

## Annotation learning genes

Nr4a1|GFRP1|Gfrp|Hbr-1|Hbr1|Hmr|N10|NGFI-B|NGFIB|NP10|TIS1|TR3|nur77|-|15|15 F|protein-coding  
Fosb|-|7 A2-B1|7 9.56 cM|protein-coding  
Egr1|A530045N19Rik|ETR103|Egr-1|Krox-1|Krox-24|Krox24|NGF1-A|NGFI-A|NGFIA|TIS8|Zenk|Zfp-  
Fos|D12Rfj1|c-fos|cFos|-|12 D2|12 39.7 cM|protein-coding  
Btg2|AA959598|APRO1|Pc3|TIS21|-|1 E4|1 58.1 cM|protein-coding  
Etv5|1110005E01Rik|8430401F14Rik|ERM|-|16 B1|16|protein-coding  
Cyr61|AI325051|CCN1|Igfbp10|-|3 H2|3 70.18 cM|protein-coding  
Junb|-|8 C2-D1|8 41.41 cM|protein-coding  
Dusp1|3CH134|MKP1|Ptpn16|U19515|erp|mkp-1|-|17 A2-C|17 13.28 cM|protein-coding  
Sik1|Msk|Sik|Snf1lk|-|17 B1|17 17.25 cM|protein-coding  
Dusp6|1300019I03Rik|MKP-3|MKP3|PYST1|-|10|10 C3|protein-coding  
Arc|Arc3.1|C86064|arg3.1|mArc|-|15 D3|15 34.25 cM|protein-coding  
Acs4|9430020A05Rik|ACS4|AU018108|Fac14|Laes4|RP23-161L11.10-004|X F2|X|protein-coding  
Stk40|2310004N11Rik|AI428792|RP23-365D10.1|4 D2.2|4|protein-coding  
Egr2|Egr-2|Krox-20|Krox20|NGF1-B|Zfp-25|Zfp-6|-|10 B5|10 34.96 cM|protein-coding  
Vgf|Gm1052|-|5 G2|5 76.13 cM|protein-coding  
Kcnf1|Gm1182|Kv5.1|-|12 A1.1|12|protein-coding  
Gabra2|C630048P16Rik|Gabra-2|-|5 C3.1|5 37.59 cM|protein-coding  
Thbs1|TSP-1|TSP1|Thbs-1|tbsp1|RP23-234E8.1|2 F1-F3|2 59.34 cM|protein-coding  
Ssfa2|5730488C15Rik|CS-1|CS1|KRAP|SPAG13|mKIAA1927|RP23-20E18.1|2|2 D|protein-coding  
Ptpro|D28|GLEPP1|PTPBK|PTPROt|PTPU2|PTPoc|PTPphi|Ptpn15|R-PTP-O|-|6 G1|6|protein-coding  
Ppp2r2a|2410004D02Rik|mKIAA1541|-|14 D1|14|protein-coding  
Atf4|Atf-4|C/ATF|CREB2|TAXREB67|-|15 E1|15 37.85 cM|protein-coding  
Ptbp1|AA407203|AL033359|HNRPI|PTB-1|PTB2|PTB3|PTB4|Ptb|pPTB|-|10 C1|10 39.72 cM|protein-co  
Bhlhe40|Bhlhb2|C130042M06Rik|CR8|Clast5|Dec1|Sharp2|Stra13|Stra14|-|6 E-F1|protein-coding  
Nav1|9530089B19|9930003A20Rik|C230080M11Rik|Pomfil3|Unc53h1|mKIAA1151|steerin-1|-|1 E4|1|p  
Tra2a|1500010G04Rik|AL022798|G430041M01Rik|mAWMS1|-|6 B2.3|6|protein-coding  
Cdk15|BC038161|Stk9|RP23-213O8.2|X F4|X 73.95 cM|protein-coding  
Pxdn|2310075M15Rik|C85409|E330004E07|VPO1|mKIAA0230|-|12 A2|12|protein-coding  
Ubc|2700054O04Rik|AI194771|Rps27a|TI-225|Uba52|Ubb|-|5 G1.1|5 64.18 cM|protein-coding  
Zbtb16|AI467657|PLZF|Zfp145|lu|-|9 A5.3|9 26.47 cM|protein-coding  
1500015O10Rik|Ecrg4|-|1|1 C1|protein-coding  
