SUPPLEMENTARY FIGURE LEGENDS

Supplementary Figure 1. Ubiquitous cohesin positions overlap more extensively with CTCF than tissue-specific cohesin positions**.** (A) Overlap between cohesin binding sites in cortex and pancreas (Venn diagram in the centre of the figure) and distribution of ubiquitous and tissue-specific positions among intergenic and gene associated regions. The latter include 1 kb upstream the TSS, the gene body and 1 kb downstream the TTS. Unlike Figure 1, here cohesin positions for each tissue correspond to the sum of SMC1 and SA1 peaks. Overlap between CTCF positions in 10 week-old mice cortex (9) (B) and pancreas (C) and cohesin binding sites (defined as in A).

Supplementary Figure 2. Cohesin is enriched along the gene body of highly expressed genes. (A) Genomic distribution of SMC1, SA1, the elongating form of RNA pol II, and CTCF obtained by ChIP-seq, along the body of genes highly expressed in adult pancreas. Rabbit IgG binding to chromatin was used as a control to ensure antibody specificity. (B) Genomic distribution of SMC1, SA1 and the elongating form of RNA pol II in three genes highly expressed in adult cortex. Cortex CTCF peaks were obtained from (9). Eef1a1 is highly expressed not only in cerebral cortex (FPKM = 1,5423) but also in pancreas (FPKM = 12,336). (C) Transcript levels of the most highly expressed genes in pancreas, mostly pancreatic enzymes, are up to two orders of magnitude higher than those of the most highly expressed cerebral genes.

Supplementary Figure 3. Cohesin distribution in embryonic brains (E17.5). Venn diagrams showing the overlap between SMC1 and SA1 positions in cerebral cortex from 10 week-old mice and brains from wild-type and SA1 knock out (KO) embryos (E17.5) obtained by ChIP-seq. Two replicates corresponding to independent experiments containing tissue from at least four individuals were performed.

Supplementary Figure 4. Chromatin profiling of adult cortex using Hidden Markov Models to combine data of the distribution of the indicated chromatin marks, CTCF [data from (9)], cohesin SMC1 and SA1. The frequency of a given mark in each chromatin state is represented by the blue shading. Out of 15 chromatin states selected, states numbered 3 and 7 could not be assigned to any predefined genomic state and are therefore not shown in Figure 3. Comparison of the frequencies of SMC1 and SA1 hint to the presence of cohesin-SA1 or cohesin-SA2. For example, in state 9 the frequency of SA1 is considerably lower than the frequency of SMC1, suggesting that either cohesin-SA1 or cohesin-SA2 can occur at these promoters. In CTCF-containing states 11 and 12, in contrast, the frequencies of SA1 and SMC1 are identically high. Thus, cohesin-SA1 is necessarily present, and may or may not be accompanied by cohesin-SA2. In state 13, there is SMC1 but no SA1, which suggests that cohesin-SA2 could be predominant.

Supplementary Figure 5. Cohesin is present at promoters of actively expressed genes lacking classical active promoter-associated chromatin marks. Image showing cohesin distribution (SA1 and SMC1), CTCF sites and chromatin states (colour-coded according to the legend on the right) and RNA-seq tracks along part of the Pcdhβ gene cluster in adult cortex and pancreas. Note that cohesin-only state (blue) is found at the promoters of many genes of the cluster that are being actively transcribed in cortex.

Supplementary Figure 6. Overlap between cortex and pancreas CTCF positions. Cortex specific CTCF sites were defined as those present in cortex but not in pancreas.

Supplementary Figure 7. Relationship between gene expression and genomic structure in the murine Pcdhβ locus. (A) Detail of the chromosome 18qB3 region

containing the mouse Pcdh α, β and γ clusters. HS5-1 and HS16-20 enhancer regions are shown. (B) Top panel: Chromatin interactions detected by 4C-seq in cerebral cortex from 10 week-old mice and from wild-type and SA1 null E17.5 embryos using a 20-kb window size in the main trend subpanel. Red arrowheads indicate the viewpoint positions. Bottom panel: Cohesin SA1 distribution assessed by ChIP-seq in the highlighted regions involving chromatin interaction. The blue arrowhead on the right panel indicates a prominent cohesin position at the promoter of Pcdhb16 gene in adult cortex that is clearly reduced in the embryo. (C) The amount of cohesin SMC1 bound at the promoters of Pcdha4 and Pcdha6 genes was assessed by ChIP-qPCR in the brain of wild-type and SA1 KO E17.5 embryos. Chromatin from at least 4 animals per condition was used for the analysis.

Supplementary Figure 8. Differential chromatin architecture of the Reg locus in pancreas and cortex. (A) Analysis of the three-dimensional organization of the Reg locus in murine cortex and pancreas by 4C-sequencing. A heatmap of the Hi-C interactions previously described in adult mice cortex in this genomic position is shown at the top of the figure (7). Inset shows a magnification of the region containing the Reg genes and its correspondence with ChIP-seq and Hi-C data. The green arrowheads indicate the location of the different viewpoints analyzed in this locus (VP1, VP2, VP3). Main trend corresponds to a 20-kb window size. (B) Analysis of the three-dimensional organization of the Reg locus in pancreas from wt and SA1 heterozygous mice using VP3 as anchoring point for the 4C analysis. Main trend corresponds to a 5-kb window size. The green arrowhead indicates the location of the viewpoint (VP3).

Supplementary Table 1. Summary of the number of quality-filtered reads obtained for each of the ChIP-seq experiments in this study. Two independent replicates (R1 and

R2) per condition containing genomic material from at least three mice were performed. E17.5, embryonic brain. KO, knock out.

Supplementary Table 2. (A) Summary of the number of quality-filtered reads obtained for each of the RNA-seq experiments in this study. Two independent replicates (R1 and R2) per condition containing genomic material from at least four mice were performed. E17.5, embryonic brain. KO, knock out. (B) Correlation coefficient between the RNA-seq replicates.

Supplementary Table 3. Correlation between the replicates described in Supplementary Table 2.

Supplementary Table 4. List of brain specific and pancreas specific genes. A gene is considered "tissue specific" in a given tissue "A" when compared with tissue "B" when FPKM in tissue B <3, FDR<0.05 and $\log_2$FC A/B >4.

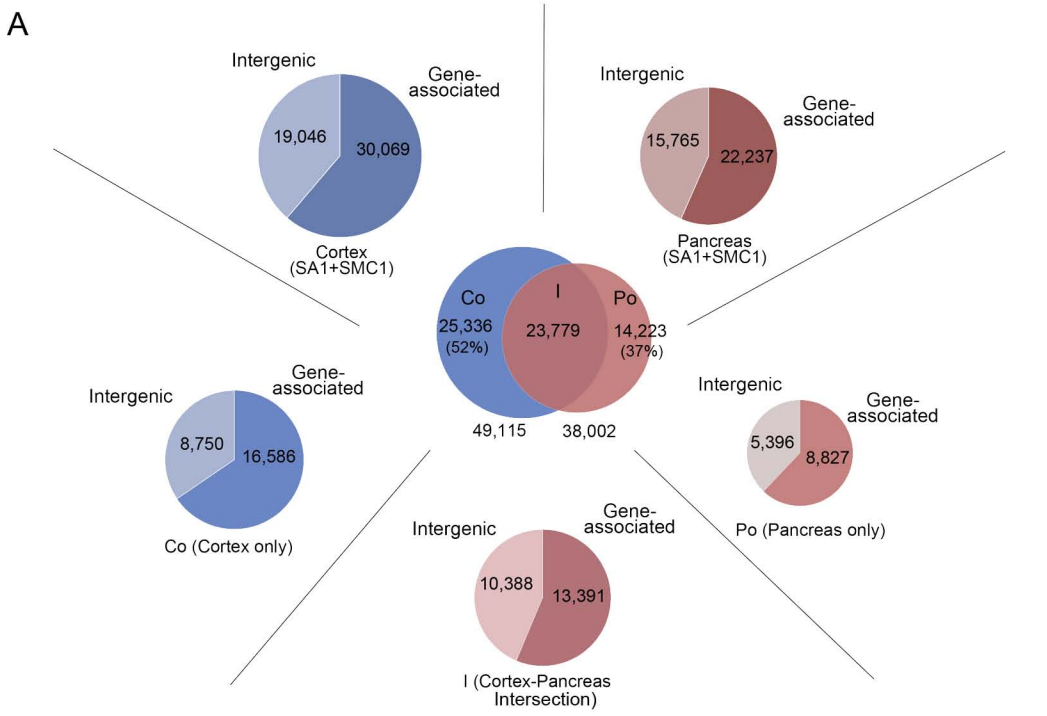
Supplementary Table 5. Gene expression changes between wild-type and SA1 null brains from E17.5 embryos analyzed by RNA-seq (FDR<0.05). Two independent RNA-seq experiments with RNA from at least four individuals each were carried out.

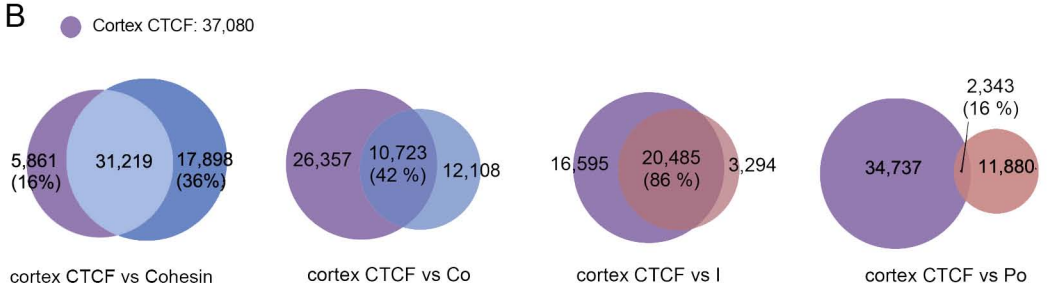
Supplementary Table 6. Summary of the number of quality-filtered and mapped reads obtained for each of the 4C-seq experiments in the Pcdh locus. Two independent replicates (R1 and R2) per condition containing genomic material from at least three mice were performed. E17.5, embryonic brain; KO, knock out.

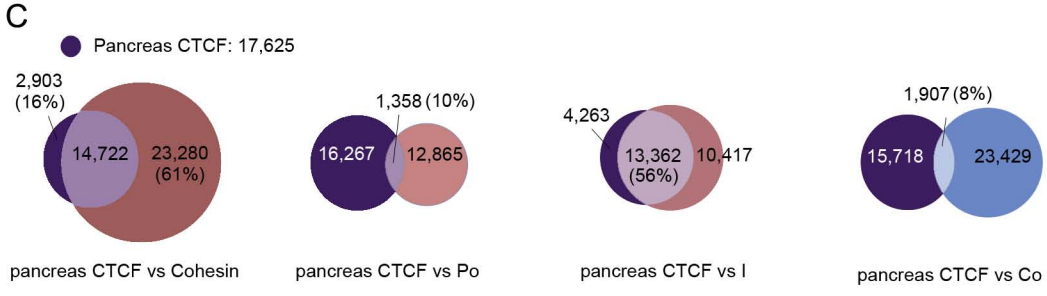
Supplementary Table 7. Primers used for 4C-seq experiments.

Supplementary Table 8. Primers used for qRT-PCR and for ChIP-qPCR analysis.

