

TABLE S1  
Components of high- and low-fat diets

| Source                          | High-fat | Low-fat |
|---------------------------------|----------|---------|
| Energy from Fat                 | 42%      | 15%     |
| Casein (g/kg)                   | 195      | 197     |
| Sugars (g/kg)                   | 341      | 307     |
| Corn starch (g/kg)              | 150      | 313     |
| Cellulose (g/kg)                | 50       | 30      |
| Corn oil (g/kg)                 | ---      | 58      |
| Hydrogenated coconut oil (g/kg) | ---      | 7       |
| Anhydrous milkfat (g/kg)        | 210      | ---     |
| Cholesterol (g/kg)              | 1.5      | ---     |
| Total energy (kJ/g)             | 18.95    | 16.99   |
| Source                          | High-fat | Low-fat |

TABLE S2  
SNPs scored in the LG/J x SM/J AIL (WUSTL: LG,SM-G16) and used in these analyses

| Chromosome | SNP ID        | Map Position cM | Genomic Position(mm9; build37) |
|------------|---------------|-----------------|--------------------------------|
| 1          | rs3683945     | 0               | 3187481                        |
| 1          | rs3658242     | 0.0001          | 4133259                        |
| 1          | rs3677817     | 1.94256         | 5176059                        |
| 1          | rs13475709    | 1.94266         | 6646044                        |
| 1          | rs6321307     | 4.30934         | 7664402                        |
| 1          | rs13475717    | 5.21534         | 8812597                        |
| 1          | rs3698285     | 5.96833         | 10019112                       |
| 1          | rs3697012     | 13.09539        | 10891409                       |
| 1          | rs3681537     | 13.49338        | 11924238                       |
| 1          | rs13475748    | 43.96486        | 18911762                       |
| 1          | rs6334092     | 45.43424        | 20153983                       |
| 1          | rs13475757    | 54.14382        | 21277037                       |
| 1          | rs6361963     | 67.31618        | 22671898                       |
| 1          | rs13475765    | 74.3018         | 23822074                       |
| 1          | rs13475769    | 74.55029        | 24958695                       |
| 1          | rs13475774    | 82.90839        | 26101762                       |
| 1          | mCV25266528   | 82.90849        | 27850773                       |
| 1          | rs3713281     | 82.90859        | 29009416                       |
| 1          | rs13475788    | 82.90869        | 29807982                       |
| 1          | rs4137502     | 82.90879        | 30887618                       |
| 1          | rs3707642     | 83.66017        | 32568345                       |
| 1          | rs13475816    | 132.93753       | 37614783                       |
| 1          | rs3685569     | 138.64019       | 38607247                       |
| 1          | rs3680400     | 153.39604       | 39913715                       |
| 1          | gnf01.037.906 | 164.75587       | 41151472                       |
| 1          | rs3663706     | 170.97965       | 42070333                       |
| 1          | rs13475837    | 187.50202       | 43168109                       |

|    |   |                    |           |           |
|----|---|--------------------|-----------|-----------|
| 1  | 1 | rs13475863         | 192.9227  | 50773412  |
| 2  | 1 | rs6217547          | 197.423   | 51990511  |
| 3  | 1 | rs13475874         | 204.47508 | 54502962  |
| 4  | 1 | rs3653534          | 216.66845 | 56866296  |
| 5  | 1 | rs8238898          | 221.62418 | 58111643  |
| 6  | 1 | petAF067836-350A-1 | 231.45529 | 58883769  |
| 7  | 1 | rs6353774          | 240.51991 | 59780022  |
| 8  | 1 | rs13475894         | 243.09562 | 63625005  |
| 9  | 1 | rs3163007          | 248.81119 | 64087683  |
| 10 | 1 | rs6293581          | 251.60282 | 64789338  |
| 11 | 1 | rs13475896         | 251.60292 | 65111596  |
| 12 | 1 | rs13475902         | 259.25733 | 66461486  |
| 13 | 1 | rs13475903         | 259.30664 | 66782743  |
| 14 | 1 | rs13475906         | 259.30674 | 67618356  |
| 15 | 1 | rs6288543          | 268.71287 | 68556956  |
| 16 | 1 | rs6323094          | 272.21443 | 70774788  |
| 17 | 1 | rs6191076          | 280.53272 | 72000786  |
| 18 | 1 | rs3716722          | 285.6806  | 72361385  |
| 19 | 1 | rs4222426          | 285.6807  | 72440964  |
| 20 | 1 | rs13475919         | 288.85969 | 73020555  |
| 21 | 1 | mCV23057534        | 291.12097 | 73645269  |
| 22 | 1 | rs13475922         | 291.17023 | 73785952  |
| 23 | 1 | rs13475927         | 297.40328 | 74948766  |
| 24 | 1 | rs6405821          | 297.40338 | 75283446  |
| 25 | 1 | rs13475931         | 305.10936 | 76371591  |
| 26 | 1 | rs13475932         | 305.25828 | 76557546  |
| 27 | 1 | rs3715800          | 305.25838 | 76887644  |
| 28 | 1 | rs3703285          | 306.52336 | 77565875  |
| 29 | 1 | gnf01.075.385      | 309.8625  | 77901204  |
| 30 | 1 | rs3667200          | 309.96165 | 78164165  |
| 31 | 1 | rs6182343          | 312.91898 | 78312525  |
| 32 | 1 | rs13475939         | 313.21811 | 78684289  |
| 33 | 1 | rs3692514          | 313.21821 | 78729204  |
| 34 | 1 | rs8253473          | 313.21831 | 79431922  |
| 35 | 1 | rs3692549          | 313.60228 | 79761258  |
| 36 | 1 | mCV23431007        | 316.92488 | 80322428  |
| 37 | 1 | rs13475945         | 316.92498 | 80586665  |
| 38 | 1 | mCV23433457        | 328.59809 | 80976565  |
| 39 | 1 | rs6290463          | 328.6472  | 81372526  |
| 40 | 1 | rs13475950         | 328.74665 | 81806553  |
| 41 | 1 | rs13475951         | 328.92371 | 82023244  |
| 42 | 1 | rs6288514          | 337.12969 | 83525051  |
| 43 | 1 | rs4222486          | 338.49725 | 84300368  |
| 44 | 1 | rs3694406          | 340.59919 | 88316693  |
| 45 | 1 | rs13475970         | 342.48417 | 90246345  |
| 46 | 1 | rs13475973         | 347.79859 | 91391585  |
| 47 | 1 | UT-1-92.862916     | 350.75651 | 92847128  |
| 48 | 1 | rs3664800          | 352.6988  | 93724097  |
| 49 | 1 | rs6268443          | 358.07055 | 95279164  |
| 50 | 1 | rs3675505          | 360.54134 | 97035544  |
| 51 | 1 | rs13475997         | 360.54144 | 97723776  |
| 52 | 1 | rs13475999         | 360.54154 | 98052037  |
| 53 | 1 | rs6342650          | 360.59123 | 98418580  |
| 54 | 1 | rs3695980          | 360.59133 | 101469745 |
| 55 | 1 | rs3692731          | 368.63901 | 107878372 |
| 56 | 1 | rs13476036         | 370.16311 | 108755358 |
| 57 | 1 | rs3664301          | 370.16321 | 108980402 |
| 58 | 1 | rs13476044         | 370.16331 | 110578148 |
| 59 | 1 | rs13476045         | 370.21299 | 110960852 |
| 60 | 1 | rs3685919          | 370.56242 | 111528321 |

|    |   |                 |           |           |
|----|---|-----------------|-----------|-----------|
| 1  | 1 | rs6382744       | 370.56252 | 111758070 |
| 2  | 1 | rs6319405       | 370.8618  | 112363108 |
| 3  | 1 | CEL-1-111503693 | 371.01109 | 113377972 |
| 4  | 1 | rs6168275       | 371.01119 | 113643051 |
| 5  | 1 | mCV22824651     | 371.06088 | 114217862 |
| 6  | 1 | rs13476060      | 371.11047 | 115486194 |
| 7  | 1 | rs3725808       | 373.10629 | 116045359 |
| 8  | 1 | rs13476064      | 373.10639 | 116488503 |
| 9  | 1 | rs13476067      | 373.20584 | 117157941 |
| 10 | 1 | mCV24201027     | 373.20594 | 117626780 |
| 11 | 1 | rs13476069      | 373.30511 | 117932805 |
| 12 | 1 | rs3694226       | 379.09278 | 119019101 |
| 13 | 1 | CEL-1-117526378 | 379.09288 | 119395321 |
| 14 | 1 | gnf01.117.970   | 379.09298 | 120206187 |
| 15 | 1 | rs3695581       | 379.09308 | 120637062 |
| 16 | 1 | rs3719973       | 379.69426 | 120970185 |
| 17 | 1 | rs13476079      | 380.39673 | 121277333 |
| 18 | 1 | rs13476081      | 380.39683 | 121756703 |
| 19 | 1 | rs3686671       | 387.44593 | 123825217 |
| 20 | 1 | rs13476086      | 387.44603 | 124120690 |
| 21 | 1 | rs13476089      | 388.86621 | 124563739 |
| 22 | 1 | rs3717360       | 388.86631 | 124897243 |
| 23 | 1 | rs13476090      | 388.86641 | 125220908 |
| 24 | 1 | rs3694822       | 388.86651 | 125741682 |
| 25 | 1 | rs6189020       | 390.54055 | 126516498 |
| 26 | 1 | rs3687720       | 391.74808 | 126908318 |
| 27 | 1 | rs13476094      | 391.74818 | 127192398 |
| 28 | 1 | rs13476095      | 391.74828 | 127481769 |
| 29 | 1 | rs3716165       | 391.74838 | 127835242 |
| 30 | 1 | rs6228473       | 391.94284 | 128523838 |
| 31 | 1 | rs3691374       | 406.33158 | 128830105 |
| 32 | 1 | rs13476100      | 406.33168 | 128842817 |
| 33 | 1 | rs6308228       | 414.55097 | 133189179 |
| 34 | 1 | rs3678662       | 420.0818  | 134378492 |
| 35 | 1 | gnf01.132.831   | 426.47239 | 135115364 |
| 36 | 1 | rs13476122      | 429.10563 | 136766730 |
| 37 | 1 | rs13476125      | 435.67746 | 138014196 |
| 38 | 1 | rs6250257       | 437.82606 | 139536983 |
| 39 | 1 | rs13476136      | 439.71714 | 140723754 |
| 40 | 1 | rs6382880       | 443.11528 | 144418077 |
| 41 | 1 | rs6186115       | 448.67102 | 146560237 |
| 42 | 1 | rs13476158      | 451.68133 | 147636179 |
| 43 | 1 | rs3711440       | 451.78062 | 149096504 |
| 44 | 1 | CEL-1-148141836 | 452.23029 | 150055073 |
| 45 | 1 | rs3023658       | 456.50836 | 151663605 |
| 46 | 1 | rs6393307       | 456.75732 | 152872094 |
| 47 | 1 | rs3688042       | 456.75742 | 153102943 |
| 48 | 1 | rs6267646       | 464.10475 | 154395967 |
| 49 | 1 | rs3674280       | 464.11961 | 155080475 |
| 50 | 1 | gnf01.157.188   | 479.97216 | 159709681 |
| 51 | 1 | rs3709285       | 490.14831 | 160965088 |
| 52 | 1 | rs13476207      | 499.43029 | 163036933 |
| 53 | 1 | rs3685643       | 502.08091 | 164180191 |
| 54 | 1 | rs13476211      | 507.00636 | 164990866 |
| 55 | 1 | rs8256589       | 515.20542 | 165996952 |
| 56 | 1 | rs8242852       | 577.00943 | 172980821 |
| 57 | 1 | rs13476237      | 582.25965 | 173631526 |
| 58 | 1 | rs13476241      | 588.39867 | 174792335 |
| 59 | 1 | rs13476248      | 592.85072 | 176081804 |
| 60 | 1 | rs6213386       | 593.04895 | 177262372 |

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|----|-----------------|-----------|-----------|
| 1  | rs3723788       | 608.7243  | 178114837 |
| 2  | rs13476258      | 609.72734 | 178912738 |
| 3  | mCV23509126     | 626.85228 | 182669137 |
| 4  | CEL-1-182091301 | 628.47405 | 183936096 |
| 5  | rs6157620       | 633.82613 | 185385732 |
| 6  | mCV24555989     | 643.44375 | 186627144 |
| 7  | rs13476286      | 650.10807 | 187711002 |
| 8  | rs3694793       | 652.55504 | 188745178 |
| 9  | rs13476293      | 672.58324 | 190087098 |
| 10 | rs3654705       | 680.54897 | 191159238 |
| 11 | mCV23990401     | 693.30674 | 191982750 |
| 12 | rs13476308      | 719.47757 | 193610592 |
| 13 | rs13493060      | 722.36575 | 194439430 |
| 14 | rs13476312      | 725.68173 | 195793450 |
| 15 | rs13476319      | 0         | 3379628   |
| 16 | rs6308296       | 0.69814   | 4675003   |
| 17 | rs3699393       | 1.55302   | 5890785   |
| 18 | rs6359983       | 3.22752   | 6668095   |
| 19 | rs13476339      | 10.89835  | 8241374   |
| 20 | rs13476343      | 13.56394  | 9067020   |
| 21 | gnf02.007.482   | 25.52452  | 10478454  |
| 22 | rs3688854       | 71.17536  | 20203333  |
| 23 | mCV23209429     | 150.25561 | 31135513  |
| 24 | rs13459063      | 154.24173 | 32089220  |
| 25 | rs13476425      | 158.22424 | 34478980  |
| 26 | rs6313371       | 176.55178 | 39451529  |
| 27 | rs13476457      | 176.74692 | 41980190  |
| 28 | rs13476462      | 176.79641 | 43123156  |
| 29 | rs3680197       | 180.63052 | 44064411  |
| 30 | rs13476472      | 186.30108 | 45548746  |
| 31 | rs13476476      | 187.77015 | 46848832  |
| 32 | rs3718711       | 233.17951 | 56388226  |
| 33 | rs6247544       | 233.22666 | 57167606  |
| 34 | rs13476523      | 241.61519 | 58348075  |
| 35 | rs3708975       | 252.52414 | 59438505  |
| 36 | rs3022886       | 268.70587 | 62483390  |
| 37 | rs8263587       | 308.54655 | 69085304  |
| 38 | rs13476563      | 315.39883 | 69970052  |
| 39 | rs6295014       | 323.11842 | 71612396  |
| 40 | rs6345126       | 329.01863 | 72451387  |
| 41 | rs3710094       | 337.69283 | 74197328  |
| 42 | rs3713848       | 347.53482 | 75856730  |
| 43 | rs6360325       | 356.52537 | 77317323  |
| 44 | CEL-2-79237503  | 357.76974 | 79183600  |
| 45 | rs13476598      | 363.58814 | 80863557  |
| 46 | mCV23002990     | 366.70696 | 82390259  |
| 47 | gnf02.082.243   | 366.7565  | 83443426  |
| 48 | rs8273639       | 366.7566  | 84612491  |
| 49 | mCV24333820     | 370.09488 | 87450633  |
| 50 | rs6314788       | 370.21714 | 88186456  |
| 51 | rs3715323       | 371.97345 | 89420674  |
| 52 | rs13476631      | 371.97355 | 90319297  |
| 53 | rs13476637      | 374.33879 | 91785647  |
| 54 | rs13476640      | 375.60316 | 92814298  |
| 55 | rs6252400       | 382.21371 | 94090103  |
| 56 | rs13476647      | 382.36267 | 95438729  |
| 57 | rs6220079       | 382.51175 | 97325901  |
| 58 | rs13476660      | 386.67415 | 99057158  |
| 59 | rs6406705       | 388.87507 | 100200136 |
| 60 | rs13476667      | 391.72223 | 101424104 |