Hnrnpa3|2410013L13Rik|2610209F03Rik|2610510D13Rik|Hnrpa3|RP23-374O4.1|2 A7.2|2|protein-codi  
Nfat5|AI225870|B130038B15Rik|CAG-8|CAG80|NFATL1|OREBP|TonEBP|mKIAA0827|nfatz|-|8 D2|8  
Ahnak|DY6|-|19 A|19|protein-coding  
Fbln1|-|15|15 E-F|protein-coding  
Trp53inp2|1110029F20Rik|Tp53inp2|RP23-32O9.1|2 H1|2|protein-coding  
Txnip|1200008J08Rik|AA682105|Hyplip1|THIF|Tbp-2|VDUP1|-|3 F2.2|3 41.93 cM|protein-coding  
Ddit4|5830413E08Rik|AA415483|REDD1|Rtp801|dig2|-|10|10 B3|protein-coding  
Snord116|2|Pwcr112|-|7 34.02 cM|snoRNA  
Snord116|MBII-85|Pwcr1|-|7 C|7 29.0 cM|snoRNA

Snord11611|Pwcr111|-|7 34.03 cM|snoRNA  
Enpp2|ATX|Npps2|PD-Ialpha|Pdnp2|lysoPLD|-|15|15 D2|protein-coding  
Serinc5|A130038L21Rik|AIGP3|C86123|TPO1|-|13 C3|13|protein-coding  
Hic1|AA408311|HIC-1|RP23-143A14.2|11 B5|11 45.76 cM|protein-coding  
Adcyap1|PACAP|-|17 E5|17|protein-coding  
Grin2b|AW490526|GluN2B|NR2B|Nmdar2b|-|6 G1|6 66.38 cM|protein-coding  
Uso1|115kDa|TAP|Vdp|-|5|5 E3|protein-coding  
Ank3|2900054D09Rik|AI314020|Ank-3|AnkG|Ankyrin-3|Ankyrin-G|-|10 B5.3|10 36.1 cM|protein-coding  
Pla2g4e|2310026J01Rik|C230096D22|Pla2epsilon|RP23-348L16.9|2 E5|2|protein-coding  
Lars2|AI035546|Kiaa0028|LEURS|-|9 F|9 73.92 cM|protein-coding  
Kcnab1|Akr8a8|Kvbeta1.1|mKv(beta)1|-|3 E1|3 30.15 cM|protein-coding  
Scg5|7B2|AI325031|Sgne-1|Sgne1|RP23-288M21.4|2 E5|2 57.45 cM|protein-coding  
Kcnj10|BIR10|BIRK-1|Kir1.2|Kir4.1|-|1 H3|1 79.69 cM|protein-coding  
Kenma1|5730414M22Rik|BKCa|MaxiK|Slo|Slo1|mSlo|mSlo1|-|14 A3|14|protein-coding  
Sfmbt1|4930442N21Rik|9330180L21Rik|AA536974|Sfmbt|Smr|-|14 B|14 18.99 cM|protein-coding  
Clk1|STY|-|1 C1.3|1 29.09 cM|protein-coding  
Sgk1|Sgk|-|10 A3|10|protein-coding  
Mir6236|mmu-mir-6236|-|-|ncRNA  
Peak1|1110049L02Rik|9530046P14|AA690169|BE132841|C230081A13Rik|SGK269|mKIAA2002|-|9 B  
Celsr2|EGFL2|Flamingo1|flamingo|mKIAA0279|mfmi1|RP23-27B23.1|3 F3|3 47.02 cM|protein-coding  
4930572O03Rik|-|-|5 A2|5|pseudo  
Trf|AI266983|Cd176|HP|Tf|Tfn|hpx|-|9 F1-F3|9 55.03 cM|protein-coding  
Shisa6|Gm879|RP23-280G3.1|11 B3|11|protein-coding  
Adnp|AA589558|mKIAA0784|-|2 H3|2|protein-coding  
Dhx9|AI326842|Ddx9|HEL-5|NDHII|RHA|mHEL-5|-|1 G3|1 65.37 cM|protein-coding  
Gm7056|Gm149|-|5 E1|5|ncRNA  
Ctgf|Ccn2|Fisp12|Hcs24|fisp-12|-|10 A3-B1|10 11.84 cM|protein-coding  
Tshz2|2900073F20Rik|B830045G17|Mtsh2|Sdccag331|Tsh2|Zfp218|mKIAA4248|teashirt2|RP23-105H6.  
