.604831 | 0.95651 |
| RF00026 | | 0 NA | NA | NA | NA | NA |
| RF00003 | | 0 NA | NA | NA | NA | NA |
| si:ch211-255f4.11 | 25.07574769 | 0.172563941 | 0.3963408 | 0.4353928 | 0.663277 | 0.964736 |
| RF00001 | | 0 NA | NA | NA | NA | NA |
| CR318625.1 | 0.500402445 | 2.450713647 | 2.7706722 | 0.8845195 | 0.376416 | NA |
| F0704607.1 | 10.61211188 | -0.855891108 | 0.6207566 | -1.378787 | 0.16796 | NA |
| RF00017 | 0.491320158 | 0.8528132 | 2.8656354 | 0.2976 | 0.766008 | NA |
| RF00017 | | 0 NA | NA | NA | NA | NA |
| BX119314.1 | 0.158795395 | 0.967652056 | 4.0804729 | 0.2371421 | 0.812547 | NA |
| pimr144 | | 0 NA | NA | NA | NA | NA |
| RF00424 | 2.157964717 | 1.142490925 | 1.3332228 | 0.8569392 | 0.391478 | NA |
| L0017725.1 | 2.645879438 | -0.755598587 | 1.1842648 | -0.638032 | 0.523453 | NA |
| RF00003 | | 0 NA | NA | NA | NA | NA |
| RF00026 | | 0 NA | NA | NA | NA | NA |