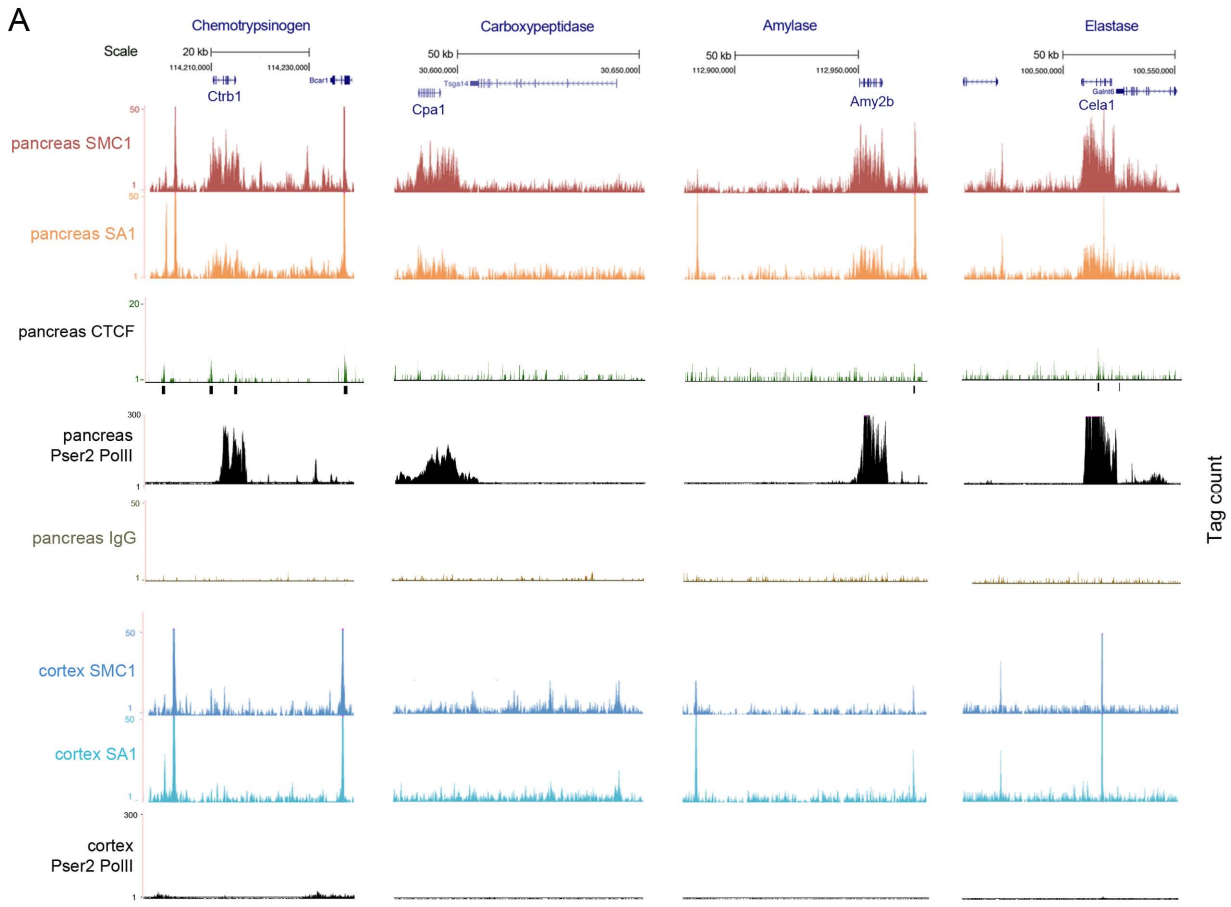
Supplementary Figure 1

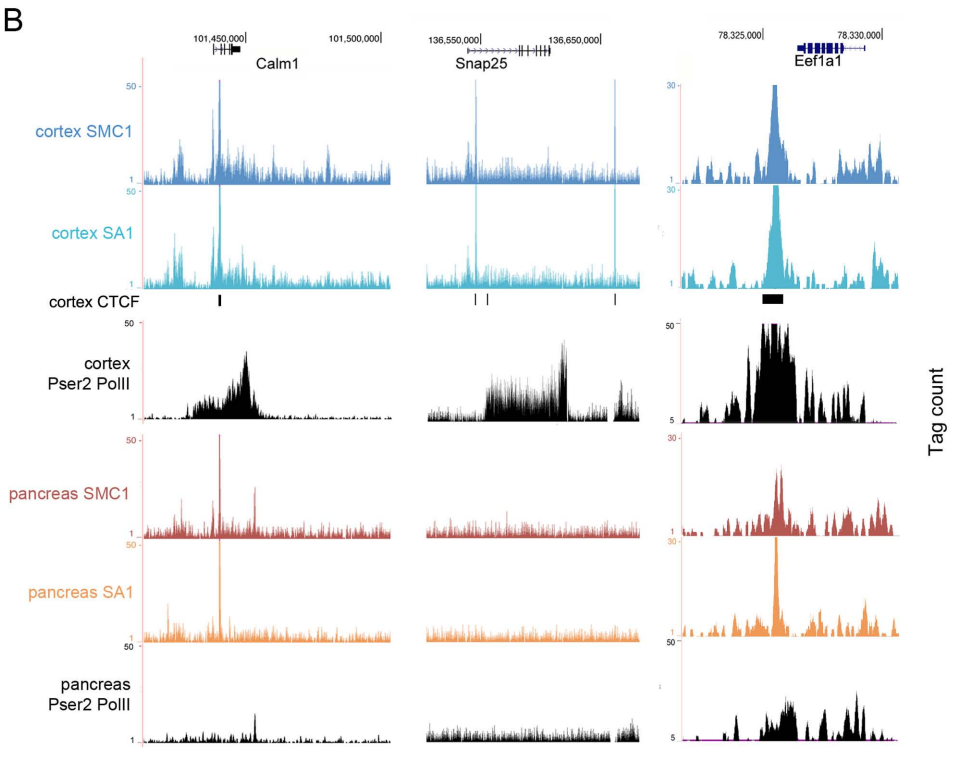






Supplementary Figure 2





C

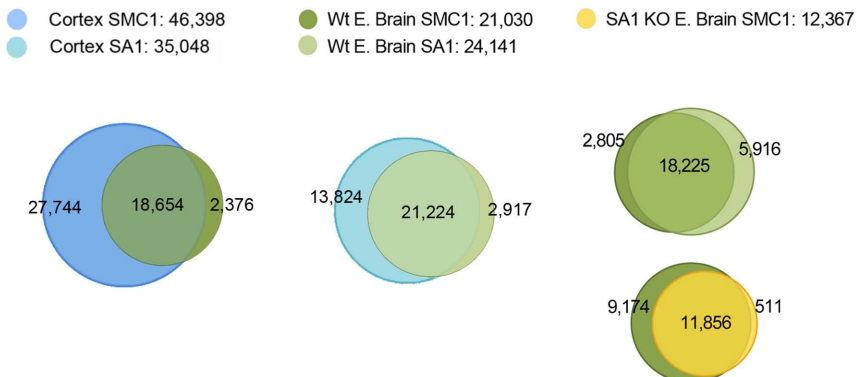
cortex

Gene	FPKM
Rpl13a	1748.6
Calm3	1628.4
Fth1	1561.1
Eef1a1	1542.8
Cst3	1427.3
Calm2	1426.2
Snap25	1360.8
Atp5b	1222.7
Calm1	1212.3
Ubb	1202.6
Hspa8	1187.0
Apoe	1158.8

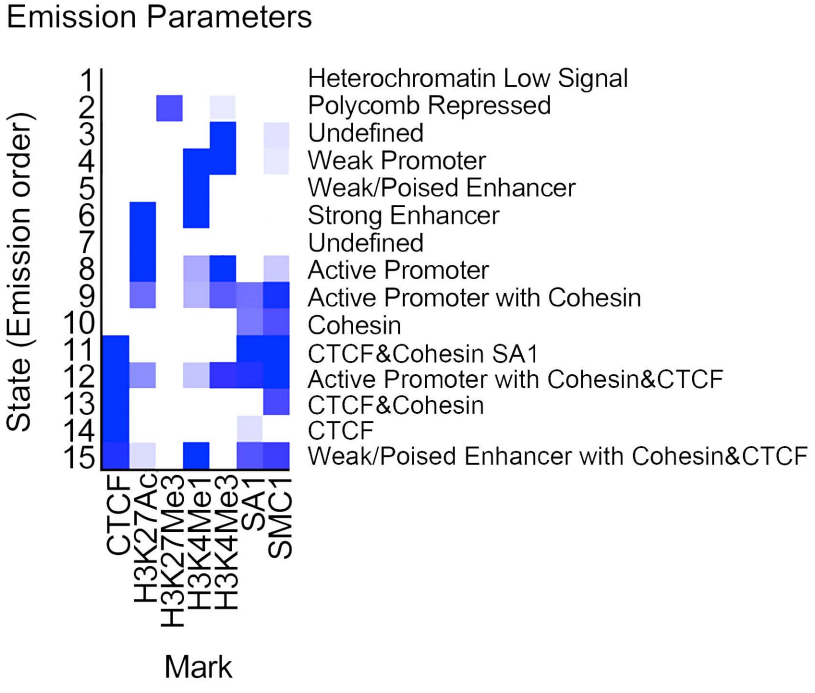
pancreas

Gene	FPKM
Clps	255407
Ctrl	154296
Cela	152223
Rnase1	136971
Reg1	129652
Zg16	126988
Cpa	107110
Sycn	64493
Reg2	50193
Amy2	41965
Ctrc	40087
Try10	34327