Rbm42|1700003D06Rik|3100004P22Rik|-|7 B1|7|protein-coding  
Herc1|2810449H11Rik|B230218H07|D130015N03Rik|tbl|-|9|9 D|protein-coding  
Lmbrd2|9930036E21Rik|-|15 A1|15|protein-coding  
Baiap211|1300006M19Rik|AI585895|IRTKS|-|5 G2|5|protein-coding  
Ttn|1100001C23Rik|2310036G12Rik|2310057K23Rik|2310074I15Rik|AF006999|AV006427|D330041I1  
Nr1d1|A530070C09Rik|R75201|RP23-395E10.7|11 D|11|protein-coding  
Trank1|A230061D21Rik|C030048J01Rik|Gm187|Lba1|-|9 F3|9|protein-coding  
Akap12|AI317366|SSeCKS|Srcs5|Tsga12|-|10 A1|10|protein-coding  
Lhfp14|1190004M23Rik|AI604880|B230384L07|mKIAA4027|-|6 E3|6|protein-coding  
Nfia|1110047K16Rik|9430022M17Rik|NF1-A|NF1A|RP23-67D6.1|4 C4-C6|4 45.52 cM|protein-coding  
Slc4a5|C330006M16|C330016K18Rik|-|6 C3|6|protein-coding  
Dio2|5DII|AI324267|DIOII|-|12 D3|12|protein-coding  
Fam163b|C630035N08Rik|-|2 A3|2|protein-coding  
Ccdc14|G630039H03Rik|-|16 B3|16|protein-coding

Cp|D3Ert|555e|-|3|3 D|protein-coding  
Gpr63|PSP24beta|Psp24-2|RP23-86J22.1|4 A3|4|protein-coding  
Nova2|Gm1424|-|7 A3|7|protein-coding  
Oog1|Ooglc-1|-|12 D2|12|protein-coding  
Sspn|Krag|RP24-238C11.2|6 G3|6 77.7 cM|protein-coding  
Slc8a1|AI852629|AV344025|D930008O12Rik|Ncx1|-|17 E3|17 51.29 cM|protein-coding  
Ptpz|AI850339|DSD-1-PG|PTPbeta|PTPzeta|Ptpz|Ptpz|RPTPz|Rptpbeta|-|6 A3.1|6|protein-coding  
Cfh|Mud-1|NOM|Sas-1|Sas1|-|1 F|1 61.62 cM|protein-coding  
Arhgef5|2210412D05Rik|AA717842|AW495314|Tim1|-|6 B2.1|6|protein-coding  
Qars|1110018N24Rik|1200016L19Rik|C80286|GLNRS|-|9 F2|9|protein-coding  
Hba-a2|-|-|11|11 18.87 cM|protein-coding  
Hba-a1|Hba|Hba1|Hbat1|-|11 A4|11 18.86 cM|protein-coding  
Lnpep|2010309L07Rik|4732490P18Rik|CAP|IRAP|PLAP|gp160|vp165|-|17 A3.2|17|protein-coding  
Prg4|CACP|DOL54|JCAP|MSF|SZP|lubricin|-|1|1 G|protein-coding  
Fabp7|B-FABP|BFABP|Blbp|MRG|-|10 B4|10|protein-coding  
Gm5150|-|-|3 A1|3|protein-coding  
Cacna2d1|Ca(v)alpha2delta1|Cacna2|Cchl2a|-|5 A2|5 6.56 cM|protein-coding  
Synpo|9030217H17Rik|9130229N11|9330140I15Rik|AW046661|-|18 D3|18|protein-coding  
Raph1|9430025M21Rik|C730009O10Rik|Lpd|-|1 C2|1|protein-coding  
Spp1|2AR|Apl-1|BNSP|BSPI|Bsp|ETA-1|Eta|OP|Opn|Opnl|Ric|Spp-1|-|5 E5|5 50.68 cM|protein-coding  
Fmo2|2310008D08Rik|2310042I22Rik|AW107733|-|1|1 H1|protein-coding  