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|---|-----------------|-----------|-----------|
| 2 | rs6275228       | 392.32281 | 102182519 |
| 2 | rs13469470      | 401.22727 | 103290657 |
| 2 | rs3674721       | 403.42846 | 104541486 |
| 2 | rs3715478       | 405.36843 | 106028947 |
| 2 | rs6208879       | 410.20438 | 109622852 |
| 2 | rs3658023       | 410.25382 | 110654338 |
| 2 | rs3681694       | 410.35272 | 112125008 |
| 2 | CEL-2-113459249 | 421.59292 | 113408431 |
| 2 | rs3701250       | 430.34241 | 114706732 |
| 2 | rs3708146       | 432.85821 | 115832114 |
| 2 | rs13476723      | 443.12535 | 117118532 |
| 2 | rs3725853       | 443.22442 | 118084713 |
| 2 | rs3661254       | 443.3737  | 119334908 |
| 2 | rs3718386       | 443.52298 | 120587779 |
| 2 | rs6317255       | 443.72218 | 121731797 |
| 2 | rs13476746      | 443.8215  | 122736802 |
| 2 | rs13476750      | 446.2919  | 123481211 |
| 2 | rs6401493       | 450.56926 | 125123509 |
| 2 | rs13476761      | 453.68428 | 127292727 |
| 2 | rs6411422       | 455.46574 | 128199226 |
| 2 | rs6318992       | 461.80929 | 129089789 |
| 2 | rs3661596       | 462.07615 | 129970551 |
| 2 | rs13476774      | 463.90529 | 131240778 |
| 2 | rs13476787      | 484.19967 | 134965497 |
| 2 | rs13476790      | 486.72524 | 135469718 |
| 2 | rs13476794      | 487.22199 | 136567700 |
| 2 | rs6249968       | 505.17647 | 137618158 |
| 2 | rs6200333       | 506.13122 | 138895272 |
| 2 | rs6303304       | 520.2292  | 141269051 |
| 2 | rs13476811      | 521.3395  | 142540462 |
| 2 | rs6195594       | 521.3396  | 143420471 |
| 2 | mCV23169908     | 533.9275  | 145712335 |
| 2 | rs3701696       | 536.43931 | 147254465 |
| 2 | rs3676033       | 547.92126 | 149271015 |
| 2 | rs13476846      | 576.64402 | 152857172 |
| 2 | rs6209403       | 600.91124 | 153865947 |
| 2 | rs13476860      | 640.02072 | 156093212 |
| 2 | UT-2-158.095429 | 641.29346 | 157295559 |
| 2 | gnf02.161.674   | 642.05542 | 158566515 |
| 2 | rs13476876      | 653.12323 | 160184840 |
| 2 | rs6204920       | 660.23031 | 161566106 |
| 2 | rs3673613       | 664.00228 | 162677402 |
| 2 | rs3697980       | 668.16565 | 163838228 |
| 2 | rs6185704       | 675.13197 | 164779025 |
| 2 | rs13476894      | 684.57666 | 165876926 |
| 2 | rs6160839       | 707.75698 | 168792186 |
| 2 | rs3689258       | 713.05775 | 169313400 |
| 2 | rs13476925      | 799.06176 | 173100192 |
| 2 | rs8238755       | 802.9381  | 174244010 |
| 2 | rs13476936      | 813.46293 | 178942787 |
| 2 | rs13476944      | 828.50669 | 180662143 |
| 2 | rs6402916       | 828.59537 | 181542229 |
| 3 | rs13476950      | 0         | 3785418   |
| 3 | rs13476954      | 0.0001    | 4786147   |
| 3 | rs13476958      | 0.04976   | 5904283   |
| 3 | rs6274760       | 0.65054   | 7013014   |
| 3 | rs13476964      | 1.49624   | 7922127   |
| 3 | rs3668064       | 3.0087    | 9269819   |
| 3 | rs13476970      | 3.30776   | 10018673  |
| 3 | rs13476974      | 4.06034   | 11119313  |

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| 3 | rs3694133       | 4.06044   | 12501777  |
| 3 | rs6172421       | 4.06054   | 13643232  |
| 3 | rs13476985      | 5.11831   | 14887895  |
| 3 | rs13476992      | 10.85295  | 16819051  |
| 3 | rs13477007      | 17.96094  | 20357186  |
| 3 | rs6235984       | 26.40134  | 21430378  |
| 3 | rs13477017      | 32.341    | 22507002  |
| 3 | rs3677132       | 52.66737  | 27819125  |
| 3 | CEL-3-31146697  | 67.74571  | 31267065  |
| 3 | rs6351323       | 69.31037  | 32363154  |
| 3 | rs4223864       | 70.46827  | 32842750  |
| 3 | rs3720738       | 84.56341  | 35886710  |
| 3 | rs13477066      | 111.36591 | 38297775  |
| 3 | gnf03.036.164   | 112.61856 | 39215759  |
| 3 | rs13477072      | 122.67778 | 40358478  |
| 3 | CEL-3-46558020  | 125.08936 | 46357974  |
| 3 | rs3671459       | 141.78428 | 49927981  |
| 3 | rs3719360       | 147.47222 | 51067242  |
| 3 | rs6335414       | 160.88249 | 52821781  |
| 3 | gnf03.051.000   | 161.03025 | 54081737  |
| 3 | rs13477127      | 178.65413 | 56759332  |
| 3 | rs6363066       | 182.58994 | 57627215  |
| 3 | rs13477144      | 200.45387 | 61072170  |
| 3 | rs6176848       | 202.12722 | 61878614  |
| 3 | rs13477154      | 202.81615 | 63443860  |
| 3 | rs3674810       | 213.89202 | 67946724  |
| 3 | rs13477178      | 218.68615 | 69548776  |
| 3 | rs3659688       | 220.25586 | 70659239  |
| 3 | rs3715136       | 221.51488 | 72194392  |
| 3 | rs4137345       | 221.51498 | 73027720  |
| 3 | gnf03.073.308   | 233.80505 | 76037791  |
| 3 | rs3726567       | 238.25211 | 77261245  |
| 3 | rs13477217      | 238.951   | 78503778  |
| 3 | rs3659866       | 243.98295 | 80696460  |
| 3 | rs3685286       | 247.15973 | 81299107  |
| 3 | rs13477230      | 250.11632 | 82605961  |
| 3 | rs3708227       | 252.37318 | 83829773  |
| 3 | rs6243021       | 255.70855 | 84948288  |
| 3 | rs13477242      | 255.75799 | 85887218  |
| 3 | rs13475064      | 257.54134 | 88713874  |
| 3 | rs13477254      | 271.53561 | 89894693  |
| 3 | UT-2-93.461287  | 273.52249 | 90564824  |
| 3 | rs13477261      | 275.71597 | 91922865  |
| 3 | rs13459185      | 290.34028 | 95750438  |
| 3 | rs13477276      | 294.17254 | 96735929  |
| 3 | rs13477279      | 297.07427 | 97788738  |
| 3 | UT-3-102.173433 | 298.28011 | 99156566  |
| 3 | rs3162061       | 299.4345  | 100523616 |
| 3 | rs3671622       | 303.22053 | 102185758 |
| 3 | rs3701653       | 304.48565 | 103438050 |
| 3 | rs13477307      | 311.6727  | 104372664 |
| 3 | rs13477309      | 313.35254 | 105273322 |
| 3 | rs13477313      | 314.46365 | 106287660 |
| 3 | rs3684333       | 314.81255 | 107273619 |
| 3 | rs8256683       | 324.86927 | 109782469 |
| 3 | rs3676545       | 325.46801 | 110059229 |
| 3 | rs3711702       | 325.51736 | 111115643 |
| 3 | gnf03.117.090   | 331.83263 | 113399273 |
| 3 | rs3657795       | 331.83273 | 113715227 |
| 3 | rs13477355      | 334.19495 | 115813938 |

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|---|-----------------|-----------|-----------|
| 3 | rs13477364      | 364.02264 | 118290074 |
| 3 | rs13477379      | 376.9969  | 122540625 |
| 3 | rs3707706       | 385.24153 | 123718240 |
| 3 | rs13477384      | 386.65441 | 124511585 |
| 3 | rs8255228       | 387.11078 | 125617732 |
| 3 | rs13477391      | 395.06041 | 126861952 |
| 3 | rs3670168       | 395.40497 | 127995452 |
| 3 | rs13477400      | 399.94555 | 129089661 |
| 3 | rs3658914       | 428.72188 | 130530956 |
| 3 | rs13477410      | 432.63501 | 131729877 |
| 3 | rs13477421      | 448.04879 | 133905167 |
| 3 | gnf03.138.849   | 450.09003 | 135097436 |
| 3 | CEL-3-137067761 | 466.0835  | 136180489 |
| 3 | rs13477438      | 466.18199 | 137470980 |
| 3 | rs13477448      | 473.47341 | 139617213 |
| 3 | rs6189225       | 474.68409 | 141059766 |
| 3 | rs4224277       | 475.03065 | 142235699 |
| 3 | CEL-3-145329096 | 491.32201 | 144425238 |
| 3 | rs13477529      | 498.22354 | 145744719 |
| 3 | rs13477477      | 509.46021 | 146988827 |
| 3 | rs3722447       | 523.34611 | 148608637 |
| 3 | rs13477488      | 531.82787 | 150059131 |
| 3 | rs13477494      | 538.59529 | 151227284 |
| 3 | rs3695139       | 540.72403 | 152025332 |
| 3 | rs3695386       | 553.60015 | 155445672 |
| 4 | rs13477541      | 0         | 6320882   |
| 4 | rs13477546      | 8.27639   | 7682681   |
| 4 | rs13477550      | 11.06428  | 8920439   |
| 4 | rs6324271       | 16.82904  | 10242307  |
| 4 | rs13477558      | 16.86268  | 10825523  |
| 4 | rs13477569      | 33.29336  | 13886134  |
| 4 | rs13477576      | 35.33022  | 15649658  |
| 4 | rs13477595      | 58.38728  | 20446245  |
| 4 | gnf04.018.158   | 59.18177  | 21343761  |
| 4 | rs13477608      | 61.27541  | 23912431  |
| 4 | rs4224426       | 62.17516  | 25177474  |
| 4 | rs3681849       | 62.72546  | 26390959  |
| 4 | rs13477621      | 69.18328  | 27943571  |
| 4 | rs13477623      | 80.07882  | 29505438  |
| 4 | rs13477625      | 80.17772  | 29960152  |
| 4 | CEL-4-30832818  | 80.67774  | 30528618  |
| 4 | gnf04.029.494   | 83.89927  | 32833342  |
| 4 | CEL-4-34055416  | 86.41681  | 33911031  |
| 4 | rs3719299       | 99.34482  | 36076761  |
| 4 | rs13477649      | 103.55595 | 36837767  |
| 4 | rs3684104       | 114.04219 | 38269952  |
| 4 | rs13477659      | 115.09938 | 39159190  |
| 4 | CEL-4-40541402  | 116.6667  | 40397017  |
| 4 | rs4138630       | 122.13541 | 41604055  |
| 4 | rs6321462       | 122.88559 | 43663720  |
| 4 | rs13477678      | 141.62326 | 45502303  |
| 4 | rs3707178       | 147.72038 | 47049015  |
| 4 | rs3663355       | 150.84205 | 48126206  |
| 4 | rs13477694      | 158.46841 | 49601465  |
| 4 | rs6269326       | 163.21253 | 50499252  |
| 4 | rs13477711      | 168.63447 | 53915357  |
| 4 | rs3677770       | 174.04296 | 54732355  |
| 4 | rs13477725      | 197.79302 | 57626582  |
| 4 | UT-4-58.126445  | 200.17042 | 58386897  |
| 4 | rs3671277       | 202.76336 | 59457409  |