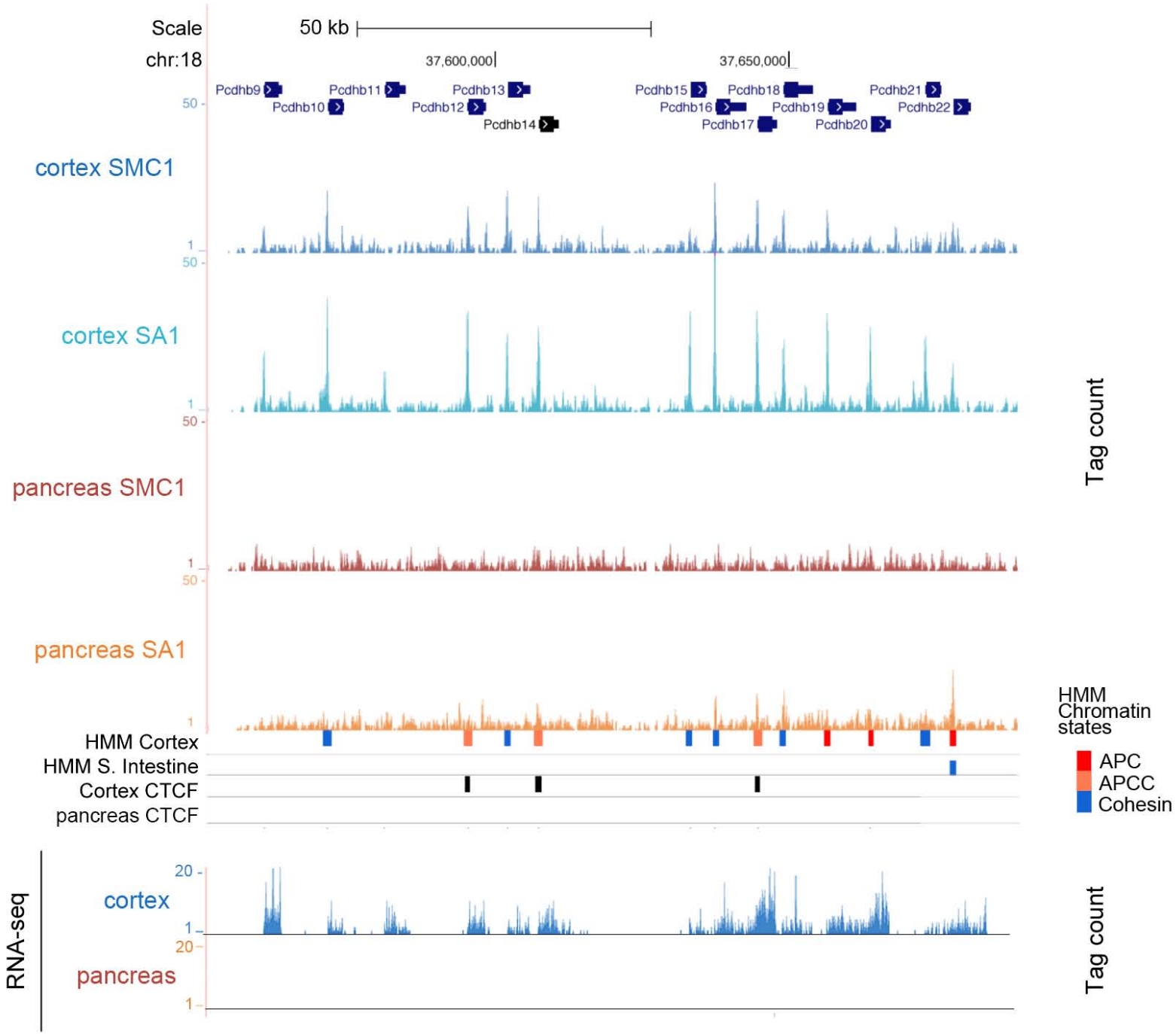
Supplementary Figure 3



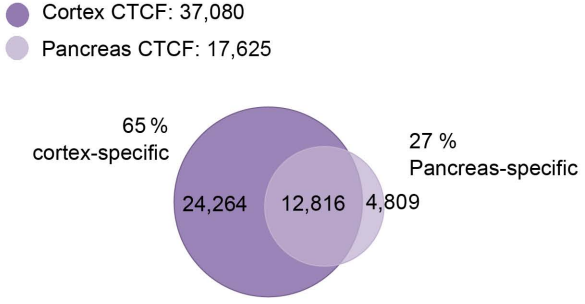
Supplementary Figure 4



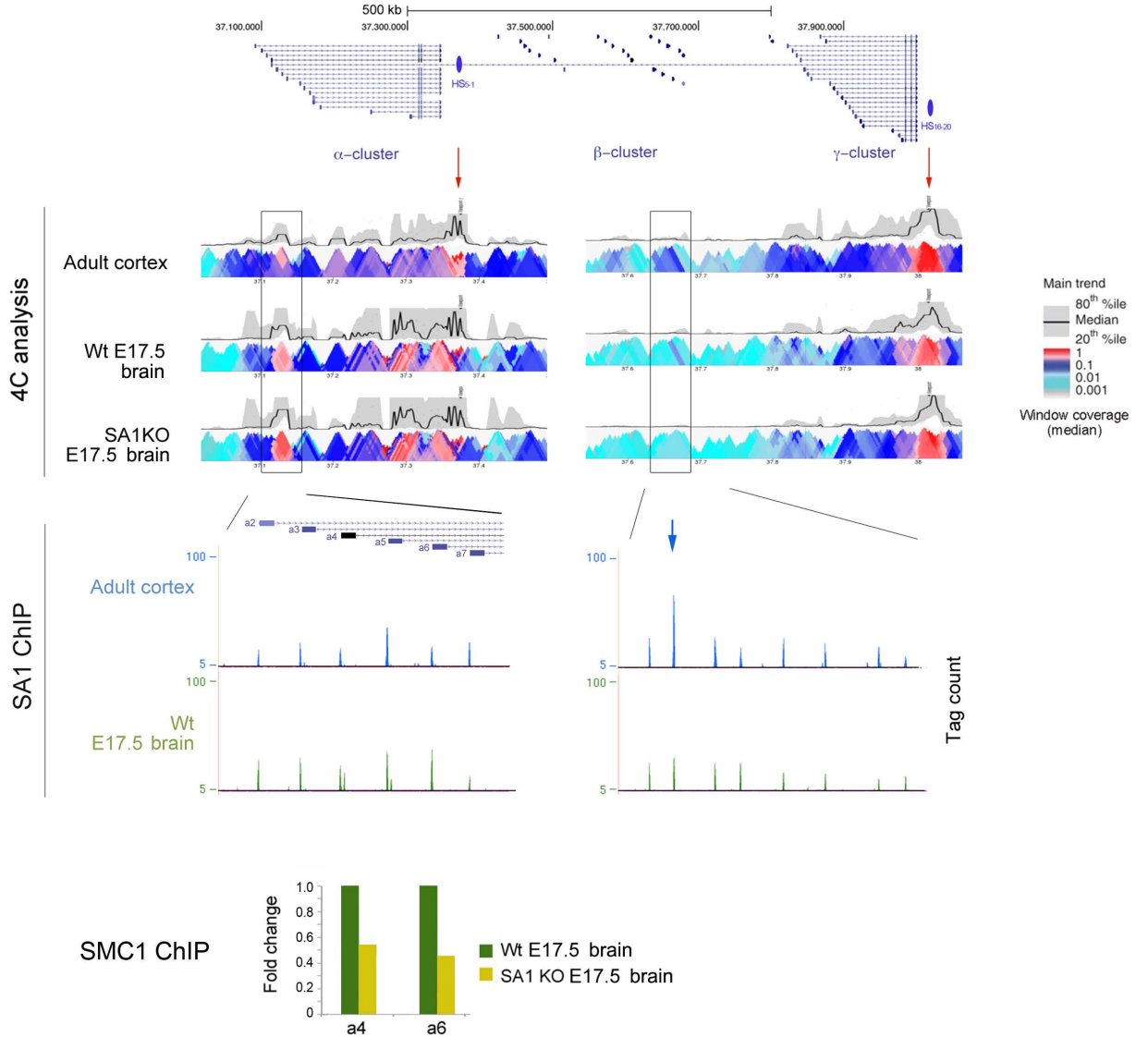
Supplementary Figure 5



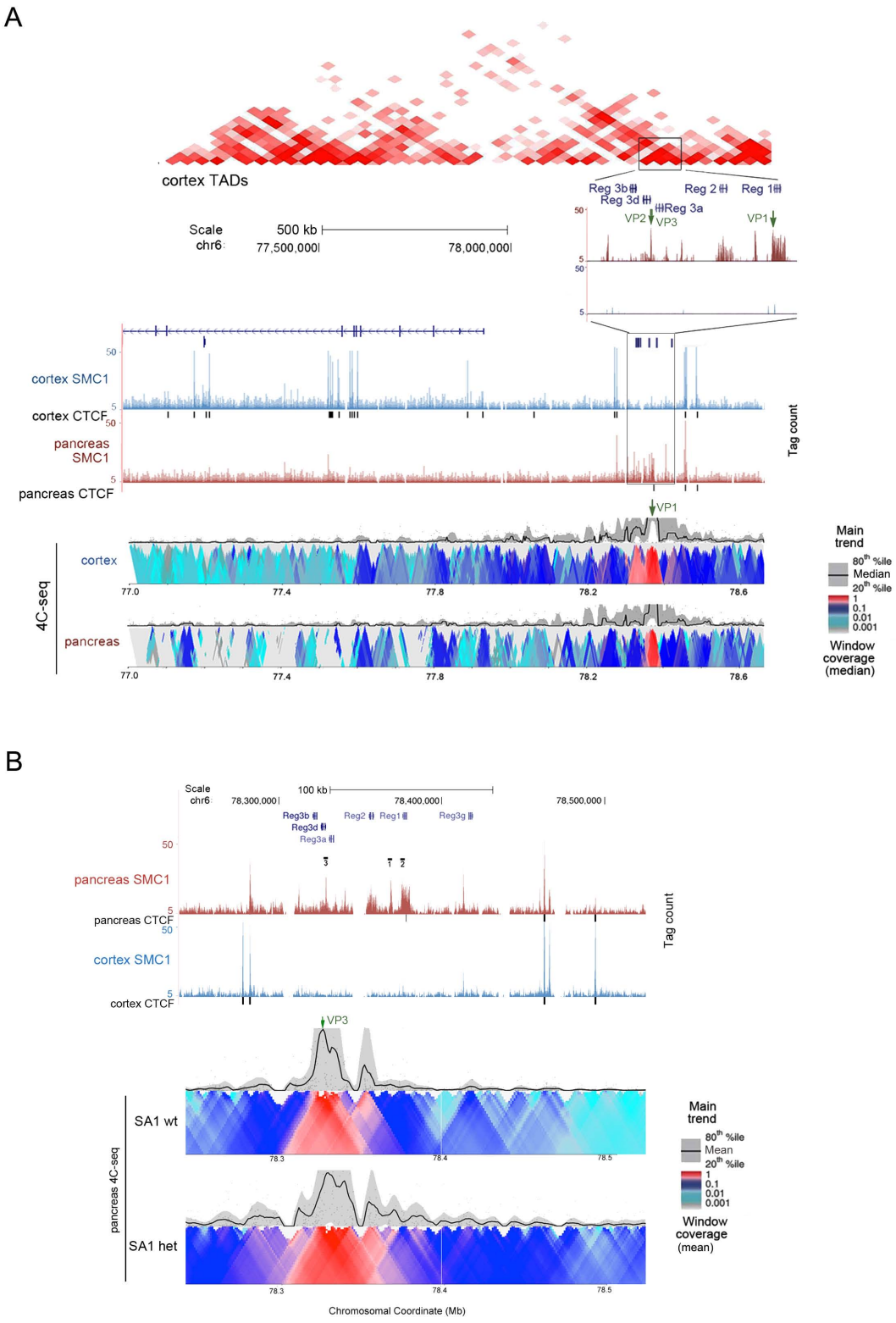
Supplementary Figure 6



Supplementary Figure 7



Supplementary Figure 8



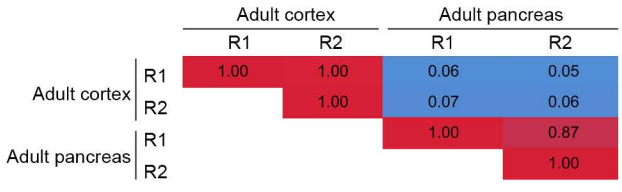
Supplementary Table 1

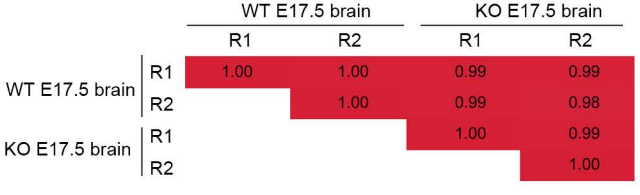
Sample	number of high quality reads	number of reads mapped confidently	% >=Q30 bases
Adult cortex SA1-R1	33,818,956	20,541,633	91.8
Adult cortex SA1-R2	24,682,590	14,582,474	93.46
Adult cortex SMC1-R1	25,537,112	17,030,699	91.79
Adult cortex SMC1-R2	26,536,313	17,118,575	90.55
Pancreas SA1-R1	28,794,370	17,665,345	92.68
Pancreas SA1-R2	29,516,813	15,602,587	92.31
Pancreas SMC1-R1	28,749,095	17,097,086	92.59
Pancreas SMC1-R2	26,563,391	17,162,606	93.35
Adult cortex RNAPolII-R1	30,695,965	19,854,150	93.31
Adult cortex RNAPolII-R2	32,447,541	20,257,000	90,99
Pancreas RNAPolII-R1	28,749,095	17,097,593	92,59
Pancreas RNAPolII-R2	28,589,102	17,893,919	93,59
Wt E17.5 brain SA1-R1	29,971,657	22,751,484	93.49
Wt E17.5 brain SA1-R2	29,049,790	22,153,369	93.73
Wt E17.5 brain SMC1-R1	28,114,678	20,844,222	93.32
Wt E17.5 brain SMC1-R2	30,203,540	22,749,306	93.44
KO E17.5 brain SMC1-R1	28,867,492	21,168,531	93.48
KO E17.5 brain SMC1-R2	29,489,828	21,760,544	93.62
Input	51,199,644	38,671,091	89.48

Supplementary Table 2

Sample	number of high quality reads	number of reads mapped confidently	% >=Q30
Adult cortex-R1	27,436,953	20,286,883	89.28
Adult cortex-R2	29,471,209	21,938,367	89.43
Adult pancreas-R1	30,199,492	14,368,918	90.93
Adult pancreas-R2	26,662,277	12,539,268	91.2
WT E17.5 brain-R1	25,526,019	20,060,898	93.82
WT E17.5 brain-R2	21,367,106	16,826,595	93.67
KO E17.5 brain-R1	26,830,768	20,995,075	94.22
KO E17.5 brain-R2	24,153,837	18,571,885	94.05