Wipf3|9030621G03|BQ952480|-|6 B3|6|protein-coding  
Grem1|Cktsf1b1|Drm|Grem|ld|RP23-178K16.1|2 E4|2 57.43 cM|protein-coding  
Cbl|4732447J05Rik|Cbl-2|c-Cbl|cbl|-|9 A5.2|9 24.72 cM|protein-coding  
Abcb1a|Abcb4|Evi32|Mdr1a|Mdr3|P-gp|Pgp|Pgy-3|Pgy3|mdr-3|-|5 A1|5 3.43 cM|protein-coding  
Nid1|A630025O17|Nid|entactin|entactin-1|nidogen-1|-|13 A1|13 5.26 cM|protein-coding  
Ganc|5830445O15Rik|9330160A12|mFLJ00088|RP23-432M14.1|2|2 F1|protein-coding  
Fbxl17|6330576B01Rik|AI452053|BB073797|C130023C01Rik|Fbx13|Fbxo13|-|17|17 E1.2|protein-coding  
Senp5|6230429P13Rik|A730063F07Rik|AI851888|BB189556|SMT3IP3|-|16 B2|16|protein-coding  
Col12a1|AW743884|-|9 E1|9 43.82 cM|protein-coding  
Usp34|A530081C03Rik|Murr2|RP23-188K3.7|11 A3.2|11 14.29 cM|protein-coding  
Naa15|5730450D16Rik|6330400I15|ASTBDN|Narg1|Tbdn-1|mNAT1|-|3|3 D|protein-coding  
Speer4d|4933431D05Rik|SPEER-4D|-|5 A2|5|protein-coding  
Snord12|MBII-99|-|2|2|snoRNA  
Igf2|AL033362|Igf-2|Igf-II|M6pr|Mpr|Peg2|-|7 F5|7 87.99 cM|protein-coding  
Vmn1r165|Gm4579|-|7 A3|7|protein-coding  
Vmn1r107|100043561|Gm4519|Gm9609|Vmn1r110|-|7 A3|7|protein-coding  
Vmn1r155|EG667530|Gm8687|-|7 A3|7|protein-coding  
Vmn1r137|Gm4551|-|7 A3|7|protein-coding  
Vmn1r130|Gm4542|-|7 A3|7|protein-coding  
Gm14351|OTTMUSG00000016411|RP23-136N4.4|X A1.1|X|protein-coding  
Gm3701|-|RP23-22L6.10-001|X A1.1|X|protein-coding

Gm14346|OTTMUSG00000016406|RP23-14B5.3|X A1.1|X|protein-coding  
Gm21951|Mgclh|-|X|X|protein-coding  
Gm21950|Mgclh|-|X|X|protein-coding  
Ttr|AA408768|AI787086|D17860|prealbumin|-|18 A2|18 11.47 cM|protein-coding  
Cped1|6720481P07|A430107O13Rik|AI552584|-|6 A3.1|6|protein-coding  
Folr1|FBP1|Folbp-1|Folbp1|-|7 E3|7|protein-coding  
Sestd1|1500031J16Rik|A930010O20|Solo/Trio8|RP23-15E4.1|2 C3|2|protein-coding  
Snord111|MBII-82|-|8|8|snoRNA  
Gm5891|EG545929|ENSMUSG00000074313|-|7 A3|7|protein-coding  
Gm10662|ENSMUSG00000074296|-|7 A3|7|protein-coding  
Mir684-1|Mirn684-1|-|2|2|ncRNA  
Col1a2|AA960264|AI325291|Col1a-2|Cola-2|Cola2|oim|-|6 A1|6 1.81 cM|protein-coding  
Dnah6|9830168K20|A730004I20Rik|Dnahc6|mKIAA1697|mdhc6|mCG\_141618|6 C1|6 32.37 cM|protei  
Cxl12|Pbsf|Seyb12|Sdf1|Tlsf|Tpar1|-|6 F1|6 54.81 cM|protein-coding  
Speer4e|-|5 A1|5|protein-coding  
Gm9758|ENSMUSG00000033219|-|5 A1|5|protein-coding  