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| 4 | rs13477738      | 208.5447  | 62690602  |
| 4 | rs13477741      | 208.71287 | 63889889  |
| 4 | gnf04.062.327   | 214.01563 | 66377278  |
| 4 | rs6370644       | 232.18428 | 70203958  |
| 4 | rs13477769      | 233.08801 | 72196782  |
| 4 | rs13477773      | 233.08811 | 73016584  |
| 4 | rs6292114       | 235.61333 | 74628116  |
| 4 | rs3708471       | 237.984   | 76516631  |
| 4 | rs3669136       | 240.08922 | 78284862  |
| 4 | CEL-4-78089985  | 243.47579 | 79461643  |
| 4 | rs2020477       | 244.78406 | 80742555  |
| 4 | rs6323325       | 249.75771 | 82052838  |
| 4 | rs3700579       | 250.15655 | 83585215  |
| 4 | rs13477816      | 262.23561 | 84970200  |
| 4 | rs3707373       | 270.52011 | 86579087  |
| 4 | CEL-4-86185890  | 277.37884 | 87557343  |
| 4 | rs13477831      | 281.09635 | 88597633  |
| 4 | rs13477854      | 303.38112 | 95486141  |
| 4 | CEL-4-95976899  | 311.11441 | 97313314  |
| 4 | rs6255772       | 318.03815 | 98540189  |
| 4 | rs13477868      | 327.0208  | 99636848  |
| 4 | rs13477873      | 329.01449 | 101102849 |
| 4 | rs13477876      | 329.22824 | 102065882 |
| 4 | rs13477882      | 332.15023 | 103321664 |
| 4 | rs13477886      | 334.30517 | 104379930 |
| 4 | rs13477893      | 344.57644 | 105972118 |
| 4 | rs3709496       | 351.29482 | 107503962 |
| 4 | rs3670382       | 364.49976 | 110513734 |
| 4 | mCV22668736     | 366.28364 | 112333149 |
| 4 | rs3687391       | 373.72018 | 114037342 |
| 4 | rs3022993       | 377.50579 | 115159572 |
| 4 | mCV24303778     | 378.87358 | 115925083 |
| 4 | rs6173859       | 390.28913 | 117245337 |
| 4 | rs3678308       | 400.06992 | 120416899 |
| 4 | CEL-4-120039566 | 402.54622 | 121366805 |
| 4 | rs13477952      | 402.84491 | 122629128 |
| 4 | rs3677161       | 413.29604 | 124517596 |
| 4 | rs13474356      | 413.29614 | 124745401 |
| 4 | rs13477968      | 423.51684 | 127074544 |
| 4 | rs4138996       | 425.01665 | 128554817 |
| 4 | rs3698956       | 429.43325 | 129775759 |
| 4 | rs3673061       | 432.49081 | 130913680 |
| 4 | rs4224808       | 438.38754 | 132556150 |
| 4 | rs13477991      | 444.23781 | 133435414 |
| 4 | rs3663950       | 462.24066 | 135285446 |
| 4 | rs3023025       | 568.28208 | 142772319 |
| 4 | rs4136314       | 580.08054 | 144635389 |
| 4 | UT-4-146.099338 | 590.1216  | 147360490 |
| 4 | UT-4-147.232882 | 591.94992 | 148494034 |
| 4 | rs3720325       | 592.50038 | 149136035 |
| 4 | rs13478051      | 594.59882 | 150322202 |
| 4 | rs6378384       | 609.67051 | 152935160 |
| 4 | rs3696703       | 627.77801 | 154599781 |
| 4 | rs3720634       | 641.92417 | 155281703 |
| 5 | rs13478093      | 0         | 3968775   |
| 5 | rs6190354       | 1.00478   | 4858913   |
| 5 | rs3709946       | 1.83559   | 6789766   |
| 5 | rs13478104      | 2.81941   | 7975723   |
| 5 | rs6410022       | 2.86898   | 8916539   |
| 5 | rs3676096       | 4.27565   | 10671077  |



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| 5 | rs3714258       | 11.57298  | 12371156  |
| 5 | mCV25284008     | 12.78423  | 13091979  |
| 5 | rs13478133      | 34.13193  | 21120063  |
| 5 | rs4225096       | 46.48115  | 23915346  |
| 5 | rs13478148      | 51.30299  | 24860333  |
| 5 | rs3718492       | 72.84411  | 32359429  |
| 5 | rs13478175      | 76.72953  | 33930827  |
| 5 | rs13459085      | 76.77882  | 35251425  |
| 5 | rs13478184      | 80.81301  | 36393187  |
| 5 | rs13478204      | 92.13119  | 41067292  |
| 5 | rs13478217      | 106.68992 | 44555834  |
| 5 | rs13478223      | 115.3423  | 45747535  |
| 5 | CEL-5-45872918  | 116.7072  | 47638996  |
| 5 | rs6248036       | 134.59333 | 53200019  |
| 5 | rs3711950       | 170.92393 | 64403638  |
| 5 | rs6267669       | 188.2492  | 66893863  |
| 5 | rs3684754       | 195.70175 | 67751433  |
| 5 | rs3691938       | 199.53474 | 68657751  |
| 5 | rs6409508       | 215.43628 | 73519551  |
| 5 | gnf05.069.163   | 221.11579 | 75274692  |
| 5 | rs6221589       | 223.02908 | 76099099  |
| 5 | rs6257272       | 234.35749 | 77316225  |
| 5 | rs3658150       | 236.56324 | 80220903  |
| 5 | rs13478352      | 238.45287 | 81559534  |
| 5 | rs13478355      | 241.46556 | 82588916  |
| 5 | rs13478361      | 241.46566 | 83810838  |
| 5 | rs3678577       | 241.62821 | 85065018  |
| 5 | rs13459087      | 246.38822 | 87521105  |
| 5 | rs13478383      | 250.88738 | 89809980  |
| 5 | rs3716445       | 256.84853 | 91079616  |
| 5 | rs13478392      | 259.64816 | 92179790  |
| 5 | UT-5-94.545323  | 264.79132 | 93604751  |
| 5 | rs13478400      | 266.5116  | 96265315  |
| 5 | rs3661241       | 272.60829 | 98266375  |
| 5 | rs6350578       | 290.4513  | 106723995 |
| 5 | rs13478447      | 292.76043 | 107833361 |
| 5 | rs13478451      | 296.14449 | 109083780 |
| 5 | rs3658755       | 307.16302 | 113197360 |
| 5 | rs13478473      | 310.1089  | 114660997 |
| 5 | UT-5-114.525467 | 321.93039 | 115904080 |
| 5 | gnf05.110.207   | 323.39104 | 116556465 |
| 5 | mCV22554962     | 328.51087 | 118017688 |
| 5 | rs3662655       | 338.04906 | 118710087 |
| 5 | rs13478487      | 341.71236 | 119758227 |
| 5 | rs8239888       | 364.40537 | 122017884 |
| 5 | CEL-5-120064766 | 366.44068 | 123000843 |
| 5 | rs13478501      | 371.39236 | 124241062 |
| 5 | rs13478509      | 375.89428 | 125995647 |
| 5 | rs3701266       | 386.19596 | 127163995 |
| 5 | rs13478522      | 398.97051 | 128978755 |
| 5 | rs6377710       | 432.67933 | 132852074 |
| 5 | rs13478539      | 435.35594 | 133538654 |
| 5 | rs13478540      | 449.82568 | 134520936 |
| 5 | rs3023058       | 468.32744 | 136305325 |
| 5 | rs3711751       | 474.92227 | 137393985 |
| 5 | rs3023061       | 518.78273 | 144692152 |
| 5 | mCV25009162     | 521.77994 | 145297027 |
| 5 | rs4225575       | 532.56438 | 145942771 |
| 5 | mCV22895274     | 534.23213 | 147394031 |
| 5 | rs13478589      | 562.10295 | 149012990 |

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| 5 | rs3718776      | 565.43475 | 150393227 |
| 5 | rs13478595     | 565.43485 | 151148536 |
| 6 | rs13478602     | 0         | 3797192   |
| 6 | rs13478608     | 2.08902   | 5219015   |
| 6 | rs13478612     | 8.02171   | 6508472   |
| 6 | rs13478615     | 8.10354   | 7222703   |
| 6 | CEL-6-9421791  | 19.30744  | 9639647   |
| 6 | CEL-6-10519419 | 20.21814  | 10733840  |
| 6 | rs13478631     | 20.52235  | 11226305  |
| 6 | rs3655979      | 25.48124  | 13135397  |
| 6 | rs3678711      | 29.02601  | 14239843  |
| 6 | rs13478641     | 35.14997  | 16011004  |
| 6 | UT-6-18.199327 | 39.921    | 18272206  |
| 6 | gnf06.016.989  | 41.01326  | 19886052  |
| 6 | rs3710004      | 58.89037  | 23153567  |
| 6 | rs3684494      | 63.91569  | 24365693  |
| 6 | rs13478667     | 68.87916  | 25547621  |
| 6 | rs13478671     | 70.39944  | 26419434  |
| 6 | rs13478676     | 70.56627  | 27605708  |
| 6 | rs13478681     | 71.79794  | 28754995  |
| 6 | rs13478693     | 73.63495  | 32013004  |
| 6 | rs6303641      | 75.15857  | 33463435  |
| 6 | rs6297560      | 76.83846  | 34603323  |
| 6 | gnf06.032.524  | 76.93772  | 35481775  |
| 6 | gnf06.033.454  | 79.24625  | 36435340  |
| 6 | rs13478717     | 85.42819  | 37639577  |
| 6 | rs13478719     | 88.27135  | 38495339  |
| 6 | gnf06.037.785  | 103.44774 | 40749295  |
| 6 | rs13478726     | 111.36991 | 42352269  |
| 6 | rs13478727     | 112.26971 | 43776811  |
| 6 | rs13478730     | 117.00226 | 44976417  |
| 6 | rs3684860      | 142.89445 | 48936035  |
| 6 | rs3023069      | 162.88982 | 52193140  |
| 6 | rs13478759     | 163.23049 | 53330356  |
| 6 | rs13478762     | 192.0774  | 54175670  |
| 6 | gnf06.058.959  | 201.65288 | 59756735  |
| 6 | rs6378343      | 214.021   | 63773077  |
| 6 | rs8270116      | 215.90152 | 65067887  |
| 6 | rs13478818     | 233.11071 | 73053161  |
| 6 | rs6411497      | 234.21955 | 75464921  |
| 6 | rs13478833     | 236.36867 | 76580662  |
| 6 | rs13478839     | 250.06802 | 77761517  |
| 6 | rs13478845     | 254.32899 | 78947220  |
| 6 | rs13478853     | 257.81418 | 80525800  |
| 6 | rs4226024      | 262.7007  | 81908219  |
| 6 | CEL-6-83434907 | 269.0016  | 83147368  |
| 6 | rs13459097     | 274.47129 | 84840296  |
| 6 | CEL-6-86437630 | 274.60783 | 86058922  |
| 6 | rs3677567      | 274.90693 | 87222078  |
| 6 | rs13478880     | 278.13245 | 88537081  |
| 6 | rs13478882     | 278.83421 | 89615026  |
| 6 | rs6156752      | 286.00097 | 90723697  |
| 6 | rs6223362      | 302.17521 | 92570487  |
| 6 | gnf06.092.758  | 302.92541 | 93813955  |
| 6 | gnf06.093.201  | 305.02053 | 94255481  |
| 6 | rs13478949     | 354.89288 | 105083653 |
| 6 | rs13478952     | 356.15192 | 106255497 |
| 6 | gnf06.105.887  | 356.89941 | 107015261 |
| 6 | gnf06.107.451  | 363.13727 | 108599680 |
| 6 | rs13478965     | 363.18619 | 109407240 |

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| 6 | rs13478969      | 372.50792 | 110706035 |
| 6 | rs13478974      | 382.67127 | 111930722 |
| 6 | rs6393943       | 385.51952 | 114357238 |
| 6 | rs6204829       | 391.30892 | 115865552 |
| 6 | mCV23042866     | 391.73974 | 116706746 |
| 6 | rs13478999      | 402.15853 | 118752027 |
| 6 | rs3722157       | 414.81084 | 122368125 |
| 6 | gnf06.122.747   | 419.94685 | 124006512 |
| 6 | UT-6-127.071239 | 427.41825 | 125094389 |
| 6 | CEL-6-127435117 | 439.89818 | 126754347 |
| 6 | rs13479024      | 442.79875 | 127541604 |
| 6 | rs3662241       | 446.02992 | 129560177 |
| 6 | rs3654483       | 446.03002 | 130435892 |
| 6 | rs3721822       | 446.03012 | 131258177 |
| 6 | rs3704289       | 449.26186 | 131940471 |
| 6 | CEL-6-132620146 | 450.11687 | 132498747 |
| 6 | mCV22521691     | 450.11697 | 132813398 |
| 6 | rs3655878       | 451.0494  | 133582267 |
| 6 | rs13479051      | 461.29448 | 133804968 |
| 6 | rs6339546       | 463.33777 | 133917751 |
| 6 | rs13479053      | 465.49324 | 134201251 |
| 6 | rs13479055      | 465.54273 | 134571804 |
| 6 | rs3671932       | 467.37347 | 134808128 |
| 6 | rs13479058      | 471.15056 | 135272117 |
| 6 | rs13479059      | 471.15066 | 135610188 |
| 6 | rs3711652       | 472.10803 | 135928283 |
| 6 | rs3704502       | 472.25727 | 136207977 |
| 6 | rs13479064      | 472.80809 | 136560768 |
| 6 | rs13479066      | 473.15743 | 136889372 |
| 6 | rs13479070      | 475.36543 | 137928427 |
| 6 | rs13479071      | 475.36553 | 138203532 |
| 6 | rs6261913       | 475.41493 | 138598188 |
| 6 | rs6255954       | 481.33193 | 139010268 |
| 6 | gnf06.139.257   | 481.63094 | 139126179 |
| 6 | rs6288584       | 482.53729 | 139468253 |
| 6 | rs3672808       | 482.53739 | 139805730 |
| 6 | rs3664540       | 482.73663 | 140066610 |
| 6 | rs6199136       | 483.54101 | 140387757 |
| 6 | rs8268650       | 484.70377 | 141480729 |
| 6 | rs6329892       | 484.75339 | 142368838 |
| 6 | rs6235887       | 484.9526  | 142672872 |
| 6 | rs6391555       | 485.55402 | 142951483 |
| 6 | rs4226359       | 485.80306 | 143246238 |
| 6 | rs6152631       | 489.37008 | 144002632 |
| 6 | rs6386657       | 489.71927 | 144262633 |
| 6 | rs13479084      | 492.39156 | 144453463 |
| 6 | rs4140069       | 499.939   | 144814489 |
| 6 | rs13459098      | 500.63685 | 145123190 |
| 6 | rs13479086      | 500.68633 | 145244335 |
| 6 | rs6387265       | 504.34476 | 145693849 |
| 6 | rs3023105       | 510.17942 | 146425319 |
| 6 | rs3712253       | 510.17952 | 146691561 |
| 6 | rs13479099      | 510.17962 | 147147748 |
| 6 | rs6265387       | 510.17972 | 147203378 |
| 7 | gnf07.010.101   | 0         | 16488106  |
| 7 | rs6295100       | 5.82887   | 17046685  |
| 7 | UT-7-14.584506  | 10.10347  | 18266812  |
| 7 | UT-7-16.347574  | 10.18729  | 19942044  |
| 7 | CEL-7-12787527  | 16.94839  | 24837175  |
| 7 | rs13479154      | 27.89813  | 26076273  |