Supplementary Table 3





Supplementary Table 4

Cortex specific genes

gene	Cortex (FPKM)	Pancreas (FPKM)	log2 (fold change)	FDR
Snap25	1360.81	0.628987	11.0791	0
Nrgn	702.245	0	1.7977E+308	1.19908E-40
Gm17364	664.469	0	1.7977E+308	5.14533E-08
Prkar1b	606.725	1.79535	8.40064	4.06398E-09
Stmn3	530.815	0.40822	10.3446	3.2849E-09
Ckb	468.244	1.56519	8.22478	0
Ndrg4	467.652	0.68778	9.40927	2.70247E-11
Zfp365	462.538	2.03384	7.82922	0.00192371
Camk2a	454.391	0.107039	12.0516	7.7393E-09
Dlg4	454.052	1.50448	8.23745	0.00140349
Cck	452.888	0	1.7977E+308	0
Olfm1	451.792	0.687617	9.35984	0
Gpm6a	443.704	2.66039	7.38182	0
Trbj2-3	396.531	0	1.7977E+308	0.0129113
Mt3	390.413	1.6077	7.92386	3.15892E-10
Pcp4	366.161	0.372935	9.93934	0.00108261
Nrsn1	360.089	0.15737	11.16	1.23807E-06
Gnao1	352.926	1.88588	7.54799	0
Sncb	348.013	0	1.7977E+308	0
Hpca	347.777	1.71895	7.66049	8.03765E-14
Eef1a2	341	0.168002	10.9871	1.98022E-06
Cplx1	328.164	0	1.7977E+308	0
Slc1a2	325.485	2.47746	7.03759	4.05076E-12
Gabbr1	324.789	2.25347	7.17121	8.27455E-05
Atp1a3	323.064	0.193925	10.7021	1.52923E-11
Vsnl1	317.396	0.153468	11.0141	2.77654E-10
Uchl1	315.995	1.00758	8.29286	0
Mobp	313.819	0.110463	11.4721	4.33543E-11
Plp1	313.795	0.505225	9.27868	1.13102E-10
2610017I09Rik	307.444	0	1.7977E+308	4.98962E-45
6330527O06Rik	307.073	0	1.7977E+308	0
Rgs4	304.31	1.88926	7.33158	0
CT030685.2	293.353	0	1.7977E+308	0.00130439
Slc17a7	277.848	0.118959	11.1896	9.47E-08
Dnm1	275.614	2.18356	6.97983	0
Syt1	270.631	0.14428	10.8732	3.05764E-14
Rapgef4	268.828	1.74695	7.2657	6.52401E-08
Pfn2	265.276	1.96325	7.07811	0
Atp6v1g2	265.09	1.85164	7.16153	8.2766E-10
Kif5a	263.761	0.180432	10.5136	0

Kcnab2	219.374	1.59806	7.10092	0.000165957
Ncald	216.776	2.91992	6.21413	0
SNORD91	214.014	0	1.7977E+308	1.96837E-05
Fez1	201.519	2.06917	6.60572	3.24186E-08
Gabra1	199.582	0.0592909	11.7169	1.61429E-11
Stmn2	198.238	1.66625	6.89449	0
Mapk10	195.377	1.06715	7.51636	0.0284786
Tagln3	183.793	0	1.7977E+308	0
Cx3cl1	178.788	0.560274	8.3179	0
Arpp21	178.253	1.23149	7.17737	0
Ctxn1	177.991	0.318227	9.12754	1.69949E-05
Nsg2	173.781	0	1.7977E+308	0
Tubb4	171.591	0.743438	7.85055	0
Syt11	169.922	1.09732	7.27474	0
Gm13706	169.166	0	1.7977E+308	0
Pak1	168.656	1.30798	7.0106	0
Phyhip	166.707	0.288818	9.17294	0
Ptn	165.985	1.96683	6.39904	4.45519E-13
AC084162.1	165.716	0	1.7977E+308	0.00221511
Sult4a1	162.734	0	1.7977E+308	0
Prkcb	160.553	2.83316	5.82449	3.73464E-05
Cplx2	159.145	1.55257	6.67954	0
Stxbp1	157.822	1.73586	6.5065	0
Psd	155.777	0.570177	8.09385	0
Npy	152.847	0.727366	7.71519	1.45196E-05
Basp1	149.961	0.699149	7.74477	0
Hpcal4	149.108	0	1.7977E+308	0
Nrn1	148.617	0.620687	7.90352	1.04485E-12
Clstn3	148.581	0.779597	7.5743	0.0015131
SNORD113	146.484	0	1.7977E+308	0.00879496
Gm12892	145.115	0.805491	7.49311	1.02333E-11
Atp6v0e2	144.415	2.09012	6.11049	0
Enc1	144.263	2.47234	5.86668	0
2900011O08Rik	143.932	0.254519	9.1434	0.000401154
Dos	143.707	1.32446	6.76158	1.26207E-05
Mllt11	142.372	1.45804	6.60949	0
6330403K07Rik	139.856	0.342444	8.67386	4.49922E-08
Nap1l5	139.52	0.407612	8.41906	2.90024E-12
Gad1	138.954	2.81171	5.62701	0.00518986
Fam107a	137.026	1.23137	6.79804	9.11655E-06
Glrb	132.41	0.316906	8.70674	1.60716E-12
Nell2	130.866	0.0308739	12.0494	0.0195705
AC165162.1	127.993	0	1.7977E+308	0.0397092
Napb	125.007	0.237096	9.04232	7.20281E-11
Phactr1	124.396	0.906819	7.09991	0
Baalc	123.407	0	1.7977E+308	0

3110035E14Rik	123.222	0.124684	9.94877	3.19424E-08
Atp1a2	122.373	1.3511	6.50101	0
Snord42b	121.043	0	1.7977E+308	0.0365186
Rab6b	119.939	1.32317	6.50216	0
Stx1a	117.288	2.68753	5.44763	0
Fam131a	115.267	2.03943	5.82067	0.0162823
Dclk1	114.431	0.79866	7.16268	0
Ppp2r2c	114.157	0.0684411	10.7039	8.97741E-10
Adap1	113.468	1.45768	6.28247	1.98022E-06
Apbb1	113.34	1.28485	6.46291	0
Atp1b2	112.72	1.5499	6.18442	1.33718E-15
Nefl	111.462	0.0836798	10.3794	2.99669E-09
Mef2c	108.165	1.39774	6.27399	0
Ngef	105.317	2.05956	5.67626	1.3296E-13
Homer1	104.796	2.16925	5.59424	0
Fbxl16	104.175	1.77917	5.87167	0
SNORD107	103.708	0	1.7977E+308	0.0404771
N28178	103.265	0.471181	7.77585	0.00311053
Slc22a17	103.264	2.15092	5.58523	0
Mmd	102.524	1.79946	5.83226	0
Acsl6	101.563	2.3717	5.42031	2.94221E-07
Gng13	101.089	0	1.7977E+308	0
Sez6l2	99.5256	2.12897	5.54684	2.77891E-06
Pdp1	99.2632	2.54735	5.28419	0
Ddn	99.0371	0	1.7977E+308	0
Pvalb	98.6918	0	1.7977E+308	0
Gap43	98.6198	0.475306	7.69688	1.50346E-05
Tmem59l	98.3374	0.59435	7.37028	2.27005E-11
Sh3gl2	95.989	0.352503	8.08909	1.15602E-12
Phyhipl	95.4558	0.367475	8.02104	2.00596E-10
Sv2b	95.1837	0.033737	11.4622	0.00480143
Ttc9b	93.9266	0	1.7977E+308	0
Trnp1	93.6591	1.33851	6.12872	2.10925E-06
Lrp11	92.0198	1.26227	6.18785	0
Cend1	92.0003	0.369003	7.96186	2.40994E-07
AL663027.1	91.916	0	1.7977E+308	0.0368755
Mras	91.2277	0.70859	7.00838	4.08252E-06
Rab15	91.1028	0.128922	9.46485	1.50103E-07
Slc6a17	89.6989	0.618202	7.18087	0.00608213
AL672259.1	88.4841	0	1.7977E+308	0.0112673
Ntm	88.4566	2.72983	5.01809	0.000258693
Itpr1	88.4411	2.23443	5.30674	0
Cdk14	87.9887	1.47874	5.89487	0
Lynx1	87.2553	1.41351	5.94789	0
Scamp5	86.0576	1.11007	6.27658	0
Syn2	85.5581	2.38995	5.16185	0

Camkv	85.3035	0.155546	9.09912	8.80324E-09
Pla2g7	84.8681	2.25125	5.23642	0
Mal	84.7418	1.54026	5.78183	0.000285815
Gng3	84.4337	0.342702	7.94472	2.19505E-09
A030009H04Rik	83.5404	0.234112	8.47913	9.07573E-08
Rian	83.5351	2.04109	5.35497	0
Fam171b	82.2249	0.120362	9.41606	1.07337E-13
Khdrbs3	81.8253	1.13426	6.17273	0
Elmod1	81.7243	0	1.7977E+308	0
Zcchc18	81.723	0.668091	6.93455	3.23418E-13
Epb4.9	81.4166	0.682457	6.89844	0
Dkk3	81.3902	1.43896	5.82176	0
Sept3	80.6077	0.0971838	9.69599	7.58235E-10
Brsk1	80.2082	0.583309	7.10334	0
Tceal3	80.0377	1.54711	5.69303	0.00291847
Dnajc6	79.0363	1.569	5.6546	2.81126E-06
Atp2b2	78.8671	0.174915	8.81663	1.20853E-13
Gm17505	78.3764	0	1.7977E+308	0.0186283
Cap2	78.3453	0.144558	9.08206	1.85241E-05
Fxyd7	77.1521	0.549968	7.13221	6.72016E-05
Pgm2l1	76.7723	1.67067	5.52209	0
Gnb5	75.6528	1.24062	5.93026	1.19973E-06
Kalrn	75.2347	1.82206	5.36776	0
Gjb6	74.8621	0	1.7977E+308	3.5855E-22
SNORD113	74.4966	0	1.7977E+308	0.0448642
Mtap1a	74.4662	0.214847	8.43714	0
Gm14480	74.3939	1.39937	5.73233	0.00933999
Spock2	74.276	2.19406	5.08122	0
Syt4	74.0337	0.177187	8.70676	3.36794E-12
Rasgrp1	73.6512	0.54705	7.07289	0
Spnb3	73.6116	2.64631	4.79788	0
AC102815.1	73.0969	0	1.7977E+308	0.0275794
Extl2	70.8821	2.66714	4.73205	2.53356E-13
Nrxn2	70.7713	1.59958	5.4674	0.000154406
Rell2	70.0679	1.40644	5.63864	0.00262849
Caly	69.9362	0.343415	7.66994	0.000742982
Ttll7	69.7429	1.90651	5.19304	0
n-R5s202	69.5807	0	1.7977E+308	0.000672347
Sv2a	69.3503	0.985471	6.13694	1.35722E-06
Luzp2	68.8262	0	1.7977E+308	0
Tubb2b	68.7908	2.25001	4.93421	0
Rims1	68.6417	0.843659	6.34628	0
Fgf13	68.5081	0	1.7977E+308	2.83332E-22
Ncs1	68.5039	0.727849	6.5564	0.005089
Cadm2	68.1533	0.0158106	12.0737	0.000319688
Lin7b	67.6342	0.796622	6.40771	0.0420702

Hlf	67.6089	0.620335	6.76802	2.49865E-06
Serp2	67.0177	0	1.7977E+308	0
Gria1	66.5307	0	1.7977E+308	0
Ephx4	66.2216	0.706188	6.55111	3.22051E-09
Faim2	65.4852	0.379728	7.43006	0
Cnih2	65.2898	0	1.7977E+308	0
Syt13	65.1314	1.69493	5.26405	0
C530028O21Rik	64.9071	1.65114	5.29685	1.65597E-09
Dtx3	64.5461	1.55926	5.3714	0.0280652
Wdr47	64.1515	2.66519	4.58917	9.4143E-09
Gng2	63.0678	2.26018	4.8024	0.0023157
Cdk5r2	62.9733	0	1.7977E+308	0
Dlg2	62.6842	0.866679	6.17646	0
Lypd1	62.554	0.965412	6.01781	1.35364E-11
Car11	61.8793	2.90306	4.41381	0
Diras2	61.7653	0.229758	8.07054	0
Mpped1	61.5199	0	1.7977E+308	0
Syt5	61.5074	0.634305	6.59944	2.76417E-11
Cntn1	61.1655	0.196363	8.28305	7.92845E-13
Cacnb4	61.1182	0.119462	8.99891	1.04114E-14
Ptprn	61.0587	1.00785	5.92084	0
Rbfox3	61.0104	0	1.7977E+308	0
Nol4	60.9049	1.08426	5.81178	0.00086956
U6	60.8485	0	1.7977E+308	0.00508487
Celf4	60.4256	0.347384	7.44249	0
Rph3a	60.3183	0.24891	7.92083	0
Pex5l	60.1644	0.284017	7.72679	1.69506E-05
Sgtb	60.0889	1.03725	5.85626	1.63187E-07
Rasl10b	59.6727	0.165379	8.49515	2.01728E-07
Necab3	59.58	0	1.7977E+308	0
Nrxn1	59.1637	0.221325	8.0624	2.33019E-11
Cacnb3	58.9543	1.29348	5.51027	0
Hmgn3	58.9032	2.53731	4.53697	1.67634E-08
Nrcam	58.4547	0.0458747	10.3154	0.002671
Camk2g	58.2272	2.12043	4.77926	0
Impact	58.021	0.820467	6.14399	0
Dnajb5	57.8948	0.930959	5.95857	0
Kifc2	57.0227	0.853269	6.06239	0
Snca	56.9091	0.889696	5.9992	1.32992E-06
Fabp3-ps1	56.7363	0	1.7977E+308	0
Agap2	56.5815	0.154312	8.51834	1.503E-11
Slc12a5	56.5158	0.176063	8.32641	0.00271597
Fabp3	56.5151	0.305307	7.53223	0.00465889
Car2	56.302	1.02551	5.77877	1.33718E-15
Gpr37l1	56.2933	0.128618	8.77373	6.67711E-07
Cspg5	56.0788	0	1.7977E+308	0