Aqp1|CHIP28|-|6 B3|6 27.38 cM|protein-coding  
Htr2c|5-HT2C|5-HT2cR|5-HTR2C|5HT1c|Htr1c|SR1|RP23-15B7.1|X D-F4|X 68.46 cM|protein-coding  
Sympk|1500016F02Rik|4632415H16Rik|AA125406|AI449890|SPK|SYM|-|7 A3|7|protein-coding  
Pcdh19|B530002L05Rik|Gm717|mKIAA1313|RP23-330I16.1|X E3|X|protein-coding  
Gm6164|EG620574|Vmn1r96|-|7 A3|7|protein-coding  
Gm8653|EG667472|Vmn1r144|-|7 A3|7|protein-coding  
Vmn1r138|Gm4179|-|7 A3|7|protein-coding  
Vmn1r131|Gm4172|-|7 A3|7|protein-coding  
Vmn1r166|Gm4220|-|7 A3|7|protein-coding  
Vmn1r111|EG667292|Gm8559|-|7 A3|7|protein-coding  
Gm14345|OTTMUSG00000016405|RP23-136N4.2|X A1.1|X|protein-coding  
Fn1|E330027I09|Fn|Fn-1|-|1 C1-C5|1 36.05 cM|protein-coding  
Tmem88b|A230069A22Rik|RP23-242K15.6|4 E2|4|protein-coding  
Gjb6|AA958971|Cx30|D14Bwg0506e|-|14 C3|14 30.1 cM|protein-coding  
Itih2|AI747202|Intin2|Itih-2|RP23-119N4.3|2 A1|2 6.89 cM|protein-coding  
Serpinh1|BERF-1|Cbp1|Cbp2|Hsp47|J6|Serpinh2|gp46|-|7 E2|7|protein-coding  
Paqr8|1700019B16Rik|3110001D06Rik|-|1|1 A5|protein-coding  
Ryr2|9330127I20Rik|RYR-2|-|13 A1-A2|13 4.38 cM|protein-coding  
St8sia1|9330109E03Rik|GD3S|Sia-T|Siat8|Siat8a|-|6 G3|6 74.78 cM|protein-coding  
Otx2|E130306E05Rik|-|14 C1|14 25.36 cM|protein-coding  
Scml2|4932420G07Rik|RP23-54I20.1|X F4|X|protein-coding  
Ptgds|21kDa|L-PGDS|PGD2|PGDS|PGDS2|Ptgs3|RP23-47P18.11-006|2 A3|2 17.28 cM|protein-coding  
Gm17019|-|5 A2|5|protein-coding  
Ccl27b|Ctack|ENSMUSG00000066202|Scya27b|-|4 A5|4|protein-coding  
Gm2506|-|4 A5|4|protein-coding  
Gm13306|OTTMUSG00000011352|RP23-388P16.4|4 A5|4|protein-coding

LOC100861978|-|-|protein-coding  
Sulf1|AI467640|AW121680|mKIAA1077|-|1 A3|1|protein-coding  
Gm10354|ENSMUSG00000072188|-|5|5 6.48 cM|protein-coding  
Aqp4|WCH4|-|18 A1|18 8.74 cM|protein-coding  
Islr|AW553146|-|9 B|9|protein-coding  
Vip|-|-|10 A1|10|protein-coding  
Mpzl2|Eva|Eva1|-|9 A5.2|9 24.84 cM|protein-coding  
Mamdc2|1200015L10Rik|AI591564|mamcan|-|19 B|19|protein-coding  
Pclo|Acz|Pico|-|5 A2|5|protein-coding  
Prlr|AI987712|Pr-1|Pr-3|Prlr-rs1|-|15 A1|15 5.23 cM|protein-coding  
Kl|alpha-kl|-|5|5 G3|protein-coding  
Ogn|3110079A16Rik|OG|OIF|SLRR3A|mimecan|mimican|-|13 A5|13|protein-coding  
Gm2002|-|-|4 A5|4|protein-coding  
Ii11ra2|ENSMUSG00000066201|Etl-2|Etl2|Ii11ra-ps1|-|4 A5|4 22.73 cM|protein-coding  