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| 7 | rs13479163      | 43.28885  | 27852866  |
| 7 | rs13479171      | 59.97331  | 29935213  |
| 7 | rs13479174      | 75.54505  | 30807922  |
| 7 | CEL-7-20534424  | 92.95033  | 32294980  |
| 7 | CEL-7-21610848  | 93.1759   | 34313345  |
| 7 | rs3694031       | 101.83594 | 35699898  |
| 7 | rs6217275       | 122.60674 | 37211722  |
| 7 | gnf07.032.360   | 136.24293 | 47652851  |
| 7 | rs4232449       | 145.17275 | 48581740  |
| 7 | rs6316536       | 147.5323  | 50759749  |
| 7 | rs3719256       | 152.54389 | 51794017  |
| 7 | rs3689409       | 161.41314 | 52261292  |
| 7 | rs3717293       | 198.92449 | 63232349  |
| 7 | rs3696018       | 201.76434 | 64362355  |
| 7 | rs13479276      | 201.79057 | 65717523  |
| 7 | rs3693478       | 212.68076 | 67179979  |
| 7 | gnf07.056.997   | 212.82255 | 69695364  |
| 7 | rs3679779       | 214.71026 | 71545170  |
| 7 | rs6160140       | 222.08589 | 73426174  |
| 7 | rs3667441       | 225.24264 | 74778390  |
| 7 | rs6296859       | 228.96124 | 76126377  |
| 7 | rs3723790       | 238.59732 | 77309844  |
| 7 | rs13479325      | 248.05325 | 78443151  |
| 7 | rs3676254       | 252.49295 | 79831151  |
| 7 | mCV25303361     | 260.28226 | 80754000  |
| 7 | rs13479342      | 271.45486 | 82114281  |
| 7 | rs13479347      | 278.73278 | 83432559  |
| 7 | rs13479351      | 279.99429 | 84643102  |
| 7 | rs3686423       | 287.84068 | 86728144  |
| 7 | rs8248433       | 295.46452 | 87647472  |
| 7 | rs3663343       | 299.22349 | 88684139  |
| 7 | rs6213614       | 302.64685 | 89430611  |
| 7 | rs13479376      | 307.33102 | 91596873  |
| 7 | CEL-7-73288107  | 307.38033 | 93275341  |
| 7 | rs13479385      | 310.3378  | 94282690  |
| 7 | rs3663323       | 311.55104 | 95460791  |
| 7 | rs13479393      | 316.11892 | 96556405  |
| 7 | CEL-7-77948585  | 316.56446 | 97864533  |
| 7 | rs3663374       | 323.35803 | 98602160  |
| 7 | rs3683030       | 333.90295 | 100241831 |
| 7 | rs6224196       | 338.81922 | 102315605 |
| 7 | UT-7-90.803899  | 344.36911 | 106485053 |
| 7 | rs13479427      | 345.06826 | 107177259 |
| 7 | rs13479429      | 346.02521 | 108319539 |
| 7 | rs3713052       | 346.98205 | 108918190 |
| 7 | rs13479437      | 348.66126 | 110335247 |
| 7 | rs3662937       | 348.66136 | 111381490 |
| 7 | rs13459173      | 352.10468 | 112784815 |
| 7 | rs3711721       | 354.04014 | 114369537 |
| 7 | rs6315049       | 355.35099 | 116196648 |
| 7 | rs13479457      | 359.45548 | 117574875 |
| 7 | rs13479461      | 366.65971 | 119092066 |
| 7 | rs3726290       | 368.02733 | 120495850 |
| 7 | rs13479470      | 370.28576 | 121842519 |
| 7 | rs3656074       | 378.05827 | 123277780 |
| 7 | gnf07.120.460   | 439.61719 | 130717933 |
| 7 | rs13479507      | 453.32453 | 132034868 |
| 7 | rs6403908       | 454.24534 | 133241749 |
| 7 | rs6177803       | 460.52975 | 134468592 |
| 7 | CEL-7-116160192 | 468.95815 | 135825551 |

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| 7 | rs8236684       | 482.94037 | 138174654 |
| 7 | CEL-7-126301023 | 561.86673 | 145854915 |
| 7 | rs6299045       | 566.93365 | 147339788 |
| 7 | rs3702894       | 576.23775 | 149537767 |
| 7 | rs6176332       | 580.22357 | 150663801 |
| 7 | rs6216320       | 585.40516 | 152367605 |
| 8 | rs6273176       | 0         | 7850107   |
| 8 | rs13479601      | 1.5908    | 9055823   |
| 8 | rs6288205       | 27.23491  | 12246849  |
| 8 | rs6287472       | 27.23501  | 13314068  |
| 8 | rs6410533       | 30.62618  | 14301463  |
| 8 | rs13479624      | 41.0929   | 16859147  |
| 8 | rs13479628      | 49.83004  | 18316446  |
| 8 | CEL-8-25677705  | 87.7817   | 28002388  |
| 8 | rs13479769      | 331.65601 | 55686243  |
| 8 | rs3659789       | 331.75036 | 58485096  |
| 8 | UT-8-57.168981  | 332.2174  | 59934830  |
| 8 | rs13479784      | 336.5757  | 61240020  |
| 8 | rs6398181       | 338.57013 | 62694477  |
| 8 | rs3672639       | 338.71884 | 63700583  |
| 8 | rs6394046       | 348.58065 | 64982540  |
| 8 | rs13479799      | 349.42454 | 66039644  |
| 8 | gnf08.064.413   | 349.42464 | 67369114  |
| 8 | rs3694940       | 349.72367 | 68395872  |
| 8 | rs13479811      | 353.55285 | 69577204  |
| 8 | rs13479814      | 355.01936 | 70845435  |
| 8 | rs3698093       | 379.90841 | 80549233  |
| 8 | rs6296891       | 393.92495 | 82507845  |
| 8 | rs3696786       | 397.42049 | 83525688  |
| 8 | rs13479860      | 400.97142 | 84785535  |
| 8 | rs4227283       | 406.71782 | 85796532  |
| 8 | UT-8-84.8318    | 409.39106 | 86493714  |
| 8 | rs13479873      | 416.65149 | 87754611  |
| 8 | rs13479879      | 421.14837 | 89032866  |
| 8 | rs3682243       | 423.13223 | 89857454  |
| 8 | rs3705695       | 458.69242 | 97880021  |
| 8 | rs6374927       | 564.33781 | 114155493 |
| 8 | rs3675125       | 722.30186 | 124773828 |
| 8 | rs13480022      | 726.40614 | 124978927 |
| 8 | rs13480023      | 728.0322  | 125286790 |
| 8 | rs13480024      | 728.08181 | 125418137 |
| 8 | rs3693295       | 728.08191 | 125471593 |
| 8 | rs4227429       | 728.08218 | 125792617 |
| 8 | rs8249856       | 731.84064 | 126493954 |
| 8 | rs8238636       | 731.91667 | 127080944 |
| 8 | rs6300613       | 733.38885 | 127971008 |
| 8 | UT-8-130.396331 | 740.57753 | 131027084 |
| 8 | rs3695597       | 740.62187 | 131457798 |
| 9 | rs13480065      | 0         | 9290507   |
| 9 | mCV25073238     | 9.56696   | 10573030  |
| 9 | rs13480073      | 17.96532  | 13233763  |
| 9 | gnf09.009.970   | 22.84566  | 15496546  |
| 9 | rs13480112      | 99.51633  | 26413932  |
| 9 | rs6182405       | 101.7171  | 27652042  |
| 9 | petM-05537-1    | 124.80161 | 28930590  |
| 9 | CEL-9-29909656  | 129.24211 | 29748545  |
| 9 | rs13480130      | 153.57024 | 33099089  |
| 9 | rs3711756       | 156.96477 | 34266429  |
| 9 | rs13480138      | 164.30939 | 35323696  |
| 9 | mCV25302097     | 164.32527 | 36242205  |

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| 1  |    |                |           |           |
| 2  |    |                |           |           |
| 3  |    |                |           |           |
| 4  | 9  | rs3719607      | 164.42473 | 37007430  |
| 5  | 9  | rs3694949      | 164.57401 | 38263146  |
| 6  | 9  | rs3675289      | 165.17041 | 39517700  |
| 7  | 9  | rs13480153     | 169.12012 | 40483617  |
| 8  | 9  | rs3676086      | 187.77118 | 42649933  |
| 9  | 9  | rs13480166     | 197.42838 | 43879831  |
| 10 | 9  | rs13480172     | 199.50946 | 46045437  |
| 11 | 9  | rs3673816      | 201.02649 | 47039895  |
| 12 | 9  | rs13480180     | 210.98135 | 48228876  |
| 13 | 9  | gnf09.044.276  | 213.29306 | 49784973  |
| 14 | 9  | rs13480191     | 228.03854 | 50964758  |
| 15 | 9  | rs13480194     | 239.25878 | 52120901  |
| 16 | 9  | rs13480198     | 244.74024 | 53090229  |
| 17 | 9  | rs8259443      | 252.01901 | 54013403  |
| 18 | 9  | rs3660104      | 253.25531 | 54832009  |
| 19 | 9  | rs6334600      | 256.11514 | 56387055  |
| 20 | 9  | rs13480218     | 268.05353 | 57836654  |
| 21 | 9  | rs6154433      | 269.45009 | 59038347  |
| 22 | 9  | rs13480227     | 288.44893 | 60898609  |
| 23 | 9  | rs13480232     | 298.04156 | 62013984  |
| 24 | 9  | rs13480236     | 300.99321 | 63055796  |
| 25 | 9  | rs3664300      | 301.59    | 64300970  |
| 26 | 9  | rs13480247     | 312.27831 | 65394048  |
| 27 | 9  | rs3670579      | 314.64207 | 66754573  |
| 28 | 9  | rs3716689      | 317.00383 | 67961641  |
| 29 | 9  | rs13480258     | 330.65246 | 68739815  |
| 30 | 9  | rs3703045      | 332.58436 | 70160776  |
| 31 | 9  | rs13459110     | 340.29409 | 71331038  |
| 32 | 9  | rs3711813      | 340.29419 | 72210393  |
| 33 | 9  | rs13480273     | 348.72748 | 73120560  |
| 34 | 9  | rs3724833      | 365.29687 | 74735877  |
| 35 | 9  | mCV25328470    | 365.48437 | 75892111  |
| 36 | 9  | rs13480288     | 366.38974 | 77247379  |
| 37 | 9  | rs3658458      | 370.38306 | 80151280  |
| 38 | 9  | rs3670195      | 371.48506 | 81159485  |
| 39 | 9  | rs13480312     | 385.83476 | 83687617  |
| 40 | 9  | rs13480315     | 387.57717 | 84867140  |
| 41 | 9  | rs13480318     | 389.39255 | 86201201  |
| 42 | 9  | rs6182207      | 391.8599  | 87332104  |
| 43 | 9  | gnf09.087.298  | 396.75303 | 90578037  |
| 44 | 9  | rs6202847      | 399.48933 | 91592508  |
| 45 | 9  | CEL-9-92503233 | 401.16862 | 92554642  |
| 46 | 9  | rs13480351     | 403.90603 | 94179227  |
| 47 | 9  | rs3690580      | 411.21836 | 95251199  |
| 48 | 9  | rs13480367     | 414.16299 | 98823436  |
| 49 | 9  | gnf09.096.289  | 415.42409 | 99654175  |
| 50 | 9  | rs6190068      | 426.28564 | 101521003 |
| 51 | 9  | rs3657346      | 428.96215 | 103073500 |
| 52 | 9  | rs13480387     | 429.11081 | 103827403 |
| 53 | 9  | rs3711089      | 439.12043 | 105393992 |
| 54 | 9  | rs6320810      | 530.98503 | 115065091 |
| 55 | 9  | rs3669563      | 535.94666 | 117827881 |
| 56 | 9  | rs6316481      | 548.41539 | 118883562 |
| 57 | 9  | rs13480454     | 559.20823 | 120606956 |
| 58 | 9  | rs6299531      | 565.58602 | 122834340 |
| 59 | 9  | rs8241505      | 568.85925 | 123699420 |
| 60 | 9  | rs8254378      | 575.30694 | 124039192 |
|    | 10 | rs13480510     | 0         | 15801686  |
|    | 10 | rs13480516     | 2.03887   | 17233244  |
|    | 10 | rs3703211      | 3.9249    | 18256741  |

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|----|--------------------|-----------|-----------|
| 10 | rs13480527         | 9.66607   | 19336109  |
| 10 | rs13480531         | 18.04184  | 20493290  |
| 10 | rs13480536         | 20.1347   | 21653710  |
| 10 | rs3679120          | 29.86371  | 22641084  |
| 10 | rs13480547         | 36.8034   | 24207368  |
| 10 | rs3672342          | 37.09699  | 25413902  |
| 10 | rs13459121         | 44.85511  | 26517513  |
| 10 | rs3023233          | 65.72744  | 28315852  |
| 10 | rs13459120         | 91.41418  | 35758852  |
| 10 | rs13480601         | 150.04445 | 44026225  |
| 10 | rs6212358          | 153.54711 | 45838855  |
| 10 | rs3676667          | 153.99688 | 46672387  |
| 10 | rs3715820          | 154.29614 | 48283697  |
| 10 | rs6164020          | 154.39539 | 49468021  |
| 10 | rs6186864          | 158.3424  | 52447434  |
| 10 | rs6243167          | 161.4592  | 54504265  |
| 10 | rs6374078          | 184.90422 | 60568067  |
| 10 | rs6312070          | 188.22314 | 62537450  |
| 10 | rs6335027          | 197.26643 | 64823642  |
| 10 | rs13480630         | 205.24698 | 67283840  |
| 10 | rs13480638         | 216.25091 | 68907415  |
| 10 | rs6295890          | 223.26222 | 72110546  |
| 10 | rs13480652         | 236.04163 | 74075171  |
| 10 | rs13480678         | 255.8908  | 84148125  |
| 10 | rs13480684         | 261.83263 | 85335328  |
| 10 | rs13480687         | 271.82151 | 86559223  |
| 10 | gnf10.087.008      | 272.77556 | 87488435  |
| 10 | rs3701829          | 290.54897 | 88796791  |
| 10 | mCV25373751        | 291.0468  | 90171935  |
| 10 | rs13480703         | 295.03086 | 90880555  |
| 10 | rs3661495          | 302.81057 | 92120896  |
| 10 | rs13480712         | 307.51894 | 92978979  |
| 10 | rs3704401          | 330.44422 | 98705184  |
| 10 | rs6390581          | 330.69225 | 99291225  |
| 10 | rs3710293          | 331.49602 | 99577432  |
| 10 | rs6185093          | 331.99585 | 100205724 |
| 10 | rs13480734         | 338.28893 | 101838025 |
| 10 | rs13480739         | 342.50389 | 103185335 |
| 10 | rs13480740         | 342.50399 | 103515831 |
| 10 | rs3688351          | 343.10501 | 103953112 |
| 10 | rs3716899          | 343.10511 | 104406107 |
| 10 | rs13480745         | 343.10521 | 104621894 |
| 10 | rs3716443          | 343.10531 | 104949412 |
| 10 | rs13480749         | 344.31091 | 105437650 |
| 10 | rs13480752         | 345.61934 | 106267142 |
| 10 | rs3654717          | 349.20295 | 106641086 |
| 10 | rs13480754         | 349.43334 | 106921183 |
| 10 | rs6174062          | 353.81928 | 108964735 |
| 10 | rs6293699          | 354.93041 | 109577883 |
| 10 | rs4228452          | 355.78487 | 110731307 |
| 10 | rs6353445          | 357.20324 | 111131157 |
| 10 | rs13480766         | 364.51626 | 111320457 |
| 10 | CEL-10-113177617   | 370.03763 | 112836909 |
| 10 | rs13480773         | 378.71478 | 114179164 |
| 10 | rs6201222          | 378.71488 | 114310930 |
| 10 | rs4228477          | 378.71498 | 114515890 |
| 10 | rs6363315          | 393.74587 | 116291531 |
| 10 | CZECH-10-116791624 | 393.74597 | 116433049 |
| 10 | rs6335076          | 393.74607 | 116582756 |
| 10 | rs3670118          | 394.39762 | 116830926 |