Fmnl1	55.9239	2.25888	4.62978	0.000920569
Egr1	55.6691	0.5608	6.63325	0
Gm14703	55.5434	0.474171	6.87206	2.83189E-10
Dbc1	55.0922	0	1.7977E+308	0
Myh10	54.9231	1.93754	4.82511	0.00141181
Snord35b	54.7635	0	1.7977E+308	0.0427276
A830010M20Rik	54.6596	0.710748	6.26499	3.30524E-13
Acsbg1	54.5131	0	1.7977E+308	0
Matk	54.4567	0.110924	8.93939	3.88959E-07
Nefm	54.3127	0.0849081	9.32117	1.14522E-07
Spock1	54.2983	0.423028	7.00401	0.000742734
Gria2	54.0772	0.0400656	10.3984	0.00027866
Psd3	53.5812	1.13599	5.5597	0
Ppp2r2b	53.5705	0.749729	6.15893	2.83054E-13
Bcas1	53.4971	0.96196	5.79734	0.000173563
Apbb2	53.4803	2.60255	4.36101	8.84142E-07
S100b	52.8998	0	1.7977E+308	0
Slc39a10	52.8256	1.01267	5.705	0
Rufy3	52.6682	2.8345	4.21576	0
Rasgef1a	52.4003	0.215992	7.92245	4.48852E-08
Lingo1	52.3604	0	1.7977E+308	0
Ablim2	52.3434	2.40122	4.44617	0.000953279
Flywch1	52.143	2.18095	4.57944	0
Gucy1b3	51.9995	0.712092	6.19029	0
Dock3	51.2374	0.405083	6.98283	0
Syngr3	51.2241	0	1.7977E+308	0
Mapk8ip2	50.7612	0.136856	8.53493	1.42369E-14
Cdk5r1	50.7382	0	1.7977E+308	0
Pdxp	50.4123	0.935819	5.7514	0
Pkia	50.3883	1.5097	5.06075	0
Arc	50.3667	0.191306	8.04044	1.53826E-07
Rgs7	50.1621	0.645328	6.28042	8.09887E-06
Nptxr	50.1215	0.247748	7.66041	0.0399562
Gabrb2	49.6989	0.0878439	9.14406	2.38945E-13
Gprasp2	49.4775	1.55727	4.98968	0.0122533
Atl1	49.2848	0.520172	6.56601	0
Svop	49.1767	0	1.7977E+308	0
Syne1	49.1431	1.22137	5.33041	0
Stk32c	48.8638	0.645058	6.2432	4.6632E-10
Omg	48.7619	0	1.7977E+308	0
Arhgef4	48.6215	1.12726	5.4307	3.63624E-09
Chst1	48.4458	0.876058	5.7892	0
Lpcat4	48.4229	0.472887	6.67805	1.43407E-11
Snn	48.4142	1.65999	4.86618	0
Cyp46a1	47.8026	0	1.7977E+308	0
Ntrk2	47.7759	2.62002	4.18863	0

Wasf1	47.7747	0.407317	6.87395	3.87926E-10
Mlc1	47.6441	0.103002	8.85349	0.000424786
Slc24a2	47.4777	0.0427415	10.1174	6.41555E-08
Ephb6	47.3912	1.10592	5.4213	0.000309218
Lmbr1	47.2437	0.666972	6.14635	6.60949E-13
Myl4	47.2435	0.571709	6.36869	0.0495125
Actr3b	46.9316	0.296523	7.30627	0.000210743
Gm10337	46.8	0	1.7977E+308	2.28078E-07
Nap1l2	46.3919	0.194418	7.89857	7.21066E-07
Rasgrf2	46.291	0.854904	5.75882	0.00343271
St3gal5	45.9272	1.38649	5.04983	0
Amph	45.9114	0.277032	7.37266	8.57882E-11
Slc6a1	45.7836	0.065029	9.45953	7.3766E-08
Fam115a	45.7646	1.54704	4.88665	0.000186496
Scn2b	45.6138	0.273063	7.38409	2.65507E-15
Olfm2	45.2402	0.734347	5.945	1.43848E-13
C1qtnf4	45.1377	0	1.7977E+308	0
Pgbd5	45.1066	0	1.7977E+308	0
Rusc2	44.9804	2.69199	4.06255	0.0114558
Dlgap3	44.9681	1.25801	5.15969	0
6430704M03Rik	44.8553	0.147718	8.24629	0
Fbxo44	44.818	0.891975	5.65093	4.05402E-09
Tmem151a	44.8147	0.257804	7.44155	6.17948E-14
Calb1	44.2833	0	1.7977E+308	0
Lphn1	43.9998	2.5115	4.13088	2.28469E-05
Negr1	43.9754	0.163178	8.07411	1.5777E-09
Cacng3	43.9301	0	1.7977E+308	0
AC163349.1	43.7578	0	1.7977E+308	0.00863129
Mtap7d2	43.5769	0.126896	8.42377	1.52423E-05
Pacsin1	43.4174	0.183909	7.88314	0.0012732
Cpne9	43.3612	0.0859503	8.97869	0.000076652
6030419C18Rik	43.3479	0.648656	6.06236	0.000186866
Ube2ql1	42.9735	0	1.7977E+308	0
Cbx8	42.3956	0.676401	5.96989	0.0447778
Gabrb3	42.3802	0.360724	6.87635	0.0129889
Tmcc2	42.3166	1.07453	5.29944	6.54789E-07
Ank2	42.2297	0.485766	6.44185	0
Slc2a3	42.2069	0.234959	7.48892	0
Palm	42.0228	1.81087	4.53642	0
Ppp1r1a	41.9507	1.82681	4.5213	2.5056E-12
Golga7b	41.9036	0.377688	6.79374	2.33785E-07
Acap3	41.8871	2.08224	4.3303	1.44326E-07
Synpr	41.7889	0.27837	7.22997	1.57921E-08
Nptx1	41.7526	0.175538	7.89394	1.16511E-12
Car10	41.6954	0.894435	5.54277	0
Tceal6	41.6741	0.596491	6.12651	0.0009523

Dpp10	41.5963	1.11468	5.22176	0.000150181
Sprn	41.5411	0.0617335	9.39427	0.00020206
Gm13306	41.4873	2.26731	4.19362	0.0281636
Cldn11	41.4177	0	1.7977E+308	0
Vamp1	41.1754	1.01718	5.33914	1.03691E-11
Gabbr2	41.1257	0.117688	8.44893	3.11418E-11
Gria3	41.0244	1.60007	4.68028	0
Tmx4	40.9295	2.05578	4.31538	0
Sgip1	40.8081	2.50115	4.02819	0
Rtn2	40.6261	0.612476	6.05161	5.12794E-05
Tmem178	40.5295	0.126913	8.31899	0.00204246
6030419C18Rik	40.5289	0	1.7977E+308	0
Tmod2	40.1629	0.832297	5.59262	0
Gpr162	40.0414	0	1.7977E+308	0
Rnf112	39.9711	0.188457	7.72858	0.000316952
Epdr1	39.8843	1.83132	4.44487	0
Ptprs	39.283	1.9982	4.29713	8.44352E-11
Abi2	39.2155	1.43859	4.7687	0
Lsamp	39.1758	0.813199	5.59021	0.0246981
Cnksr2	39.0063	0.0160163	11.2499	0.0480676
Ntsr2	38.9982	0	1.7977E+308	0
Ptpn5	38.9407	1.13245	5.10376	0.00191468
Lgi1	38.6482	0.389815	6.63147	0
Scn2a1	38.5689	0.0391499	9.94421	0.000104353
Adcy1	38.2802	0	1.7977E+308	0
Ina	38.2731	0.0959501	8.63983	2.01113E-07
Sfxn5	38.0643	2.37057	4.00514	0
Pcp4l1	38.0132	1.57788	4.59044	3.28188E-13
Ankrd13d	37.7911	0	1.7977E+308	0
Rasgrf1	37.6607	0.0809497	8.86182	3.05912E-05
Arhgef25	37.6412	1.3815	4.76801	0
Rnf208	37.5142	2.16137	4.11742	0.000179771
Lrrc4c	37.4134	0.160616	7.86379	0.000104744
Vgf	37.2638	0	1.7977E+308	0
Bai1	37.2157	0.0491672	9.564	7.02384E-05
Scrn1	37.1884	1.01706	5.19238	0
Efha2	37.0503	1.77891	4.38042	0
Nnat	36.9686	0.519176	6.15393	0.00106864
Mtap1b	36.9279	0.605446	5.93057	1.33718E-15
Crhr1	36.9193	0	1.7977E+308	2.12614E-13
Adcy2	36.617	0.412298	6.47268	0
Ap3m2	36.4942	1.33518	4.77256	0
Ap3b2	36.4346	0.520915	6.12812	1.40563E-06
Abcc5	36.416	1.69695	4.42355	1.74491E-08
Dusp14	36.2278	0	1.7977E+308	0
Rab3b	36.1937	0	1.7977E+308	0

Gm13390	36.1225	0	1.7977E+308	0.000414584
Nkain2	35.9799	0	1.7977E+308	2.38863E-13
AI593442	35.669	0	1.7977E+308	0
Sphkap	35.6167	0.644889	5.78736	0
Rgs7bp	35.57	0.0965057	8.52583	1.1365E-11
Cds1	35.2134	1.22354	4.84699	0.00555094
Snph	35.2002	0.207318	7.40759	3.81001E-08
Gm2506	35.0573	2.00613	4.12723	0.0378159
Rit2	35.0091	0	1.7977E+308	0
Pnmal2	35.0026	2.17466	4.0086	0
Kcnq2	34.9908	0.217372	7.33067	0
Anks1b	34.7102	0.998724	5.11913	0
Nat8l	34.6206	0.103612	8.3843	2.16597E-11
Vip	34.6017	0.871491	5.31121	4.32643E-06
Slc7a10	34.4958	0.140923	7.93537	0.00144554
Vstm2a	34.4917	0.429113	6.32875	8.03736E-07
Kcnip4	34.3357	0.496342	6.11223	0.0449846
Galnt9	34.2423	0	1.7977E+308	0
Gabrd	34.2157	0	1.7977E+308	0
Mmd2	34.1218	0.210861	7.33826	5.69449E-09
Evl	34.102	2.06609	4.04489	0
Fbxo2	34.0457	0	1.7977E+308	0
Pnmal1	33.8509	0.219278	7.27029	0.00075381
2310028H24Rik	33.8155	1.88855	4.16233	0.0042809
1500009C09Rik	33.7658	0.200684	7.3945	0.00387743
Kif3c	33.6459	1.63382	4.36411	0
Elavl4	33.612	1.29656	4.69621	0.0103852
Jph3	33.5779	0.196784	7.41476	7.58678E-05
Edil3	33.5195	0.169886	7.62429	2.5793E-09
Reep2	33.4688	0.267539	6.96692	0.000014463
Fam19a5	33.3364	1.81305	4.2006	1.24787E-11
Arnt2	33.2417	0.30431	6.77131	0
Cnih3	33.2327	0	1.7977E+308	0
Cacna2d1	33.1942	0.710391	5.54618	5.67985E-09
Tmem47	32.9783	1.17696	4.80838	0
Epb4.1l3	32.6965	0.702069	5.54138	0
Dync1i1	32.6479	0	1.7977E+308	0
Kcnv1	32.6111	0	1.7977E+308	0
Dpysl2	32.4908	0.824654	5.3001	0
Sipa1l1	32.3467	0.737541	5.45475	0
Cntfr	32.2946	0.838808	5.26681	0.00131657
St8sia3	32.293	0.0306587	10.0407	0.00010341
Mmp17	32.0221	0.231649	7.11099	1.1676E-10
Actl6b	31.9744	0	1.7977E+308	0
Ctnna2	31.6944	0	1.7977E+308	0
Fam131b	31.6761	0.232245	7.0916	1.91681E-07