Kcne2|2200002I16Rik|AW048273|MiRP1|-|16 C4|16|protein-coding  
Sepp1|AU018766|D15Ucla1|Se-P|selp|-|15 A1|15 1.84 cM|protein-coding  
Pglyrp1|PGRP|PGRP-S|Pglyrp|Tag7|Tasg7|Tnfsf31|-|7|7 A3|protein-coding  
Myoc|AI957332|GLC1A|TIGR|-|1 H2.1|1 70.29 cM|protein-coding  
Gm8615|EG667410|-|5 G3|5|pseudo  
Gstm2|Gstb-2|Gstb2|-|3 F2.3|3|protein-coding  
Lrp1b|9630004P12Rik|LRP-DIT|RP23-151M8.2|2 B|2|protein-coding  
Fmod|AI131919|AU041740|SLRR2E|-|1 E4|1 58.09 cM|protein-coding  
Gm3706|-|RP23-22L6.5|X A1.1|X|protein-coding  
Gm3750|-|RP23-243G7.2|X A1.1|X|protein-coding  
Gm20554|D430050G20|-|13 C1|13|ncRNA  
Plin4|S3-12|mKIAA1881|-|17|17 D|protein-coding  
Gm13305|OTTMUSG00000011351|RP23-388P16.3|4 A5|4|protein-coding  
Tns3|BC023928|F830010I22Rik|TEM6|Tens1|RP23-145C12.2|11 A1|11|protein-coding  
Slco1a4|AI785519|Oatp1a4|Oatp2|Slc21a5|-|6 G2|6|protein-coding  
Polr2a|220kDa|Rpb1|Rpo2-1|-|11 B1-C|11 42.86 cM|protein-coding  
Clic6|5730466J16Rik|AL022908|AW045520|CLIC1L|-|16 C4|16|protein-coding  
Mast2|MAST205|Mtssk|RP23-276M23.5|4|4 C7|protein-coding  
AA465934|-|-|ncRNA  
Foxc1|FREAC3|Fkh1|Mf1|Mf4|ch|fkh-1|frkhda|RP23-459H16.1|13 A3.2|13 13.52 cM|protein-coding  
Cacna1b|AW050276|AW060892|AW822256|Cav2.2|Cchn1a|alpha(1B)|RP23-264D16.5|2 A2|2 16.58 cM  
Celf2|B230218O03|B230345P09Rik|C88023|CELF-2|CUG-BP2|Cugbp2|D230046B21Rik|Etr-3|Napor|N  
Tmem254b|ENSMUSG00000021867|Gm9746|-|14 A3|14|protein-coding  
Tmem254a|0610008K04Rik|0610010A22Rik|AA960404|D14Ert449e|Tmem254|-|14 B|14 15.19 cM|pr  
Cldn2|AL022813|RP23-343M4.3|X F1|X|protein-coding  
Tmem254c|ENSMUSG00000072676|Gm10395|-|14 A3|14|protein-coding  
Krtap6-2|AI646275|HGTP1I.4|-|16 C3.3|16|protein-coding  
Vmn1r139|EG667444|Gm8636|-|7 A3|7|protein-coding

Vmn1r157|100043559|EG667551|Gm4517|Gm8699|Vmn1r109|-|7 A3|7|protein-coding  
 Vmn1r135|EG667404|Gm8611|-|7 A3|7|protein-coding  
 Vmn1r163|EG667586|Gm8716|-|7 A3|7|protein-coding  
 Gm4216|Vmn1r162|-|7 A3|7|protein-coding  
 Gm4177|Vmn1r134|-|7 A3|7|protein-coding  
 Vmn1r100|ENSMUSG00000074331|Gm10671|-|7 A3|7|protein-coding  
 Gm8453|EG667094|Vmn1r145|-|7 A3|7|protein-coding  
 Gm4498|Vmn1r97|-|7 A3|7|protein-coding  
 Vmn1r118|EG667259|Gm8542|-|7 A3|7|protein-coding  
 Cdh1|AA960649|E-cad|Ecad|L-CAM|UVO|Um|-|8 D|8 53.18 cM|protein-coding  