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|----|-----------------|-----------|-----------|
| 10 | rs6256918       | 394.64671 | 116988751 |
| 10 | rs6284081       | 396.01342 | 117560628 |
| 10 | rs6317716       | 402.18055 | 118914359 |
| 10 | rs13480792      | 409.62942 | 119844877 |
| 10 | rs6197175       | 415.5789  | 120131018 |
| 10 | rs13480793      | 416.73392 | 120465110 |
| 10 | rs6237927       | 430.42785 | 120809086 |
| 10 | rs6197961       | 437.0808  | 121298514 |
| 10 | rs13480797      | 437.0809  | 121364788 |
| 10 | rs13480808      | 459.94688 | 123833688 |
| 10 | rs4140243       | 461.77976 | 124274419 |
| 10 | rs13480811      | 461.77986 | 124544360 |
| 10 | gnf10.124.898   | 464.30578 | 124928136 |
| 10 | rs6281696       | 465.05877 | 125024086 |
| 10 | rs3697243       | 468.89398 | 126250066 |
| 10 | rs13480821      | 473.34724 | 126934967 |
| 10 | rs6290842       | 480.01156 | 128553075 |
| 11 | rs13480835      | 0         | 3234216   |
| 11 | rs3682937       | 0.34487   | 4580335   |
| 11 | rs6393401       | 3.23973   | 5771105   |
| 11 | rs13480853      | 10.29725  | 7315081   |
| 11 | rs13480859      | 11.59661  | 8378425   |
| 11 | rs3661631       | 13.35672  | 9234548   |
| 11 | rs13480869      | 15.65427  | 10903789  |
| 11 | rs13480880      | 26.71595  | 13332444  |
| 11 | rs3689494       | 38.86756  | 16181190  |
| 11 | rs3658216       | 68.29943  | 19463109  |
| 11 | rs6393028       | 77.81335  | 20753809  |
| 11 | rs3154937       | 79.00221  | 21470891  |
| 11 | rs3661074       | 82.39752  | 22652479  |
| 11 | rs13480913      | 82.39762  | 23633252  |
| 11 | rs13480918      | 96.43062  | 25018970  |
| 11 | rs3719024       | 103.04825 | 26370845  |
| 11 | rs6276300       | 107.84792 | 27148056  |
| 11 | UT-11-29.443258 | 117.50549 | 29445002  |
| 11 | rs3707274       | 128.36671 | 31821623  |
| 11 | rs3710499       | 132.47613 | 33611127  |
| 11 | rs3690160       | 163.55717 | 36828565  |
| 11 | rs13480993      | 177.74157 | 42730880  |
| 11 | gnf11.045.072   | 178.33532 | 43256667  |
| 11 | rs3660692       | 195.35448 | 46029522  |
| 11 | rs6250130       | 206.17791 | 47289620  |
| 11 | rs6326787       | 213.25878 | 48524313  |
| 11 | rs6199956       | 222.16292 | 50558769  |
| 11 | rs13481023      | 223.98664 | 51824799  |
| 11 | rs6398148       | 228.64565 | 52902235  |
| 11 | rs13481031      | 229.95888 | 54232093  |
| 11 | rs3684076       | 240.57796 | 56224409  |
| 11 | rs3023260       | 252.46357 | 57088038  |
| 11 | rs3697686       | 255.46495 | 58381052  |
| 11 | rs13481050      | 265.57739 | 60567565  |
| 11 | rs3675335       | 270.30431 | 62292218  |
| 11 | rs3714311       | 282.9647  | 64084880  |
| 11 | rs13481068      | 289.19876 | 64596125  |
| 11 | rs13481075      | 292.80284 | 66316215  |
| 11 | rs3658906       | 296.62959 | 68922568  |
| 11 | UT-11-70.128831 | 303.203   | 70371167  |
| 11 | rs13481090      | 307.40291 | 71222163  |
| 11 | rs13481093      | 312.64653 | 72364012  |
| 11 | CEL-11-73459270 | 316.36208 | 73660216  |



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| 1  |    |                  |           |           |
| 2  |    |                  |           |           |
| 3  |    |                  |           |           |
| 4  | 11 | rs13481102       | 316.71128 | 74873177  |
| 5  | 11 | UT-11-75.985289  | 316.81069 | 76227625  |
| 6  | 11 | rs6384104        | 317.46229 | 77606242  |
| 7  | 11 | rs6381209        | 320.09246 | 78670070  |
| 8  | 11 | rs6379880        | 320.69043 | 79608084  |
| 9  | 11 | rs6178421        | 328.32039 | 80819720  |
| 10 | 11 | rs13481123       | 335.64876 | 82070986  |
| 11 | 11 | rs13481127       | 343.46671 | 83226031  |
| 12 | 11 | rs3661657        | 346.08793 | 84545869  |
| 13 | 11 | rs13481135       | 346.89191 | 85660691  |
| 14 | 11 | rs3719581        | 347.66529 | 86772383  |
| 15 | 11 | gnf11.093.966    | 347.87643 | 87177234  |
| 16 | 11 | rs3688955        | 363.09658 | 90397848  |
| 17 | 11 | rs13481161       | 378.05561 | 92322572  |
| 18 | 11 | rs3656982        | 381.06794 | 93517064  |
| 19 | 11 | rs3710148        | 382.38256 | 96386745  |
| 20 | 11 | rs3686162        | 386.70987 | 98005075  |
| 21 | 11 | rs13474433       | 387.24285 | 98913418  |
| 22 | 11 | rs3695865        | 409.13524 | 101540306 |
| 23 | 11 | rs6180460        | 412.62556 | 102815398 |
| 24 | 11 | rs6407687        | 451.15868 | 105127376 |
| 25 | 11 | rs13481210       | 452.88472 | 106174196 |
| 26 | 11 | rs6376890        | 457.40291 | 107458251 |
| 27 | 11 | rs13481220       | 462.09029 | 108381228 |
| 28 | 11 | rs3683086        | 462.13928 | 109194240 |
| 29 | 11 | rs13481228       | 481.48378 | 110456691 |
| 30 | 11 | rs13481233       | 485.66864 | 111663109 |
| 31 | 11 | gnf11.121.400    | 506.80098 | 112504632 |
| 32 | 11 | rs3662930        | 523.41093 | 115383357 |
| 33 | 11 | gnf11.125.992    | 547.51504 | 117108177 |
| 34 | 11 | CEL-11-118234030 | 556.68922 | 118424214 |
| 35 | 12 | rs3699421        | 0         | 4057347   |
| 36 | 12 | rs6278204        | 1.46795   | 6055338   |
| 37 | 12 | rs13481288       | 1.96803   | 7793944   |
| 38 | 12 | rs3089046        | 2.65655   | 8976679   |
| 39 | 12 | rs6209157        | 7.71716   | 10580141  |
| 40 | 12 | rs3718992        | 8.26727   | 12000845  |
| 41 | 12 | rs13481308       | 16.11013  | 13333753  |
| 42 | 12 | rs6403731        | 16.40838  | 14935382  |
| 43 | 12 | rs3717860        | 29.25536  | 25413845  |
| 44 | 12 | rs6328018        | 34.88276  | 26818221  |
| 45 | 12 | rs13481361       | 35.63024  | 28250147  |
| 46 | 12 | UT-12-24.561109  | 72.40795  | 30605487  |
| 47 | 12 | rs13481375       | 76.5088   | 31803096  |
| 48 | 12 | rs6390855        | 78.92415  | 32159391  |
| 49 | 12 | rs6223000        | 83.02904  | 34867609  |
| 50 | 12 | gnf12.033.545    | 89.13929  | 35806047  |
| 51 | 12 | rs3695382        | 103.82064 | 37051243  |
| 52 | 12 | rs3088766        | 108.94732 | 38515357  |
| 53 | 12 | rs13481408       | 115.85219 | 41183035  |
| 54 | 12 | rs13481412       | 117.89251 | 42722659  |
| 55 | 12 | CEL-12-38970880  | 119.45978 | 44997964  |
| 56 | 12 | rs6317361        | 136.44594 | 48451441  |
| 57 | 12 | rs6170134        | 140.44261 | 49631172  |
| 58 | 12 | rs13481450       | 144.95396 | 52491342  |
| 59 | 12 | rs3670749        | 145.00336 | 54060261  |
| 60 | 12 | rs3700857        | 146.26649 | 55020886  |
|    | 12 | gnf12.053.286    | 156.13633 | 56092725  |
|    | 12 | rs3688680        | 160.86129 | 57737098  |
|    | 12 | rs3719306        | 165.07828 | 58773265  |

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| 12 | rs3662939        | 178.39011 | 59980759  |
| 12 | rs6287262        | 181.77948 | 61268162  |
| 12 | rs3660822        | 187.15358 | 62707394  |
| 12 | mCV24690992      | 187.15368 | 64056443  |
| 12 | rs13481499       | 189.25442 | 65488803  |
| 12 | rs3686891        | 192.10333 | 66581575  |
| 12 | rs13481511       | 206.53555 | 69125068  |
| 12 | rs13481514       | 209.10985 | 70704785  |
| 12 | rs6335879        | 223.30422 | 73020609  |
| 12 | rs3687032        | 228.144   | 74599410  |
| 12 | rs3709008        | 234.91219 | 75782538  |
| 12 | rs13481538       | 241.14188 | 76993654  |
| 12 | rs3682382        | 246.32196 | 77400088  |
| 12 | rs3696769        | 254.35123 | 80840850  |
| 12 | rs3654718        | 258.07057 | 82075701  |
| 12 | rs13481561       | 268.54867 | 83267516  |
| 12 | rs6263380        | 269.54402 | 83911344  |
| 12 | rs13481571       | 289.34103 | 87284801  |
| 12 | rs13481575       | 294.7741  | 88620659  |
| 12 | rs3711162        | 309.75965 | 90384550  |
| 12 | rs6288403        | 314.89497 | 92209033  |
| 12 | rs13481592       | 323.09875 | 94194942  |
| 12 | rs6207869        | 323.14738 | 95601010  |
| 12 | rs3679514        | 336.54777 | 99200775  |
| 12 | rs13481609       | 343.01872 | 100501462 |
| 12 | rs6184745        | 346.38379 | 102084079 |
| 12 | rs3700012        | 347.16973 | 102997877 |
| 12 | rs13481618       | 351.04831 | 103766711 |
| 12 | rs3724260        | 374.25081 | 105957285 |
| 12 | rs13481632       | 381.97633 | 107634513 |
| 12 | rs13481636       | 384.66056 | 108786162 |
| 12 | rs13481641       | 393.56192 | 109609891 |
| 12 | CEL-12-104545022 | 401.01312 | 111035058 |
| 12 | rs13481651       | 403.74883 | 112559305 |
| 12 | rs4229612        | 411.19506 | 114496841 |
| 12 | rs3709829        | 411.73925 | 115578792 |
| 12 | rs3654706        | 416.18301 | 118319943 |
| 12 | rs3711281        | 418.91995 | 119427047 |
| 12 | rs3679276        | 420.07836 | 121123404 |
| 13 | rs6215262        | 0         | 3783664   |
| 13 | rs3695486        | 0.0001    | 4160600   |
| 13 | rs13481669       | 0.0002    | 4598037   |
| 13 | rs3686663        | 0.0003    | 4915954   |
| 13 | rs6298246        | 0.0004    | 5337650   |
| 13 | rs6318987        | 0.0005    | 5977104   |
| 13 | rs6243819        | 0.09995   | 7110520   |
| 13 | rs6343634        | 0.10005   | 7287713   |
| 13 | rs6301008        | 0.10015   | 7702924   |
| 13 | rs6239339        | 0.90434   | 7998546   |
| 13 | rs6250327        | 0.90444   | 8305113   |
| 13 | rs6396465        | 0.90454   | 8777091   |
| 13 | rs6178370        | 0.90464   | 9016559   |
| 13 | rs6329684        | 0.90474   | 10065064  |
| 13 | rs13481689       | 8.63252   | 10826261  |
| 13 | rs13481702       | 18.56047  | 14848365  |
| 13 | rs13481706       | 35.34092  | 16432650  |
| 13 | rs3678616        | 35.38975  | 17380921  |
| 13 | gnf13.016.175    | 36.39794  | 18955999  |
| 13 | rs6314295        | 38.38901  | 20213058  |
| 13 | gnf13.018.407    | 39.90679  | 21233634  |

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| 13 | rs13481727    | 44.07831  | 22255951  |
| 13 | gnf13.020.621 | 49.50348  | 23480120  |
| 13 | rs6297873     | 53.3255   | 25757099  |
| 13 | rs4229685     | 99.77145  | 35965561  |
| 13 | rs6200652     | 106.58198 | 37063969  |
| 13 | rs3724709     | 116.03872 | 38329668  |
| 13 | gnf13.038.133 | 140.42647 | 40134142  |
| 13 | rs13481777    | 147.65711 | 40737156  |
| 13 | rs6271232     | 156.6855  | 42551106  |
| 13 | rs13481789    | 161.06278 | 43920412  |
| 13 | gnf13.042.658 | 161.06288 | 44677950  |
| 13 | rs3688207     | 171.59581 | 45454657  |
| 13 | rs6244558     | 174.21173 | 47911359  |
| 13 | rs3699522     | 186.30834 | 53085960  |
| 13 | rs8273881     | 201.26982 | 55500311  |
| 13 | rs13481823    | 206.67584 | 57139115  |
| 13 | gnf13.057.762 | 219.94001 | 59805606  |
| 13 | rs6410679     | 223.60255 | 61338453  |
| 13 | rs13481849    | 225.54055 | 63809792  |
| 13 | rs3720797     | 227.11231 | 64854223  |
| 13 | rs4229817     | 230.76522 | 66981471  |
| 13 | rs3718727     | 238.15822 | 69468028  |
| 13 | rs6381045     | 245.54847 | 70429182  |
| 13 | rs3658685     | 249.64346 | 71837347  |
| 13 | rs3688781     | 252.10964 | 72990750  |
| 13 | rs3721965     | 261.09009 | 74125404  |
| 13 | rs8274592     | 261.2389  | 75230587  |
| 13 | rs13481886    | 261.94087 | 76267668  |
| 13 | rs13481892    | 264.72842 | 77537621  |
| 13 | rs13481897    | 267.03636 | 78635221  |
| 13 | rs3705043     | 267.03646 | 79536468  |
| 13 | rs3693887     | 267.68788 | 80749451  |
| 13 | rs13481905    | 269.31291 | 81246254  |
| 13 | mCV24625340   | 284.80312 | 84841126  |
| 13 | rs13481919    | 288.69247 | 85822888  |
| 13 | rs6296621     | 291.71051 | 87102770  |
| 13 | gnf13.092.499 | 328.63901 | 92011615  |
| 13 | rs13481947    | 348.26726 | 94443434  |
| 13 | rs3697202     | 348.26736 | 94569175  |
| 13 | rs13481958    | 359.16933 | 97286533  |
| 13 | rs13481964    | 361.05178 | 98551175  |
| 13 | gnf13.099.677 | 363.5773  | 99793980  |
| 13 | rs3088752     | 368.26329 | 100732161 |
| 13 | rs3688959     | 393.87084 | 103899453 |
| 13 | rs6389588     | 393.91891 | 104624703 |
| 13 | rs13481990    | 401.3181  | 105824824 |
| 13 | rs13482000    | 410.31134 | 108361817 |
| 13 | mCV24886326   | 434.33786 | 111386024 |
| 13 | rs6247696     | 473.28319 | 115957250 |
| 13 | rs13482028    | 477.16638 | 117040319 |
| 13 | rs13482032    | 479.41307 | 118129309 |
| 13 | rs3708633     | 495.29623 | 119532056 |
| 13 | rs6397687     | 495.59215 | 120179541 |
| 13 | rs3675054     | 496.73475 | 120203851 |
| 14 | rs3687889     | 0         | 20508439  |
| 14 | rs6397486     | 4.97029   | 21756074  |
| 14 | rs3690631     | 9.70719   | 22571473  |
| 14 | rs3658866     | 35.03641  | 23778000  |
| 14 | rs13482143    | 133.0311  | 40378547  |
| 14 | rs6314716     | 134.0841  | 41430491  |