Agpat4	31.6056	1.13777	4.7959	2.69694E-05
Ggt7	31.5383	0.500804	5.97672	0.000031282
Lrrc49	31.4889	0.981042	5.00439	0.000365242
Lrrtm3	31.4747	0	1.7977E+308	0
Crmp1	31.4093	0	1.7977E+308	0
Aatk	31.3064	1.53386	4.35122	0.0346529
Neurod6	31.2161	0	1.7977E+308	0
Npcd	31.2092	0.639855	5.60808	0
Jph4	31.1758	0.466431	6.06262	1.02436E-13
Tmem130	31.1705	0	1.7977E+308	0
Ipcef1	31.084	0.0348657	9.80015	0.000209721
Cpne5	31.0717	0.0835406	8.53891	4.0634E-10
Ak5	31.0556	1.18596	4.71073	0
Elavl2	30.9443	0.126852	7.93038	0.000512286
Tmem132a	30.8671	0.785174	5.29691	0
Speg	30.7918	0.28908	6.73494	0.0383619
Rims3	30.6522	0.152799	7.64821	5.28224E-12
Elmo1	30.6236	1.2182	4.65182	1.04114E-14
Kcnj10	30.574	0	1.7977E+308	0
Fndc4	30.5605	0.679416	5.49123	1.75402E-06
Osbp2	30.5062	0.352706	6.43449	8.8515E-09
Ccl27b	30.4032	1.80254	4.07612	0.0255632
Pde1b	30.3761	0.124982	7.92507	0.00244486
Dpp6	30.3437	0.164459	7.52752	7.42779E-08
Btbd10	30.2375	1.74546	4.11466	0
Bcat1	30.1804	0.4419	6.09375	3.18861E-05
Nos1ap	30.1131	1.03848	4.85784	0.00346503
AL603828.1	30.0901	0	1.7977E+308	0.0329548
Bcan	29.9279	0	1.7977E+308	0
Stac2	29.7343	0.114326	8.02283	0.000179003
Ncam1	29.6951	0.619963	5.5819	0
Cmtm5	29.4787	0.620796	5.56941	0.0117666
A830039N20Rik	29.3476	0	1.7977E+308	0
Prkcc	29.2915	0	1.7977E+308	0
Lmo3	29.2889	0	1.7977E+308	0
Gfap	29.2869	0.0779034	8.55435	0.00113092
Garnl3	29.2445	0.593539	5.62268	0
2610524H06Rik	29.0289	0.550091	5.72167	0.000030152
6530418L21Rik	29.0004	0.213469	7.0859	2.82502E-05
Susd4	28.987	0.695913	5.38035	0.00637806
Scrg1	28.9365	0.532363	5.76434	0.0015355
Pcdha11	28.9229	0.174244	7.37496	2.87989E-09
Rasal1	28.9055	0.146188	7.62737	0.000107507
Tspan2	28.8814	1.03917	4.79664	7.44903E-06
Nlgn2	28.8305	0.429379	6.0692	0
Syt7	28.822	0.654494	5.46065	0

Trim2	28.7501	1.7071	4.07395	0
L1cam	28.682	0.678107	5.40249	0.021734
Ppp1r9a	28.6789	0.782019	5.19664	0
Ppfia3	28.6547	0.404694	6.14579	0
Gm14290	28.5792	0.259958	6.78054	2.57475E-05
B3galnt1	28.3964	1.02475	4.79237	2.44895E-12
Kcnj3	28.3737	0.179932	7.30096	4.29382E-05
Spire1	28.3524	0.55796	5.66717	0
Pde4b	28.1314	0.892311	4.97849	1.33718E-15
Slc8a2	28.0089	0.259102	6.75622	9.21241E-10
Tmem90b	27.9404	0.119861	7.86485	0.0114511
Slc25a18	27.9259	0	1.7977E+308	0
Spock3	27.779	1.26477	4.45705	0
Tmem14a	27.708	1.57011	4.14137	7.90466E-08
Vstm2l	27.579	1.08017	4.67424	0.000272786
Cbln2	27.5016	0.515955	5.73613	3.02706E-06
Adam22	27.4604	0.529016	5.6979	5.08866E-07
Dact3	27.0937	0.167562	7.33712	4.59234E-06
Jakmip1	27.03	1.5752	4.10095	1.55657E-07
Hspa12a	27.0034	0.235546	6.84099	0
Pdzd4	26.9823	0.402966	6.06521	4.00838E-13
Rab3c	26.9146	0.200345	7.06976	1.05887E-05
Cacng7	26.8615	1.09434	4.61741	2.53356E-13
Magee1	26.8325	0.393734	6.09062	1.93388E-13
B3gat1	26.7472	0	1.7977E+308	0
Cpne6	26.6551	0.11588	7.84564	8.45687E-07
Trim9	26.6042	0.185235	7.16615	2.90941E-07
Mog	26.5366	1.07852	4.62085	4.43658E-06
Nrip3	26.5013	0	1.7977E+308	0
Asphd2	26.4534	0	1.7977E+308	0
Syt16	26.3432	0.119814	7.78049	0.00133647
Gfra4	26.2287	0	1.7977E+308	0
Reep1	26.0057	0.0714553	8.50757	0.0000015
Camk4	25.8198	0.0756959	8.41404	1.33718E-15
Camkk1	25.671	1.08497	4.56442	2.24502E-11
Cacnb1	25.4866	0.314381	6.34108	3.38234E-07
Paqr8	25.2366	0.173352	7.18567	1.11602E-10
Diras1	25.2165	0	1.7977E+308	0
Ccdc85a	25.1674	0.445651	5.8195	2.65507E-15
Gm13588	25.0934	0	1.7977E+308	0.00804658
Gmpr	24.9724	0	1.7977E+308	0
Epha4	24.9013	0.254204	6.61409	0
SNORA40	24.8859	0	1.7977E+308	0.0221433
Kcna6	24.8423	0.322505	6.26734	9.99279E-06
Cttnbp2	24.7891	1.27446	4.28175	0.00424636
Gdap1l1	24.7685	0.614959	5.33187	1.17082E-05

Mag	24.6604	0	1.7977E+308	0
Prmt8	24.6516	0	1.7977E+308	0
Tmem179	24.599	0.299894	6.35801	8.37841E-07
Nmnat2	24.5534	0	1.7977E+308	0
Satb1	24.531	0.835402	4.87599	0.0370358
6330403A02Rik	24.4224	0.100616	7.92321	4.26979E-10
Gria4	24.1776	0.17754	7.08938	2.49465E-06
Lrrc4b	24.1019	0.17419	7.11234	9.18977E-06
D3Bwg0562e	24.0191	0.118695	7.66078	2.01885E-09
Dner	23.9709	0.0949927	7.97925	0.00019558
Slc1a1	23.9436	0.0755912	8.30721	0.00206079
Hivep2	23.8916	1.13998	4.38942	0
Gdap1	23.7098	0.144877	7.35451	5.93871E-09
Gabra2	23.6672	0	1.7977E+308	0
P4htm	23.5229	0.810502	4.85911	6.263E-09
Erc2	23.4508	0.791859	4.88825	0
Numbl	23.4383	0.310415	6.23853	7.29728E-10
Neurl1a	23.3388	0.269793	6.43473	1.69044E-10
Atp8a1	23.3218	0.338123	6.10799	4.91865E-13
Cnrip1	23.2407	0.628005	5.20973	0.00327376
Csdc2	23.133	0.576886	5.32552	1.59156E-10
Dgkb	23.0722	0.211405	6.77	6.34028E-11
C1ql3	23.0256	0	1.7977E+308	0
Prickle2	22.873	0.498759	5.51916	0
Lhx2	22.8693	0	1.7977E+308	0
Slc30a3	22.8094	0	1.7977E+308	0
Ptbp2	22.704	1.41672	4.00233	0
Cntnap2	22.6841	0.208537	6.76523	3.95629E-05
Kcnj4	22.6587	0	1.7977E+308	0
Rragb	22.6373	0.8559	4.72511	1.60742E-10
Slco1c1	22.6101	0	1.7977E+308	0
Fndc5	22.4924	0.468526	5.58517	8.5118E-10
Clvs2	22.4443	0	1.7977E+308	3.49022E-22
Ddx25	22.3995	0.29856	6.22931	0.000119534
Dnajc27	22.3883	0.473628	5.56285	1.93284E-12
Igfbp2	22.3521	0	1.7977E+308	0
Arxes2	22.346	1.02701	4.4435	3.73242E-06
Usp11	22.3212	0.398929	5.80614	1.55055E-12
Mtap6	22.273	0.55807	5.3187	7.08976E-11
Srgap3	22.0611	0.936859	4.55753	0
E130012A19Rik	21.9821	0	1.7977E+308	0
Nr2f1	21.9509	0.961966	4.51215	0.013515
Syt12	21.8986	0.348763	5.97245	7.99152E-11
Aqp4	21.8579	0	1.7977E+308	0
Icam5	21.792	0	1.7977E+308	0
Cntnap1	21.6383	0.543701	5.31463	0.00893257

Dio2	21.4658	0.12292	7.44818	6.77417E-10
Dzip3	21.4615	1.27195	4.07664	8.9103E-08
Shank1	21.3923	0.632377	5.08016	0
Gpr158	21.2569	0.0940691	7.81999	4.74525E-10
Rtn4r	21.2565	0.597971	5.15168	1.51037E-08
Necab1	21.2426	0.0440901	8.91229	0.000214326
Ddah1	21.0683	0.632227	5.05849	7.78953E-09
B230217C12Rik	20.9301	0	1.7977E+308	0
Prrt1	20.9209	0	1.7977E+308	0
Ano3	20.9056	0.197292	6.72741	0.000335566
Egr3	20.7574	0	1.7977E+308	0
Gprc5b	20.7163	1.27656	4.02044	0
Kcnip3	20.6466	0.622921	5.05071	5.38139E-06
Tbr1	20.4591	0.739016	4.79099	0.00379089
Gm9851	20.4175	1.20716	4.08012	8.74174E-13
Gfra2	20.377	0.550305	5.21057	0.000617247
Pcdh9	20.3755	0.533754	5.25451	0.00382008
Gfod1	20.3731	0.932231	4.44983	0
Dab1	20.3705	0.678732	4.90749	0.000075098
Shf	20.3567	0.441262	5.52772	0.000347824
Grm3	20.3432	0	1.7977E+308	0
Mtss1l	20.324	0.834184	4.60668	0.000171429
BC018242	20.3068	0.393504	5.68944	1.63794E-08
Kcnh3	20.2503	0.132869	7.25179	0.000232935
Cldn5	20.2414	0.78512	4.68825	4.23206E-06
Pdlim7	20.1979	0.942864	4.42101	1.70315E-07
Cacna2d3	20.1772	0	1.7977E+308	0
Slco1a4	20.1386	0.292608	6.10485	3.68049E-06
Lrrc4	20.1167	0.109001	7.52791	5.64985E-05
Gad2	20.0891	0	1.7977E+308	0
Tmem198	19.9915	0	1.7977E+308	0
Ogdhl	19.9646	0.271066	6.20265	3.24537E-08
Add2	19.8724	0	1.7977E+308	0
Mtmr7	19.8466	0.783239	4.6633	1.64384E-12
Gm17321	19.7895	0.729188	4.7623	2.932E-14
Sez6	19.7534	0.746044	4.7267	0.0129504
Abcd2	19.7399	0.879418	4.48842	1.7311E-06
Cnr1	19.7342	0.0341386	9.17508	0.000601374
Elovl4	19.6565	0.0932715	7.71936	1.43638E-05
St8sia5	19.6386	0.331002	5.89071	0.000882707
SNORA71	19.6295	0	1.7977E+308	0.0234434
Fam84a	19.6086	0.546337	5.16555	2.68432E-14
Ttll11	19.598	0	1.7977E+308	0
Astn1	19.5857	0.0975813	7.64898	1.74049E-05
Gprin1	19.5398	0.244861	6.31831	8.39273E-09
Rprml	19.5194	0	1.7977E+308	0