 Gm21637|-|X|X|protein-coding  
 Vmn1r132|EG667346|Gm16448|-|7 A3|7|protein-coding  
 9330117O12Rik|9330117O12|-|18 D3|18|ncRNA  
 Hmr|1110033K19Rik|A530063N20Rik|AV011854|S100a18|S100a18-ps1|-|3 F2|3|protein-coding  
 C1qc|AI385742|C1qg|Ciqc|RP23-357K18.1|4 D3|4 69.05 cM|protein-coding  
 Slc13a4|9630060C05Rik|SUT-1|SUT1|-|6 B1|6|protein-coding  
 C1qb|-|RP23-357K18.2|4 D3|4 69.05 cM|protein-coding  
 Aebp1|ACLP|RP23-385C16.8|11 A1|11|protein-coding  
 C1q12|BC040774|CTRP10|-|1 E2.3|1|protein-coding  
 Cgn1|4933421H10Rik|9930020M10Rik|AI503810|Jacop|-|9 D|9|protein-coding  
 Igfbp2|AI255832|IBP-2|Igfbp-2|mIGFBP-2|-|1 C3|1 36.94 cM|protein-coding  
 2900052N01Rik|AU067665|-|9 A5.3|9|ncRNA  
 Thsd7a|Gm837|-|6 A1|6|protein-coding  
 Glul|GS|Glns|-|1 G2|1|protein-coding  
 Tiparp|ARTD14|AW558171|PARP7|-|3 E1|3|protein-coding

## Annotation Reelin-dependent-learning genes

Gm7056|Gm149|-|5 E1|5|ncRNA  
 Baiap211|1300006M19Rik|AI585895|IRTKS|-|5 G2|5|protein-coding  
 Egr2|Egr-2|Krox-20|Krox20|NGF1-B|Zfp-25|Zfp-6|-|10 B5|10 34.96 cM|protein-coding  
 Hic1|AA408311|HIC-1|RP23-143A14.2|11 B5|11 45.76 cM|protein-coding  
 4930572O03Rik|-|5 A2|5|pseudo  
 Cyr61|AI325051|CCN1|Igfbp10|-|3 H2|3 70.18 cM|protein-coding  
 1500015O10Rik|Ecrg4|-|1|1 C1|protein-coding  
 Fos|D12Rfj1|c-fos|cFos|-|12 D2|12 39.7 cM|protein-coding  
 Fbln1|-|15|15 E-F|protein-coding  
 Arc|Arc3.1|C86064|arg3.1|mArc|-|15 D3|15 34.25 cM|protein-coding  
 Pla2g4e|2310026J01Rik|C230096D22|Pla2epsilon|RP23-348L16.9|2 E5|2|protein-coding  
 Thbs1|TSP-1|TSP1|Thbs-1|tbasp1|RP23-234E8.1|2 F1-F3|2 59.34 cM|protein-coding  
 Nr4a1|GFRP1|Gfrp|Hbr-1|Hbr1|Hmr|N10|NGFI-B|NGFIB|NP10|TIS1|TR3|nur77|-|15|15 F|protein-coding  
 Ctgf|Ccn2|Fisp12|Hcs24|fisp-12|-|10 A3-B1|10 11.84 cM|protein-coding

Adcyap1|PACAP|-|17 E5|17|protein-coding  
Fosb|-|-|7 A2-B1|7 9.56 cM|protein-coding  
Sik1|Msk|Sik|Snf1lk|-|17 B1|17 17.25 cM|protein-coding  
Dusp1|3CH134|MKP1|Ptpn16|U19515|erp|mkp-1|-|17 A2-C|17 13.28 cM|protein-coding  
Stk40|2310004N11Rik|AI428792|RP23-365D10.1|4 D2.2|4|protein-coding  
Btg2|AA959598|APRO1|Pc3|TIS21|-|1 E4|1 58.1 cM|protein-coding  
Junb|-|-|8 C2-D1|8 41.41 cM|protein-coding  
Mir6236|mmu-mir-6236|-|-|ncRNA  
Ddit4|5830413E08Rik|AA415483|REDD1|Rtp801|dig2|-|10|10 B3|protein-coding  