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| 4  | 14 | gnf14.040.022    | 147.90084 | 47467188  |
| 5  | 14 | rs4230315        | 153.59905 | 48876118  |
| 6  | 14 | rs13482174       | 156.59602 | 50203389  |
| 7  | 14 | rs4197422        | 157.39979 | 51202617  |
| 8  | 14 | rs3680568        | 158.41698 | 52756514  |
| 9  | 14 | rs3140262        | 159.36998 | 54416362  |
| 10 | 14 | rs13482191       | 159.95214 | 55265183  |
| 11 | 14 | rs8244195        | 170.1262  | 56589968  |
| 12 | 14 | mCV23128760      | 185.44881 | 59729143  |
| 13 | 14 | rs13482206       | 186.09224 | 59956945  |
| 14 | 14 | rs3701623        | 258.72726 | 73597329  |
| 15 | 14 | rs13482254       | 259.3749  | 74915869  |
| 16 | 14 | rs13482256       | 259.42396 | 75621182  |
| 17 | 14 | rs13482262       | 271.5554  | 78358585  |
| 18 | 14 | rs3706792        | 279.48296 | 79390535  |
| 19 | 14 | rs6352085        | 280.08356 | 80081344  |
| 20 | 14 | rs13482269       | 280.13312 | 81304852  |
| 21 | 14 | rs13482272       | 282.23005 | 82709164  |
| 22 | 14 | rs13482276       | 285.38608 | 84040443  |
| 23 | 14 | rs13482281       | 285.97741 | 85687812  |
| 24 | 14 | rs3663148        | 294.33545 | 87234347  |
| 25 | 14 | rs13482290       | 294.4844  | 88110766  |
| 26 | 14 | rs13482296       | 294.4845  | 89316099  |
| 27 | 14 | rs3667933        | 298.8151  | 90486236  |
| 28 | 14 | rs6407863        | 298.8152  | 91733975  |
| 29 | 14 | rs4139735        | 302.53217 | 93007407  |
| 30 | 14 | rs3718262        | 302.67908 | 93929573  |
| 31 | 14 | rs6211694        | 419.24841 | 109093071 |
| 32 | 14 | rs13482366       | 419.24851 | 110287350 |
| 33 | 14 | rs13482372       | 424.44028 | 111514481 |
| 34 | 14 | rs3683221        | 427.70796 | 112960486 |
| 35 | 14 | rs13482386       | 438.25423 | 116410091 |
| 36 | 14 | CEL-14-110783830 | 452.74856 | 118861654 |
| 37 | 14 | rs3707842        | 472.14438 | 120038197 |
| 38 | 14 | rs3682013        | 477.21215 | 121076354 |
| 39 | 14 | gnf14.117.278    | 477.39492 | 122117119 |
| 40 | 14 | CEL-14-115300803 | 484.26562 | 123368683 |
| 41 | 14 | rs13482416       | 484.31247 | 125113758 |
| 42 | 15 | rs13459176       | 0         | 3229129   |
| 43 | 15 | rs13482431       | 22.12952  | 11241218  |
| 44 | 15 | rs13482434       | 23.54061  | 12093989  |
| 45 | 15 | rs13482446       | 34.65182  | 14475237  |
| 46 | 15 | CEL-15-15919629  | 40.94943  | 15940188  |
| 47 | 15 | CEL-15-17259939  | 40.99847  | 17183572  |
| 48 | 15 | rs13482461       | 47.85274  | 18859365  |
| 49 | 15 | rs13482464       | 50.7548   | 19568361  |
| 50 | 15 | rs13482467       | 50.7549   | 20394321  |
| 51 | 15 | rs13482473       | 55.71655  | 21941791  |
| 52 | 15 | rs6367927        | 59.43796  | 23607474  |
| 53 | 15 | rs13482486       | 67.27624  | 25661842  |
| 54 | 15 | rs3670581        | 78.96478  | 27000415  |
| 55 | 15 | rs13482498       | 84.34701  | 28428133  |
| 56 | 15 | rs3088525        | 89.84052  | 29562128  |
| 57 | 15 | rs4230683        | 107.54379 | 30896769  |
| 58 | 15 | rs6333696        | 108.84919 | 32047788  |
| 59 | 15 | rs3091174        | 111.6991  | 32625941  |
| 60 | 15 | rs6188239        | 112.55389 | 34260987  |
|    | 15 | rs3089995        | 116.21276 | 35545928  |
|    | 15 | rs3695416        | 130.08561 | 38414152  |
|    | 15 | rs3677296        | 131.54606 | 39941392  |

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| 15 | rs13482536       | 136.27392 | 41700827  |
| 15 | rs13482541       | 137.8954  | 43373243  |
| 15 | CEL-15-44698021  | 138.90197 | 44507024  |
| 15 | rs4138760        | 148.54289 | 46186595  |
| 15 | rs13482558       | 148.79162 | 46998205  |
| 15 | CEL-15-48446430  | 149.54307 | 48256300  |
| 15 | rs3660290        | 159.50691 | 50688749  |
| 15 | rs3692040        | 159.50701 | 50907093  |
| 15 | rs6165881        | 160.66921 | 51649192  |
| 15 | rs13482580       | 161.27002 | 52854120  |
| 15 | rs13482589       | 169.3478  | 54732921  |
| 15 | rs6400804        | 181.39792 | 56637986  |
| 15 | rs13482595       | 189.07381 | 58448078  |
| 15 | rs3654559        | 194.74489 | 59794025  |
| 15 | rs3683495        | 195.59822 | 61034057  |
| 15 | rs13482612       | 213.47338 | 63933997  |
| 15 | rs13482618       | 215.45817 | 65690150  |
| 15 | rs6197332        | 225.53119 | 66838064  |
| 15 | rs13482628       | 226.74174 | 67708701  |
| 15 | rs13482635       | 236.97601 | 69276656  |
| 15 | rs13482637       | 241.87588 | 70331556  |
| 15 | rs6204870        | 241.87598 | 71347761  |
| 15 | rs13482642       | 243.92082 | 72042386  |
| 15 | rs13482654       | 262.65258 | 76524736  |
| 15 | rs3660192        | 266.80659 | 77655020  |
| 15 | rs3721372        | 271.17869 | 80236058  |
| 15 | rs6276391        | 275.1534  | 81657104  |
| 15 | rs4230908        | 280.62926 | 82956832  |
| 15 | rs3660367        | 284.78858 | 84532537  |
| 15 | rs4230930        | 289.79105 | 85688903  |
| 15 | rs13482691       | 299.01539 | 86803133  |
| 15 | rs13482693       | 313.76351 | 87908143  |
| 15 | rs3720931        | 328.07765 | 89328896  |
| 15 | rs6287697        | 335.05918 | 90596958  |
| 15 | rs13482711       | 348.09236 | 91889319  |
| 15 | CEL-15-93579770  | 352.48236 | 92992122  |
| 15 | rs13482719       | 357.89797 | 93937416  |
| 15 | rs6285067        | 364.98136 | 95144976  |
| 15 | rs13482726       | 371.10057 | 95780106  |
| 15 | rs13482729       | 376.51587 | 96941901  |
| 15 | rs13482732       | 382.11318 | 97961248  |
| 15 | rs3708604        | 387.12215 | 98955890  |
| 15 | CEL-15-100463048 | 387.3105  | 99832039  |
| 15 | rs13482741       | 391.03109 | 100949743 |
| 16 | rs4152386        | 0         | 3987017   |
| 16 | rs4152838        | 1.25697   | 5029543   |
| 16 | rs4165119        | 61.41798  | 20498908  |
| 16 | rs4165287        | 62.82671  | 22028919  |
| 16 | rs4165425        | 71.80247  | 23797302  |
| 16 | rs6294027        | 75.1895   | 25709024  |
| 16 | rs4165602        | 85.85122  | 27436402  |
| 16 | rs4166607        | 90.30451  | 28564407  |
| 16 | rs4167574        | 97.09648  | 29670125  |
| 16 | rs4167955        | 106.55222 | 30294144  |
| 16 | rs4168890        | 110.55403 | 31242827  |
| 16 | rs4170074        | 111.79943 | 32194865  |
| 16 | rs4171440        | 116.52322 | 33481261  |
| 16 | rs4172338        | 121.14077 | 34723517  |
| 16 | rs4173709        | 131.63818 | 36515545  |
| 16 | rs4174469        | 137.2323  | 38170827  |

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| 4  | 16 | rs4175608       | 145.4864  | 39182601 |
| 5  | 16 | rs4177203       | 149.86991 | 40235897 |
| 6  | 16 | rs4178513       | 154.54157 | 41700977 |
| 7  | 16 | rs4179117       | 159.83985 | 42732985 |
| 8  | 16 | rs4179233       | 159.83995 | 43610878 |
| 9  | 16 | rs4180126       | 159.84005 | 44662109 |
| 10 | 16 | rs4182243       | 172.31636 | 46052769 |
| 11 | 16 | rs4183448       | 172.76338 | 47197561 |
| 12 | 16 | rs4184315       | 172.86234 | 48666415 |
| 13 | 16 | rs4185176       | 182.46117 | 49891965 |
| 14 | 16 | rs4185639       | 183.16139 | 50298727 |
| 15 | 16 | rs3696661       | 202.1654  | 51676815 |
| 16 | 16 | rs6164817       | 202.1655  | 53030825 |
| 17 | 16 | rs3687272       | 205.67179 | 54656364 |
| 18 | 16 | rs6271301       | 208.41377 | 56024196 |
| 19 | 16 | rs4189277       | 208.51309 | 57292596 |
| 20 | 16 | rs4190414       | 208.51319 | 58539260 |
| 21 | 16 | rs4192132       | 216.30143 | 59644430 |
| 22 | 16 | rs4192837       | 221.60342 | 60328964 |
| 23 | 16 | rs4197416       | 234.64182 | 66406352 |
| 24 | 16 | rs4197725       | 238.63017 | 67382247 |
| 25 | 16 | rs4199410       | 253.27838 | 70195004 |
| 26 | 16 | rs4202372       | 267.39121 | 72909885 |
| 27 | 16 | rs4203891       | 269.89676 | 74084951 |
| 28 | 16 | rs4205524       | 275.0779  | 75296782 |
| 29 | 16 | rs4206648       | 287.78745 | 76657843 |
| 30 | 16 | rs4207452       | 288.1125  | 77429428 |
| 31 | 16 | rs4211515       | 301.91184 | 82393734 |
| 32 | 16 | rs4211731       | 305.23324 | 83406629 |
| 33 | 16 | rs4212102       | 312.23633 | 85097433 |
| 34 | 16 | rs4219239       | 353.84666 | 91670409 |
| 35 | 16 | rs4219897       | 363.15603 | 92790232 |
| 36 | 16 | rs4220529       | 374.41644 | 94664455 |
| 37 | 16 | rs4220927       | 376.46255 | 95226900 |
| 38 | 16 | rs3164088       | 376.55691 | 96537690 |
| 39 | 17 | rs3724616       | 0         | 3000665  |
| 40 | 17 | rs6310831       | 0.0001    | 3227819  |
| 41 | 17 | rs3686875       | 6.92243   | 4366843  |
| 42 | 17 | rs13482854      | 20.47632  | 7341324  |
| 43 | 17 | rs3090641       | 23.97582  | 9250458  |
| 44 | 17 | rs3702484       | 30.29237  | 9881216  |
| 45 | 17 | rs13482870      | 33.68073  | 10917415 |
| 46 | 17 | rs13482875      | 38.643    | 11996762 |
| 47 | 17 | rs3723317       | 43.49187  | 13855019 |
| 48 | 17 | rs13482887      | 43.49197  | 14731878 |
| 49 | 17 | rs3675740       | 51.50726  | 16396667 |
| 50 | 17 | rs3721884       | 55.2213   | 17710047 |
| 51 | 17 | mCV25045820     | 58.82751  | 19078136 |
| 52 | 17 | rs6341891       | 58.82761  | 20363470 |
| 53 | 17 | CEL-17-21229557 | 58.82771  | 22653181 |
| 54 | 17 | rs4231344       | 68.15842  | 23811928 |
| 55 | 17 | rs3090500       | 68.75872  | 25480235 |
| 56 | 17 | rs4136360       | 75.97031  | 26322926 |
| 57 | 17 | rs6358703       | 85.98717  | 28916155 |
| 58 | 17 | rs6308773       | 86.03617  | 29318855 |
| 59 | 17 | gnf17.027.979   | 90.0288   | 30582925 |
| 60 | 17 | rs13482947      | 106.16391 | 31769796 |
|    | 17 | rs3705058       | 113.43406 | 33155342 |
|    | 17 | gnf17.035.152   | 115.4088  | 35192178 |
|    | 17 | rs3682923       | 115.84726 | 35971077 |