Bcl11a	19.4522	1.00798	4.27039	4.73216E-08
Hcn2	19.4455	0.225563	6.42976	1.48298E-05
Rasl11b	19.4346	0.826213	4.55597	5.69563E-08
Rab2b	19.4283	0.859586	4.49838	1.00907E-07
A830018L16Rik	19.3816	0.236069	6.35934	0.0072705
Tmem44	19.3737	0.635164	4.93083	2.09756E-06
Rasl10a	19.3358	0.891552	4.43881	0.00744906
Zmat4	19.1288	0	1.7977E+308	2.69096E-26
Nebl	19.1078	0.272337	6.13263	0
Kcnc1	19.0939	0.0722694	8.04551	0.00294024
Fkbp1b	19.0594	0.565369	5.07516	0.0020585
Nrsn2	19.0488	0	1.7977E+308	0
Ccdc106	19.0373	0.376223	5.6611	0.000234084
Fam5b	19.0313	0	1.7977E+308	0
Tro	19.0215	0.0763932	7.95997	3.85476E-05
Myt1l	19.0206	1.1431	4.05653	0
Crym	18.959	0.224959	6.39707	0.000391307
Hdgfrp3	18.906	0.602042	4.97284	0
SNORA48	18.899	0	1.7977E+308	0.00895144
Ppp1r16b	18.8854	0.626425	4.91399	0
Adam23	18.8385	0.687145	4.77692	7.19684E-13
Chst10	18.8192	0.0912875	7.68757	1.56569E-05
Elavl3	18.7455	0.0822756	7.83186	7.9099E-06
Ppp1r3c	18.671	0.75734	4.62371	2.48205E-12
Lgi3	18.5712	0.182265	6.67089	1.51684E-07
Ahi1	18.5314	1.09339	4.08309	0.000101138
Bhlhb9	18.5163	1.03964	4.15464	1.76758E-05
Rasgef1b	18.4831	0.815633	4.50214	3.53817E-12
Gnal	18.2483	0.733646	4.63653	0
Csrnp3	18.2477	0.176539	6.69158	0
Rasd2	18.2165	0	1.7977E+308	0
Snx32	18.1223	0.676743	4.74301	2.57542E-06
Kcna1	18.1105	0.185755	6.60728	0
Gpr22	18.0374	0.0431881	8.70614	0.0242776
Disp2	17.964	0.591195	4.92533	0
Fabp7	17.9436	0	1.7977E+308	0
Fhl2	17.7769	0.239068	6.21644	0.00449957
Tmeff2	17.7402	0.474498	5.22448	4.51411E-13
Lrfn5	17.6996	0.548478	5.01214	1.57258E-13
Ctnnd2	17.6785	0.196451	6.49168	1.48203E-11
Mtap9	17.653	0.331033	5.7368	0
Lrrtm2	17.6382	0.0850022	7.69699	2.09842E-07
Mgat3	17.62	0.219753	6.32519	1.88228E-10
Cdh2	17.5461	0.664486	4.72277	0
Neto2	17.5205	0.079784	7.77873	5.71021E-07
Olig1	17.5191	0	1.7977E+308	0

Fut9	17.5175	0	1.7977E+308	0
Asphd1	17.4612	0	1.7977E+308	2.55153E-46
Ank1	17.4411	1.0618	4.03791	0.000113928
Jakmip2	17.4152	0.940825	4.21027	0.0248117
Bai3	17.3377	0	1.7977E+308	0
Morn4	17.2982	0.743119	4.54088	8.21392E-07
Nap1l3	17.2526	0.686729	4.65093	5.1139E-13
Cacng8	17.2025	0	1.7977E+308	3.49456E-42
Bbs4	17.1874	0.648892	4.72723	2.71825E-11
Nr4a1	17.163	0.81264	4.40054	2.77506E-10
Trpc3	17.1585	0.126029	7.08903	1.18932E-05
Timp4	17.1097	0.35304	5.59884	0.000702637
Zfp239	17.0938	0.542975	4.97644	4.24152E-08
Coch	17.0858	0.394053	5.43826	1.50802E-05
5S_rRNA	17.0215	0	1.7977E+308	0.0368961
Ankrd45	16.9369	0	1.7977E+308	0
Panx2	16.9141	0.129787	7.02594	2.92698E-05
Syngap1	16.9098	0.142659	6.88915	0.00148034
Galntl1	16.8503	1.05043	4.00373	0
Unc13a	16.7767	0.0840055	7.64176	2.22706E-09
Ncoa7	16.7293	0.98353	4.08826	2.31861E-13
Tub	16.7104	0	1.7977E+308	0
Grik5	16.6886	0.968207	4.1074	0
Ehd3	16.6698	0.659273	4.66021	6.55141E-15
Hey1	16.5755	0.835947	4.3095	2.14483E-09
Kcnt1	16.5439	0	1.7977E+308	0
Chn2	16.5227	0.646369	4.67595	0.000379013
Gm11578	16.4882	0	1.7977E+308	1.73138E-30
Kcnf1	16.4316	0	1.7977E+308	0
Akap6	16.3732	0	1.7977E+308	0
snoU109	16.3441	0	1.7977E+308	0.0315984
Tiam2	16.3407	0.965588	4.08092	1.42369E-14
Tubg2	16.3199	0.733885	4.47493	1.47061E-07
Camk1g	16.288	0.582483	4.80545	9.11304E-09
Lonrf2	16.2369	0.974419	4.05859	0
Olfm3	16.2295	0.118117	7.10225	0.000162543
Fam163b	16.1917	0	1.7977E+308	0
Clec2l	16.1793	0.216891	6.22103	0.000581096
Slc6a11	16.1577	0	1.7977E+308	0
Pcdh7	16.116	0.303257	5.73181	2.01357E-11
Slc38a1	16.099	0.915698	4.13596	0
Pcdh10	16.0764	0	1.7977E+308	0
Chrm1	15.9855	0.20908	6.25656	6.92996E-14
Kcnj9	15.9255	0.0866783	7.52145	2.44207E-05
Gm11549	15.7419	0	1.7977E+308	0
Gucy1a3	15.6736	0.620141	4.65959	0

Eif5a2	15.5686	0.409513	5.24858	1.33718E-15
Rims2	15.5153	0.574365	4.75558	1.16805E-14
Krt222	15.5081	0	1.7977E+308	0
Gabra5	15.5015	0	1.7977E+308	0
9330182L06Rik	15.4494	0.88451	4.12653	0.000302661
Sh2d5	15.407	0.132932	6.85675	0.000496356
Nefh	15.4003	0.289607	5.73272	3.47116E-07
Kcnd2	15.3656	0.376696	5.35016	0
Fam19a1	15.3269	0	1.7977E+308	0
Fam169a	15.2713	0.205185	6.21776	9.4143E-09
Chl1	15.1679	0.120262	6.97869	6.77758E-06
Sytl2	15.0919	0.246912	5.93363	9.28876E-08
Prune2	15.042	0.871975	4.10856	2.55644E-08
Cckbr	15.0386	0.760772	4.30507	3.07163E-10
Ncan	14.9795	0	1.7977E+308	0
Creg2	14.9004	0.0786456	7.56577	2.18904E-06
Mgat5b	14.8885	0	1.7977E+308	0
Unc80	14.7563	0.212084	6.12055	0.00196594
1700091E21Rik	14.7048	0	1.7977E+308	3.58517E-23
Mark1	14.6511	0.224911	6.02551	9.12535E-10
Rab33a	14.5055	0	1.7977E+308	0
Id4	14.4592	0.372043	5.28037	4.24674E-05
Rasgef1c	14.3936	0	1.7977E+308	0
Hs3st2	14.3921	0.280439	5.68144	0.00181468
Rgs17	14.3893	0.190999	6.2353	0.0200701
Ypel4	14.3472	0.31636	5.50306	0.0058049
Sidt1	14.3225	0.0864607	7.37203	0.000189194
2310046A06Rik	14.3007	0	1.7977E+308	0
Lrp3	14.2868	0.537144	4.73323	9.59725E-12
Lrrn3	14.1489	0.129613	6.77033	0.000194634
Nlgn1	14.1426	0	1.7977E+308	0
Dnm3	14.1394	0.0849039	7.37968	3.60944E-08
Sez6l	14.0691	0.426565	5.04362	0
Zkscan4	14.042	0.461365	4.9277	0.000551462
Rgs14	14.034	0	1.7977E+308	0
Lmtk3	13.896	0	1.7977E+308	0
Ptprz1	13.8599	0.0670321	7.69185	1.55342E-09
Nipa1	13.8459	0.543419	4.67125	1.586E-10
3110047P20Rik	13.802	0	1.7977E+308	2.90596E-05
1600021P15Rik	13.7876	0.323862	5.41185	7.31313E-08
Sh3gl3	13.7835	0	1.7977E+308	0
Kcnq5	13.6898	0.743343	4.20293	0
Ncam2	13.6016	0.237082	5.84224	7.11119E-06
Lin7a	13.6003	0.225333	5.91544	1.08999E-10
1700054N08Rik	13.5946	0.569805	4.57643	1.53579E-07
Cit	13.4686	0.11427	6.88102	1.01613E-05

Gpr88	13.4074	0.270982	5.62868	6.07769E-07
Scn8a	13.3988	0	1.7977E+308	0
Kcnma1	13.3724	0.775078	4.10878	0.000657109
Slitrk1	13.3491	0.0657196	7.66621	1.65982E-05
Fbxl2	13.3448	0.654627	4.34946	2.99531E-13
Cpt1c	13.3431	0.610949	4.4489	6.91272E-09
Neto1	13.2745	0.0798863	7.3765	3.57679E-05
Accn1	13.2479	0.276699	5.5813	5.34842E-06
Scn3b	13.1374	0.330333	5.31362	4.98867E-09
Hs3st4	13.1105	0	1.7977E+308	0
Pdyn	13.0787	0.448873	4.86477	1.48482E-06
Lrtm2	13.0398	0	1.7977E+308	0
Inf2	13.0324	0.349906	5.21899	1.26525E-11
Kcnc2	13.0076	0.0734382	7.46861	3.00948E-06
Tmem229a	13.0042	0.613408	4.40599	0
Mboat2	13.0024	0.351436	5.20937	3.78589E-05
Wasf3	12.9961	0.644706	4.33329	0.0373374
Slc4a4	12.9501	0.253295	5.676	9.05124E-11
Grm7	12.9456	0	1.7977E+308	3.57778E-32
Nlgn3	12.9312	0.0253908	8.99234	0.0170463
Hrh3	12.8599	0.422646	4.92729	0.0173305
Tmem158	12.826	0.425386	4.91415	0.000183724
Ache	12.8112	0.222816	5.84541	0.00352577
Hepacam	12.8057	0.0404754	8.30553	0.0487719
Slc32a1	12.7637	0	1.7977E+308	0
Plch2	12.754	0	1.7977E+308	0
Ankrd33b	12.6859	0.197532	6.005	2.56838E-08
Mapk11	12.6424	0.320821	5.30036	0.000171819
Fam189a1	12.6172	0.0386224	8.35173	0.0234412
Arhgap33	12.512	0.10792	6.8572	0.000544638
Arxes1	12.4641	0.718009	4.11763	0.00111871
Tmem151b	12.4431	0	1.7977E+308	0
Cyp2j9	12.4357	0.530244	4.55168	0.000313616
Rimklb	12.4263	0	1.7977E+308	7.27852E-29
D430041D05Rik	12.3939	0.0418261	8.21101	4.58294E-05
Bsn	12.1857	0.0834174	7.19062	2.04661E-08
Nalcn	12.1783	0.668765	4.18667	0
Hrasls	12.1703	0	1.7977E+308	3.1925E-37
Rhbdl1	12.1438	0.511684	4.56882	0.000197378
Arhgef17	12.0873	0.517387	4.54611	0
Pknox2	12.0706	0.395422	4.93196	1.38115E-07
Foxg1	12.0485	0.160947	6.22613	0.00012031
BC005764	11.9822	0.512596	4.54693	0.00998388
Reln	11.9785	0.377301	4.98858	0
Ugt8a	11.9662	0.193844	5.94792	3.06359E-06
Phospho1	11.9458	0.365295	5.0313	0.000269943