Rbm42|1700003D06Rik|3100004P22Rik|-|7 B1|7|protein-coding  
Ptbp1|AA407203|AL033359|HNRPI|PTB-1|PTB2|PTB3|PTB4|Ptb|pPTB|-|10 C1|10 39.72 cM|protein-co  
Sgk1|Sgk|-|10 A3|10|protein-coding  
Egr1|A530045N19Rik|ETR103|Egr-1|Krox-1|Krox-24|Krox24|NGF1-A|NGFI-A|NGFIA|TIS8|Zenk|Zfp-  
Sfmbt1|4930442N21Rik|9330180L21Rik|AA536974|Sfmbt|Smr|-|14 B|14 18.99 cM|protein-coding  
Txnip|1200008J08Rik|AA682105|Hyplip1|THIF|Tbp-2|VDUP1|-|3 F2.2|3 41.93 cM|protein-coding  
Vgf|Gm1052|-|5 G2|5 76.13 cM|protein-coding  
Ssfa2|5730488C15Rik|CS-1|CS1|KRAP|SPAG13|mKIAA1927|RP23-20E18.1|2|2 D|protein-coding  
Peak1|1110049L02Rik|9530046P14|AA690169|BE132841|C230081A13Rik|SGK269|mKIAA2002|-|9 B  
Lars2|AI035546|Kiaa0028|LEURS|-|9 F|9 73.92 cM|protein-coding  
Pxdn|2310075M15Rik|C85409|E330004E07|VPO1|mKIAA0230|-|12 A2|12|protein-coding  
Lmbrd2|9930036E21Rik|-|15 A1|15|protein-coding  
Enpp2|ATX|Npps2|PD-Ialpha|Pdp2|lysoPLD|-|15|15 D2|protein-coding  
Etv5|1110005E01Rik|8430401F14Rik|ERM|-|16 B1|16|protein-coding  
Nav1|9530089B19|9930003A20Rik|C230080M11Rik|Pomfil3|Unc53h1|mKIAA1151|steerin-1|-|1 E4|1|p  
Snord116|MBII-85|Pwcr1|-|7 C|7 29.0 cM|snoRNA  
Snord116l1|Pwcr1l1|-|7 34.03 cM|snoRNA  
Snord116l2|Pwcr1l2|-|7 34.02 cM|snoRNA  
Scg5|7B2|AI325031|Sgne-1|Sgne1|RP23-288M21.4|2 E5|2 57.45 cM|protein-coding  
Bhlhe40|Bhlhb2|C130042M06Rik|CR8|Clast5|Dec1|Sharp2|Stra13|Stra14|-|6|6 E-F1|protein-coding  
Gabra2|C630048P16Rik|Gabra-2|-|5 C3.1|5 37.59 cM|protein-coding  
Serinc5|A130038L21Rik|AIGP3|C86123|TPO1|-|13 C3|13|protein-coding  
Dusp6|1300019I03Rik|MKP-3|MKP3|PYST1|-|10|10 C3|protein-coding  
Kcnf1|Gm1182|Kv5.1|-|12 A1.1|12|protein-coding  
Ahnak|DY6|-|19 A|19|protein-coding  
Ptpro|D28|GLEPP1|PTPBK|PTPROt|PTPU2|PTPoc|PTPphi|Ptpn15|R-PTP-O|-|6 G1|6|protein-coding  
Tra2a|1500010G04Rik|AL022798|G430041M01Rik|mAWMS1|-|6 B2.3|6|protein-coding  
Uso1|115kDa|TAP|Vdp|-|5|5 E3|protein-coding  
Ppp2r2a|2410004D02Rik|mKIAA1541|-|14 D1|14|protein-coding  
Trp53inp2|1110029F20Rik|Tp53inp2|RP23-32O9.1|2 H1|2|protein-coding  
Kcnma1|5730414M22Rik|BKCa|MaxiK|Slo|Slo1|mSlo|mSlo1|-|14 A3|14|protein-coding  
Tsh2|2900073F20Rik|B830045G17|Mtsh2|Sdecag33l|Tsh2|Zfp218|mKIAA4248|teashirt2|RP23-105H6.  
Atf4|Atf-4|C/ATF|CREB2|TAXREB67|-|15 E1|15 37.85 cM|protein-coding