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| 17 | rs13482968      | 117.42278 | 37268628 |
| 17 | rs13482973      | 117.42288 | 38319110 |
| 17 | rs6395893       | 117.42298 | 39314866 |
| 17 | rs3690398       | 118.62547 | 40980351 |
| 17 | CEL-17-40073719 | 120.76765 | 42064538 |
| 17 | rs4231494       | 122.70942 | 43226181 |
| 17 | rs13482997      | 126.54153 | 43961585 |
| 17 | rs3090988       | 129.22292 | 46892981 |
| 17 | rs13483011      | 140.65496 | 48549496 |
| 17 | mCV22888090     | 261.41356 | 63948053 |
| 17 | rs13483075      | 272.12578 | 66071696 |
| 17 | rs13483078      | 274.53623 | 67111530 |
| 17 | gnf17.069.331   | 280.97448 | 68378508 |
| 17 | rs3657117       | 283.60279 | 69398842 |
| 17 | rs6210797       | 298.68868 | 70050732 |
| 17 | rs6176494       | 300.9344  | 71101565 |
| 17 | rs6322076       | 306.94034 | 72598864 |
| 17 | rs13483101      | 309.09186 | 73689870 |
| 17 | rs13465627      | 313.88518 | 74787631 |
| 17 | rs3710559       | 315.04431 | 75674110 |
| 17 | rs13483110      | 327.25758 | 76561295 |
| 17 | rs6386440       | 336.89308 | 78754732 |
| 17 | rs3684732       | 395.58275 | 83407153 |
| 17 | rs3701338       | 405.31552 | 84406258 |
| 17 | rs13483144      | 423.30833 | 86285312 |
| 17 | rs3723150       | 438.00453 | 88951898 |
| 17 | rs13483159      | 449.90498 | 90120158 |
| 18 | rs13483183      | 0         | 3516539  |
| 18 | CEL-18-4270744  | 0.0001    | 4100246  |
| 18 | gnf18.002.818   | 3.70491   | 5772955  |
| 18 | rs3680906       | 3.70501   | 6681132  |
| 18 | rs13483200      | 24.79499  | 9902165  |
| 18 | rs13483210      | 27.4219   | 11941011 |
| 18 | rs13483215      | 27.76657  | 13229156 |
| 18 | mCV23617245     | 35.68472  | 14689061 |
| 18 | rs13483223      | 40.18459  | 15600329 |
| 18 | rs13483226      | 46.61924  | 16226038 |
| 18 | rs13483228      | 47.72922  | 16944846 |
| 18 | rs13483235      | 53.51011  | 18851806 |
| 18 | rs6303064       | 53.51021  | 19758792 |
| 18 | rs6194744       | 61.36641  | 22017938 |
| 18 | rs6368237       | 62.67558  | 23599008 |
| 18 | rs13483256      | 64.14005  | 24789900 |
| 18 | rs13483262      | 70.2273   | 26291550 |
| 18 | rs3722205       | 71.90752  | 27839338 |
| 18 | rs13483277      | 77.86781  | 30522237 |
| 18 | CEL-18-32158369 | 81.8652   | 31860936 |
| 18 | rs6385006       | 82.30691  | 32689438 |
| 18 | UT-18-33.980716 | 85.36642  | 33955610 |
| 18 | rs3675531       | 94.13616  | 35204414 |
| 18 | gnf18.033.953   | 99.08402  | 36663058 |
| 18 | rs6230993       | 103.52065 | 39622092 |
| 18 | rs13483319      | 110.05898 | 41067707 |
| 18 | rs6313313       | 111.1098  | 41821108 |
| 18 | rs3676196       | 126.00853 | 43083464 |
| 18 | rs13483331      | 134.14338 | 44011475 |
| 18 | rs4138936       | 136.34648 | 45088844 |
| 18 | rs13483340      | 139.57348 | 46215512 |
| 18 | rs6184541       | 142.36747 | 47598812 |
| 18 | rs3684561       | 142.40065 | 48822666 |

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| 4  | 18 | rs13483356      | 157.76294 | 50467095 |
| 5  | 18 | CEL-18-52103795 | 158.86939 | 51783321 |
| 6  | 18 | gnf18.051.412   | 159.26815 | 53262641 |
| 7  | 18 | CEL-18-55824525 | 174.82345 | 55486266 |
| 8  | 18 | rs3654438       | 180.41496 | 56457195 |
| 9  | 18 | rs13483378      | 188.6337  | 57453544 |
| 10 | 18 | rs13483382      | 197.62408 | 58554775 |
| 11 | 18 | CEL-18-60214752 | 203.50224 | 59858816 |
| 12 | 18 | rs13483390      | 204.55234 | 61033381 |
| 13 | 18 | rs13483394      | 214.33307 | 62112817 |
| 14 | 18 | rs13483398      | 218.21416 | 63246689 |
| 15 | 18 | rs3688789       | 231.15952 | 64674000 |
| 16 | 18 | rs13483409      | 252.25191 | 66039597 |
| 17 | 18 | rs3716803       | 258.85831 | 67157702 |
| 18 | 18 | rs13483417      | 264.15875 | 68040979 |
| 19 | 18 | rs13483423      | 282.71535 | 69689996 |
| 20 | 18 | rs3675825       | 285.56014 | 70854303 |
| 21 | 18 | gnf18.069.928   | 289.7281  | 71804268 |
| 22 | 18 | CEL-18-73439948 | 294.11789 | 73070072 |
| 23 | 18 | rs6302629       | 307.68964 | 75116177 |
| 24 | 18 | rs13483444      | 307.88104 | 76297243 |
| 25 | 18 | rs3705890       | 316.09361 | 77108822 |
| 26 | 18 | rs3671707       | 341.70321 | 81003049 |
| 27 | 18 | rs13483466      | 369.55442 | 82409997 |
| 28 | 19 | rs3713033       | 0         | 5029790  |
| 29 | 19 | CEL-19-8529644  | 6.83324   | 9505052  |
| 30 | 19 | rs13483526      | 17.00671  | 10670707 |
| 31 | 19 | rs6316813       | 30.16548  | 11396714 |
| 32 | 19 | rs6307076       | 43.71299  | 14626637 |
| 33 | 19 | rs13483541      | 49.54316  | 15843736 |
| 34 | 19 | rs8267392       | 68.62956  | 17749922 |
| 35 | 19 | UT-19-18.800709 | 74.09589  | 18713052 |
| 36 | 19 | rs6342493       | 107.78099 | 22707529 |
| 37 | 19 | rs13483569      | 107.8638  | 23846117 |
| 38 | 19 | rs3720897       | 121.48591 | 25196437 |
| 39 | 19 | rs13483577      | 126.04947 | 26429767 |
| 40 | 19 | rs6291559       | 137.06198 | 27647714 |
| 41 | 19 | rs3714482       | 155.1014  | 29011879 |
| 42 | 19 | UT-19-29.979736 | 159.04683 | 30313714 |
| 43 | 19 | mCV24505422     | 159.04693 | 30739933 |
| 44 | 19 | CEL-19-32349880 | 194.00877 | 33111772 |
| 45 | 19 | rs13483599      | 194.20629 | 34469905 |
| 46 | 19 | rs13483601      | 196.40854 | 35024278 |
| 47 | 19 | rs13483606      | 207.82593 | 36131092 |
| 48 | 19 | mCV23121032     | 240.7561  | 41054337 |
| 49 | 19 | rs4232174       | 242.2199  | 41841036 |
| 50 | 19 | rs13483650      | 306.4159  | 47447898 |
| 51 | 19 | CEL-19-48242857 | 319.8543  | 48972882 |
| 52 | 19 | rs6194426       | 321.26838 | 50203520 |
| 53 | 19 | rs3718102       | 330.19548 | 52338597 |
| 54 | 19 | rs13483677      | 338.10919 | 53933993 |
| 55 | 19 | rs3654713       | 346.57353 | 55093406 |
| 56 | 19 | rs3686750       | 370.65815 | 56422639 |
| 57 | 19 | rs6211533       | 373.27873 | 57066899 |
| 58 | 19 | rs3711945       | 383.015   | 58785854 |
| 59 |    |                 |           |          |
| 60 |    |                 |           |          |



TABLE S3  
Imputing imprinting genotype scores\* between markers for interval mapping

| Marker 1 | Marker 2 | Imputed Imprinting Genotype Score                  |
|----------|----------|--|
| LL       | LL       | 0  |
| LL       | LS       | $(R_1 - R_1^2 * R_2 - R_1 * R_2^2) / (R_1 + R_2)$  |
| LL       | SL       | $(-R_1 + R_1^2 * R_2 + R_1 * R_2^2) / (R_1 + R_2)$ |
| LL       | SS       | 0  |
| LS       | LL       | $(R_1 - R_1^2 * R_2 - R_1 * R_2^2) / (R_1 + R_2)$  |
| LS       | LS       | $(1 - 2 * R_1 * R_2)$                              |
| LS       | SL       | $((R_2^2 - R_1^2) / ((R_1 + R_2)^2))$              |
| LS       | SS       | $(R_1 - R_1^2 * R_2 - R_1 * R_2^2) / (R_1 + R_2)$  |
| SL       | LL       | $(-R_2 + R_1^2 * R_2 + R_1 * R_2^2) / (R_1 + R_2)$ |
| SL       | LS       | $(R_1^2 - R_2^2) / ((R_1 + R_2)^2)$                |
| SL       | SL       | $2 * R_1 * R_2 - 1$                                |
| SL       | SS       | $(-R_2 + R_1^2 * R_2 + R_1 * R_2^2) / (R_1 + R_2)$ |
| SS       | LL       | 0  |
| SS       | LS       | $(R_1 - R_1^2 * R_2 - R_1 * R_2^2) / (R_1 + R_2)$  |
| SS       | SL       | $(-R_1 + R_1^2 * R_2 + R_1 * R_2^2) / (R_1 + R_2)$ |
| SS       | SS       | 0  |

\*Using the approach and assumptions given in Haley and Knott (1992) for imputing additive and dominance genotype scores. R1 and R2 are the recombination rates between markers 1 and 2 and the imputed position

TABLE S4  
Genome-wide and chromosome-wise significance thresholds

| Chromosome | Threshold |
|------------|-----------|
| chr1       | 2.92      |
| chr2       | 2.81      |
| chr3       | 2.81      |
| chr4       | 2.79      |
| chr5       | 2.75      |
| chr6       | 2.81      |
| chr7       | 2.72      |
| chr8       | 2.51      |
| chr9       | 2.70      |
| chr10      | 2.68      |
| chr11      | 2.75      |
| chr12      | 2.64      |
| chr13      | 2.70      |
| chr14      | 2.45      |
| chr15      | 2.68      |
| chr16      | 2.58      |
| chr17      | 2.53      |
| chr18      | 2.64      |
| chr19      | 2.45      |
| genome     | 3.98      |

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TABLE S5  
Genotypic values for all 70 significant trait-specific QTL

| QTL            | Trait      | LOD   | Pos (Mb) | Cohort | Effects | Genotypic Values |         |         | Cohort | Effects | Genotypic Values |         |         | Cohort | Effects | Genotypic Values |         |          |
|----------------|------------|-------|----------|--------|---------|------------------|---------|---------|--------|---------|------------------|---------|---------|--------|---------|------------------|---------|----------|
|                |            |       |          |        |         | add              | dom     | imp     |        |         | add              | dom     | imp     |        |         | add              | dom     | imp      |
| <i>Ddiab1a</i> | AUC_20wks  | 3.32  | 68.0     | FULL   | d       | 293.46           | 1061.24 | 2.89    | M      | d       | 800.57           | 2431.73 | 196.05  | HM     | a       | 1988.02          | 3593.96 | 920.79   |
| <i>Ddiab1b</i> | bGLC_20wks | 3.79  | 77.7     | FULL   | a       | 4.05             | -4.08   | 2.12    | L      | a       | 7.07             | 4.58    | 5.19    | HM     | d       | 0.41             | -20.57  | -1.24    |
| <i>Ddiab1c</i> | AUC_10wks  | 3.35  | 190.6    | FULL   | d       | -4.01            | 1218.27 | 430.38  | HM     | d       | -620.79          | 4768.28 | 876.64  |        |         |                  |         |          |
| <i>Ddiab2a</i> | AUC_10wks  | 4.06  | 59.3     | FULL   | a, i    | 755.52           | -524.97 | -659.83 | M      | a, d    | 1426.47          | 1357.61 | -851.08 | HM     | a       | 2334.47          | 1769.00 | -1428.10 |
| <i>Ddiab2b</i> | INS        | 4.13  | 69.2     | HF     | i       | -0.08            | -0.53   | -0.43   | HM     | a, i    | -0.90            | 0.41    | -0.92   |        |         |                  |         |          |
| <i>Ddiab2c</i> | GLC        | 3.30  | 73.8     | FULL   | a       | 13.41            | 2.75    | 1.01    |        |         |                  |         |         |        |         |                  |         |          |
| <i>Ddiab2d</i> | GLC        | 3.38  | 99.1     | FULL   | a       | 10.73            | -8.06   | 0.94    | F      | a, d, i | 13.41            | -14.88  | 9.75    | M      | i       | 7.65             | -0.66   | -9.95    |
| <i>Ddiab2e</i> | INS        | 3.60  | 103.7    | FULL   | d       | -0.01            | -0.40   | 0.03    | H      | d       | 0.01             | 0.96    | -0.18   |        |         |                  |         |          |
| <i>Ddiab2f</i> | AUC_20wks  | 4.18  | 145.7    | FULL   | i       | -225.32          | 234.22  | 1244.71 | M      | i       | -848.26          | 428.21  | 2378.31 |        |         |                  |         |          |
| <i>Ddiab3a</i> | AUC_20wks  | 3.55  | 15.2     | FULL   | d       | 233.58           | 1252.65 | 525.33  | H      | i       | 422.88           | 1725.95 | 1570.54 | M      | d       | 999.51           | 3354.54 | 2821.19  |
| <i>Ddiab3b</i> | AUC_10wks  | 5.61  | 61.1     | FULL   | a       | -835.91          | -610.26 | -184.83 |        |         |                  |         |         |        |         |                  |         |          |
| <i>Ddiab3c</i> | INS        | 3.57  | 135.5    | LM     | i       | -0.15            | -0.18   | 0.57    | HM     | a, d    | -0.44            | -2.12   | 0.45    |        |         |                  |         |          |
| <i>Ddiab4a</i> | AUC_20wks  | 3.58  | 55.3     | LM     | i       | 858.06           | 628.81  | 1248.14 | HM     | i       | 604.05           | -467.53 | 3796.52 |        |         |                  |         |          |
| <i>Ddiab4b</i> | AUC_20wks  | 3.68  | 122.6    | FULL   | a       | -837.16          | -540.18 | -198.01 | HM     | a       | 3479.61          | 1423.83 | 178.64  |        |         |                  |         |          |
| <i>Ddiab4c</i> | AUC_20wks  | 3.80  | 151.6    | FULL   | i       | -243.78          | -71.27  | 1369.33 | HF     | i       | -813.31          | -8.95   | 779.95  | HM     | i       | 671.69           | -30.64  | 4069.60  |
| <i>Ddiab5a</i> | AUC_10wks  | 11.89 | 141.5    | FULL   | a, i    | 1299.35          | -218.64 | 1191.77 | HM     | a, i    | 3656.47          | -604.15 | 3542.89 |        |         |                  |         |          |
| <i>Ddiab6a</i> | AUC_20wks  | 3.24  | 48.9     | HM     | d       | 1140.44          | 3487.01 | 1404.94 |        |         |                  |         |         |        |         |                  |         |          |
| <i>Ddiab6b</i> | T0_2       | 2.86  | 78.0     | LM     | d, i    | 0.01             | 18.51   | 7.14    | HM     | d       | 2.32             | -14.82  | -7.21   |        |         |                  |         |          |
| <i>Ddiab6c</i> | AUC_20wks  | 7.32  | 88.5     | FULL   | a, d, i | 974.81           | 1099.03 | -842.35 | HM     | d       | 3079.55          | 4068.95 | 3361.24 |        |         |                  |         |          |
| <i>Ddiab6d</i> | INS        | 8.85  | 107.0    | FULL   | a       | -0.26            | -0.14   | 0.01    | LM     | d       | -0.12            | 0.53    | -0.02   | HM     | a, d    | -1.19            | -1.38   | -0.10    |
|                | GLC        | 3.19  | 107.0    | FULL   | d       | 1.84             | -12.66  | 1.31    | LF     | a, d    | 19.87            | -18.72  | 6.10    |        |         |                  |         |          |
|                | AUC_20wks  | 3.43  | 107.2    | FULL   | a       | -949.09          | -110.67 | -162.00 | L      | i       | -26.66           | 387.73  | -684.63 | HM     | a       | 3077.13          | 1468.30 | 613.95   |
| <i>Ddiab7a</i> | INS        | 2.75  | 26.2     | FULL   | d       | -0.02            | 0.45    | -0.07   | HM     | d       | 0.40             | 1.54    | -0.55   |        |         |                  |         |          |
| <i>Ddiab7b</i> | AUC_10wks  | 3.01  | 52.1     | FULL   | a       | 1075.26          | -20.14  | 340.60  | L      | a, d    | -795.72          | -870.89 | 58.67   |        |         |                  |         |          |

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|-----------------|------------|------|-------|------|---------|---------|---------|---------|----|------|---------|---------|---------|----|------|---------|---------|----------|
|                 | AUC_20wks  | 3.65 | 56.0  | H    | d       | -317.65 | 3206.40 | -460.91 | HM | d    | 1070.77 | 8138.20 | -703.32 |    |      |         |         |          |
| <i>Ddiab7c</i>  | bGLC_10wks | 2.87 | 69.7  | FULL | a       | 6.58    | -3.05   | -3.47   | M  | i    | 6.19    | -4.02   | -8.51   |    |      |         |         |          |
|                 | INS        | 2.76 | 72.4  | FULL | a, i    | 0.34    | -0.02   | 0.49    | H  | i    | 0.28    | -0.14   | 0.82    |    |      |         |         |          |
| <i>Ddiab7d</i>  | AUC_20wks  | 4.90 | 79.0  | FULL | d       | -153.96 | 1209.52 | -179.23 | HM | d    | 1153.01 | 4778.86 | 1246.76 |    |      |         |         |          |
| <i>Ddiab8a</i>  | AUC_10wks  | 4.26 | 29.4  | FULL | a       | 1050.52 | -962.45 | -622.27 | HM | a, i | 2736.34 | 320.28  | 2478.30 |    |      |         |         |          |
| <i>Ddiab8b</i>  | AUC_10wks  | 4.11 | 71.2  | FULL | a       | 585.56  | 226.20  | -273.44 | HM | a, i | 2252.07 | -212.32 | 1961.58 |    |      |         |         |          |
| <i>Ddiab9a</i>  | AUC_10wks  | 3.66 | 15.6  | FULL | a       | 1034.77 | -52.78  | 462.37  | HM | a, i | 1809.90 | 1672.91 | 2149.50 |    |      |         |         |          |
| <i>Ddiab9b</i>  | AUC_20wks  | 3.02 | 54.4  | FULL | a, i    | 770.83  | -141.07 | 733.98  | HM | i    | 510.70  | 1223.61 | 2950.65 |    |      |         |         |          |
| <i>Ddiab10a</i> | AUC_20wks  | 2.96 | 28.1  | FULL | a       | 1289.28 | 407.31  | -19.14  | M  | a    | 2018.13 | 1016.88 | 193.13  |    |      |         |         |          |
| <i>Ddiab10b</i> | INS        | 2.70 | 105.4 | H    | a       | 0.47    | 0.20    | -0.28   | HM | d    | 0.61    | 1.02    | -0.34   |    |      |         |         |          |
| <i>Ddiab11a</i> | INS        | 4.98 | 7.3   | FULL | a       | -0.42   | -0.28   | -0.07   | LM | i    | -0.40   | 0.00    | -0.40   | HM | a    | -1.48   | -1.13   | 0.69     |
| <i>Ddiab11b</i> | INS        | 8.15 | 12.5  | H    | a, d    | -1.07   | -0.74   | -0.49   | M  | a, d | -1.10   | -0.73   | 0.07    | HF | a, i | -0.49   | -0.23   | -0.53    |
| <i>Ddiab11c</i> | AUC_20wks  | 2.88 | 80.7  | H    | d       | -562.07 | 2285.52 | -691.27 | M  | d    | -691.59 | 1839.32 | 42.60   | HM | d    | -889.63 | 4378.64 | -1073.17 |
| <i>Ddiab11d</i> | AUC_20wks  | 3.15 | 105.1 | FULL | i       | -283.47 | 586.77  | -920.04 | HM | i    | -844.59 | 920.47  | 3264.36 |    |      |         |         |          |
| <i>Ddiab11e</i> | AUC_20wks  | 3.03 | 108.4 | FULL | i       | -383.38 | 645.19  | 1094.81 |    |      |         |         |         |    |      |         |         |          |
| <i>Ddiab12a</i> | GLC        | 2.98 | 52.5  | FULL | i       | -4.47   | 6.72    | 11.80   |    |      |         |         |         |    |      |         |         |          |
| <i>Ddiab12b</i> | GLC        | 2.93 | 55.7  | FULL | d, i    | -1.74   | 9.75    | 12.66   |    |      |         |         |         |    |      |         |         |          |
| <i>Ddiab12c</i> | AUC_20wks  | 3.50 | 72.1  | HM   | a       | 3403.93 | -706.85 | 2202.98 |    |      |         |         |         |    |      |         |         |          |
| <i>Ddiab12d</i> | AUC_20wks  | 2.68 | 77.4  | FULL | a       | -728.45 | -455.51 | -62.49  | L  | d    | 16.17   | 1632.55 | 109.14  | HM | a    | 3036.99 | 1238.80 | -128.13  |
| <i>Ddiab12e</i> | AUC_20wks  | 2.78 | 103.8 | HM   | a       | 2167.11 | 1904.61 | 2171.40 |    |      |         |         |         |    |      |         |         |          |
| <i>Ddiab12f</i> | AUC_10wks  | 2.82 | 121.1 | FULL | i       | -302.85 | 162.55  | 787.86  | HM | i    | -923.91 | 1089.46 | 2272.39 |    |      |         |         |          |
| <i>Ddiab13a</i> | AUC_20wks  | 3.06 | 29.7  | FULL | a       | 1007.23 | 339.56  | 198.54  | HM | a    | 4374.00 | 1760.03 | 234.42  |    |      |         |         |          |
| <i>Ddiab13b</i> | bGLC_10wks | 2.70 | 40.5  | FULL | d       | -0.65   | 10.41   | 3.41    | H  | i    | 3.33    | 15.19   | 8.94    | M  | d    | -4.52   | 17.61   | 3.17     |
| <i>Ddiab13c</i> | bGLC_10wks | 2.73 | 61.0  | L    | a, d, i | -10.15  | 8.06    | -6.82   |    |      |         |         |         |    |      |         |         |          |
| <i>Ddiab13d</i> | INS        | 4.56 | 68.9  | L    | d       | -0.07   | 0.35    | 0.14    | H  | d, i | 0.28    | -0.93   | 0.81    | HM | d, i | 0.45    | -1.58   | 1.16     |
| <i>Ddiab13e</i> | AUC_20wks  | 3.24 | 87.1  | M    | a, d    | 1373.68 | 2283.67 | 1413.80 | HM | a    | 2721.75 | 2559.38 | 2078.59 |    |      |         |         |          |
| <i>Ddiab13f</i> | AUC_20wks  | 3.83 | 96.2  | F    | d       | 402.67  | -752.45 | -217.14 | M  | a, d | 1345.98 | 2572.82 | 1040.31 | HM | a, d | 2451.67 | 2791.37 | 1611.44  |

|    |                 |            |      |       |      |      |         |         |         |    |      |         |         |         |    |      |         |         |          |
|----|-----------------|------------|------|-------|------|------|---------|---------|---------|----|------|---------|---------|---------|----|------|---------|---------|----------|
| 5  | <i>Ddiab13g</i> | bGLC_10wks | 3.07 | 105.4 | FULL | i    | 1.08    | -1.90   | 7.04    | M  | d, i | -0.14   | -9.80   | 10.88   |    |      |         |         |          |
| 6  | <i>Ddiab13h</i> | AUC_10wks  | 4.75 | 114.7 | H    | i    | 1009.99 | 999.77  | 1060.37 | HM | a, i | 1969.28 | 1949.52 | 1869.30 |    |      |         |         |          |
| 7  |                 | AUC_20wks  | 2.91 | 116.6 | HM   | a, i | 3136.26 | 1113.06 | 2116.74 | F  | d    | 106.70  | 713.31  | 232.40  |    |      |         |         |          |
| 9  | <i>Ddiab14a</i> | AUC_10wks  | 4.02 | 23.8  | FULL | i    | 496.95  | -221.70 | 618.54  | HM | a, i | 1987.39 | 1521.14 | 2257.41 |    |      |         |         |          |
| 10 | <i>Ddiab14b</i> | INS        | 3.09 | 31.7  | FULL | d    | -0.23   | -1.64   | 0.23    | HF | a, i | -1.04   | 1.02    | 0.76    | HM | d    | -0.65   | -6.09   | 0.30     |
| 12 | <i>Ddiab15a</i> | AUC_10wks  | 3.43 | 21.9  | FULL | i    | 267.51  | -228.53 | -874.16 | LM | d    | 347.41  | 1688.18 | -354.15 | HM | i    | 781.71  | 310.09  | -2546.82 |
| 14 | <i>Ddiab15b</i> | AUC_10wks  | 3.63 | 31.5  | FULL | i    | 170.69  | -42.83  | 1154.33 | HM | i    | 295.70  | 1007.26 | 2652.51 |    |      |         |         |          |
| 15 | <i>Ddiab15c</i> | INS        | 3.47 | 34.3  | FULL | a    | 0.42    | -0.21   | -0.24   | H  | a, d | 0.84    | -0.61   | -0.41   |    |      |         |         |          |
| 16 | <i>Ddiab15d</i> | AUC_10wks  | 5.30 | 66.8  | H    | a    | 1229.83 | 1886.40 | 29.55   | LM | d    | -468.68 | 1456.90 | -551.49 | HM | a, d | 1784.94 | 3139.32 | -282.16  |
| 17 | <i>Ddiab16a</i> | AUC_10wks  | 2.85 | 5.3   | FULL | d    | 357.86  | 0.17    | 581.73  | H  | d, i | 750.56  | 1850.31 | 1195.94 |    |      |         |         |          |
| 18 | <i>Ddiab16b</i> | INS        | 2.58 | 50.3  | FULL | i    | 0.20    | 0.23    | -0.36   | H  | i    | 0.30    | 0.27    | -0.73   | M  | i    | 0.14    | 0.38    | -0.63    |
| 19 | <i>Ddiab16c</i> | INS        | 2.60 | 51.1  | HF   | a    | 0.55    | -0.17   | -0.41   | LM | d, i | 0.05    | 0.70    | -0.48   | HM | i    | -0.06   | 0.72    | -0.93    |
| 20 |                 | AUC_20wks  | 3.40 | 51.3  | FULL | d    | 449.67  | 1438.03 | -480.38 | HM | d    | 569.44  | 4853.25 | 1624.66 |    |      |         |         |          |
| 22 | <i>Ddiab16d</i> | INS        | 3.44 | 56.0  | HF   | a    | 0.64    | -0.47   | -0.24   | LM | d, i | -0.09   | 0.64    | -0.43   | HM | i    | -0.35   | 0.65    | -0.69    |
| 24 | <i>Ddiab17a</i> | AUC_20wks  | 2.56 | 10.9  | HF   | a    | -684.93 | 1176.43 | 198.55  | HM | a    | 2735.04 | 540.65  | 1581.29 |    |      |         |         |          |
| 26 | <i>Ddiab17b</i> | AUC_10wks  | 2.85 | 25.5  | FULL | i    | -76.50  | -309.54 | 709.18  | HM | i    | 419.44  | 1633.22 | 1782.76 |    |      |         |         |          |
| 27 | <i>Ddiab18a</i> | AUC_10wks  | 5.15 | 34.0  | LF   | a    | -608.76 | -206.46 | 164.68  | LM | d    | -22.85  | 1393.33 | 370.14  | HM | a    | 2222.03 | 1468.84 | -1051.95 |
| 28 | <i>Ddiab18b</i> | bGLC_20wks | 3.19 | 57.7  | FULL | a    | 7.15    | -2.24   | -1.21   | M  | a    | 15.43   | -3.22   | 1.62    |    |      |         |         |          |
| 29 | <i>Ddiab19a</i> | GLC        | 2.67 | 18.6  | FULL | d, i | -3.77   | 10.44   | -8.57   | HM | d, i | -3.75   | 16.91   | -12.56  |    |      |         |         |          |

\*AUC\_10wks: area under the curve at 10 weeks; AUC\_20wks: area under the curve at 20 weeks; bGLC\_10wks: basal glucose level at 10 weeks; bGLC\_20wks: basal glucose level at 20 weeks; GLC: serum glucose level at necropsy; INS: serum insulin level at necropsy. a = additive, d = dominance, i = imprinting. FULL = pooled population; H = high-fat fed animals; L = low-fat fed animals; F = female; M = male; LF = low-fat fed females; HF = high-fat fed females; LM = low-fat fed males; HM = high-fat fed males.