Fam13c	11.9182	0.737148	4.01506	8.02821E-11
Fam155a	11.9078	0.344751	5.11021	0.00547122
Slc4a8	11.9067	0.102981	6.85326	1.92626E-05
Frzb	11.8681	0.684463	4.11597	0.0135194
1700058G18Rik	11.7447	0	1.7977E+308	6.11062E-40
Pak7	11.7346	0	1.7977E+308	0
Ppfia2	11.7273	0	1.7977E+308	0
Fos	11.7038	0.384378	4.92831	0.0422852
Atp2b3	11.6931	0	1.7977E+308	0
Fam5c	11.6854	0	1.7977E+308	0
Tram1l1	11.6739	0.21757	5.74566	0.000421844
Sema6b	11.6735	0.554979	4.39466	3.76165E-10
Gm16740	11.6063	0.437455	4.72963	0.0342078
A830036E02Rik	11.5746	0	1.7977E+308	1.80338E-32
Doc2a	11.5502	0.063801	7.50012	0.0316362
Kcnb1	11.5249	0.0947661	6.92617	0.00123375
Crtac1	11.4586	0.569581	4.33039	6.80966E-06
Tspyl5	11.4397	0.333337	5.10093	1.61382E-09
Fgf14	11.4263	0.470052	4.60339	4.39085E-08
Kcnn2	11.4162	0	1.7977E+308	0
Ajap1	11.4038	0.153593	6.21426	0.00012658
Cdh10	11.3445	0	1.7977E+308	0
Cnnm1	11.3349	0.528646	4.42233	2.31396E-08
Fsd1	11.3153	0	1.7977E+308	0
Clcn6	11.298	0.611399	4.20781	3.55634E-13
Rltpr	11.2793	0.195623	5.84946	0.000174476
Gpc5	11.2786	0.281434	5.32464	3.58792E-05
Clstn2	11.194	0	1.7977E+308	0
6330503K22Rik	11.1794	0.649751	4.10481	6.36783E-08
Lrrn2	11.1391	0.40599	4.77805	5.94193E-09
E2f3	11.0936	0.506384	4.45335	1.28033E-10
Dbpht2	11.0757	0.375402	4.88281	9.49373E-08
Tmem132b	11.0502	0.273692	5.33538	0.0011368
Tmem25	11.0043	0.221066	5.63744	0.00805445
Kcnc4	10.9849	0	1.7977E+308	0
Lzts1	10.9458	0	1.7977E+308	0
C130071C03Rik	10.9271	0	1.7977E+308	0
Cthrc1	10.8764	0	1.7977E+308	9.37452E-25
Nav3	10.8469	0.0671796	7.33504	7.49569E-06
Cx3cr1	10.8421	0.307818	5.13842	9.9627E-09
Gpr26	10.8252	0	1.7977E+308	0
Nkain2	10.7915	0	1.7977E+308	3.59322E-12
Tmem22	10.7587	0.472246	4.50983	0.000652335
Cacna1i	10.722	0.314111	5.09316	3.96768E-15
Dcaf12l1	10.7121	0.36235	4.88571	4.97317E-08
Kbtbd11	10.6391	0.305261	5.12319	0

Aspa	10.6369	0.551389	4.26986	0.000218617
Mfap3l	10.6241	0.280412	5.24365	0.000744277
Hipk4	10.604	0.199274	5.73371	0.00292136
Dlx1	10.5678	0.0608384	7.44047	0.00433341
Kcnh7	10.5153	0.187951	5.80599	0
D130043K22Rik	10.5147	0	1.7977E+308	4.82945E-20
B230217C12Rik	10.4889	0	1.7977E+308	0
Map6d1	10.485	0	1.7977E+308	0
Pou3f3	10.3696	0.0929781	6.80126	0.000151856
Spnb1	10.3343	0.0881641	6.87303	1.1488E-10
Maneal	10.2914	0.149017	6.10981	0.00115403
Kcna2	10.286	0.100069	6.68355	0.0021054
4833424O15Rik	10.2813	0	1.7977E+308	0
Vwa5b2	10.2548	0.3059	5.06709	2.88878E-06
Nkain1	10.2081	0.374452	4.76879	0.000028985
Abcg4	10.2058	0.125271	6.3482	0.00370123
Crhbp	10.1825	0	1.7977E+308	0
Itih3	10.1791	0.140059	6.18343	0.000636328
Shc3	10.153	0	1.7977E+308	0
RP23-300L8.1	10.0792	0	1.7977E+308	2.97443E-15
Magi2	10.0465	0.0419972	7.90218	8.64274E-06
Rnf32	10.0437	0.216251	5.53744	0.0310052
Bhlhe22	10.0124	0.21831	5.51926	0.000022621
Cdr1	9.99965	0.125939	6.31108	0.000475971
Gm5151	9.98173	0	1.7977E+308	0
Stxbp5l	9.88863	0	1.7977E+308	0
B3galt2	9.87421	0.192038	5.6842	1.76365E-10
Lrrtm1	9.87389	0	1.7977E+308	0
9330159F19Rik	9.87315	0.129931	6.24769	1.29466E-07
Rhof	9.86322	0.367488	4.74629	3.34445E-11
Kndc1	9.85292	0.0736494	7.06374	0.00506758
Fhod3	9.78512	0.112834	6.43831	0.000198018
Tnnc1	9.77969	0	1.7977E+308	7.97492E-16
Slc6a15	9.71714	0.372572	4.70494	3.03773E-08
Igsf21	9.71515	0	1.7977E+308	0
Cacna1b	9.70446	0	1.7977E+308	8.24424E-17
Mas1	9.67668	0.564552	4.09933	0.0134204
Fam19a2	9.67606	0.0676064	7.16111	6.24246E-05
Nxph1	9.67255	0.257448	5.23154	0.00189373
Slc6a7	9.62337	0	1.7977E+308	0
Dpysl4	9.60125	0.305984	4.9717	1.35876E-05
Slc35f1	9.58156	0.1607	5.89781	1.19191E-07
Gng2-ps1	9.55551	0	1.7977E+308	0.000277637
6330407J23Rik	9.52809	0	1.7977E+308	0
A930011O12Rik	9.50406	0	1.7977E+308	0
Specc1	9.48211	0.442443	4.42165	0

Tac2	9.45042	0	1.7977E+308	1.55984E-31
Gpr123	9.44477	0	1.7977E+308	5.57918E-26
Cabyr	9.40285	0.481518	4.28744	0.00123731
Cntn4	9.36472	0.0884346	6.72648	0.000711858
B3galt1	9.3522	0.34414	4.76424	0.000206285
Cacng2	9.26541	0.0472747	7.61464	0.0087464
Spnb4	9.25176	0.258761	5.16004	8.69677E-11
Pcyt1b	9.23452	0.271972	5.08551	5.59765E-08
Rimbp2	9.13909	0.134333	6.08817	9.61834E-05
Nme5	9.10852	0	1.7977E+308	8.46387E-22
Celf3	9.10577	0.374632	4.60324	6.46637E-06
Slitrk5	8.95119	0.221251	5.33832	0.000205902
Dok5	8.92234	0	1.7977E+308	0
Tmem145	8.89213	0	1.7977E+308	0
Accn2	8.88738	0.263378	5.07655	0.000237425
Dok6	8.87461	0	1.7977E+308	0
Sox5	8.83207	0.547433	4.012	1.61745E-06
Cbln4	8.82256	0.0984842	6.48516	0.000320028
Cdh18	8.81339	0	1.7977E+308	0
Adra1d	8.70273	0	1.7977E+308	0
Fbxo41	8.69476	0	1.7977E+308	0
Slc45a1	8.63906	0.319673	4.75621	0.000150545
Slitrk3	8.62744	0	1.7977E+308	0
AI836003	8.62531	0	1.7977E+308	0
Dennd5b	8.60326	0.241207	5.15654	0
Kcnj16	8.58485	0	1.7977E+308	3.75445E-25
9130024F11Rik	8.56178	0	1.7977E+308	0
Ntrk3	8.53902	0.0858394	6.63629	0.000224634
Nxph3	8.50296	0	1.7977E+308	0
Klhl34	8.50153	0	1.7977E+308	0
Nrg3	8.49049	0.0740369	6.84146	9.54414E-05
Sntg1	8.49038	0.244174	5.11985	0.02256
Larp6	8.46085	0.145462	5.86209	0.00771606
Lrp8	8.44139	0.117963	6.16107	0.000308699
Cdh8	8.43628	0.231193	5.18944	0.000448538
2810468N07Rik	8.42996	0.425505	4.30828	0.0100252
Ptprt	8.42954	0.263649	4.99876	1.28599E-08
Sema4f	8.4295	0.37452	4.49233	2.77612E-05
Dst	8.38966	0.514779	4.02659	0
Zcchc12	8.20551	0	1.7977E+308	0
Tac1	8.18692	0	1.7977E+308	0
Adcyap1	8.17305	0	1.7977E+308	0
Pcnxl2	8.15947	0.36366	4.48781	5.08031E-06
Dlgap2	8.15446	0	1.7977E+308	0
Adrbk2	8.13973	0.345862	4.55671	1.78867E-13
Tcte1	8.07872	0	1.7977E+308	0

Gpr34	8.06904	0.197361	5.35349	0.01322
Fbll1	8.03797	0	1.7977E+308	0
St6gal2	8.01123	0	1.7977E+308	0
Tmem150b	7.99793	0	1.7977E+308	0
Gm14817	7.99476	0	1.7977E+308	6.19276E-27
Mfsd2a	7.9638	0	1.7977E+308	4.55234E-17
Adcy5	7.95876	0.231925	5.10082	3.02999E-09
Tmem88b	7.9502	0.110123	6.1738	0.00196433
Ica1l	7.93387	0.157525	5.65438	1.06103E-05
Zfp651	7.93111	0.476573	4.05675	5.26066E-15
Syt17	7.92033	0.187805	5.39825	0.00320131
Tmem63c	7.91926	0.0997086	6.3115	0.0249984
Gpr37	7.89997	0	1.7977E+308	0
Peli3	7.88807	0.273278	4.85123	2.15122E-05
6230409E13Rik	7.88125	0.454858	4.11494	3.85476E-05
Sox8	7.86184	0	1.7977E+308	5.70805E-42
Tuba8	7.86123	0.42469	4.21027	2.24106E-05
6430598A04Rik	7.84895	0	1.7977E+308	0
Pitpnm3	7.77444	0.170931	5.50725	4.88316E-08
Kctd16	7.76214	0	1.7977E+308	2.3119E-43
Zfr2	7.6995	0.305448	4.65577	3.65154E-06
Dlk2	7.65282	0.176235	5.44042	0.0438641
Vstm2b	7.64662	0	1.7977E+308	7.1543E-46
Trpc1	7.64577	0.0981181	6.284	0.0148046
B4galnt4	7.63272	0.112161	6.08855	0.00548792
Gm9962	7.62942	0	1.7977E+308	6.89069E-09
Clip4	7.61769	0.176566	5.43108	0.000241383
Adra1b	7.61492	0.330758	4.52498	0.00814883
Bdnf	7.53202	0.108325	6.1196	0.000158015
Frs3	7.50596	0.129067	5.86185	0.0352144
Epha5	7.48324	0.156181	5.58237	1.9766E-06
Kcnt2	7.43486	0.395882	4.23116	1.22092E-05
Nudt10	7.40099	0	1.7977E+308	0
Itgb8	7.39938	0.264844	4.80419	2.18224E-14
Chrdl1	7.38817	0.262337	4.81572	1.65112E-05
Nwd1	7.27881	0	1.7977E+308	1.77916E-45
Gabrg1	7.27299	0	1.7977E+308	0
Caskin1	7.27063	0.0582801	6.96293	0.00772546
Gm13601	7.2608	0	1.7977E+308	4.36123E-13
BC049635	7.24251	0	1.7977E+308	3.73259E-30
Jazf1	7.22512	0.370974	4.28363	0.00205543
Hcn1	7.22435	0.345478	4.3862	4.74368E-06
Gm10419	7.22193	0	1.7977E+308	0
Erbb4	7.22121	0.288227	4.64697	0.000115146
Hdac9	7.21836	0.144491	5.64262	0.000229311
St6galnac5	7.17731	0.0696626	6.68692	0.000293872

Slc35f3	7.15092	0	1.7977E+308	0
Miat	7.14929	0.0766066	6.54419	2.40978E-07
Kirrel3	7.1224	0.424198	4.06955	2.31198E-05
Lrrc3b	7.10051	0	1.7977E+308	0
Chrm4	7.08319	0	1.7977E+308	0
Gpr137c	7.07969	0	1.7977E+308	0
B3galt5	7.06348	0.0537872	7.03697	0.00607655
Nudt11	7.05579	0.310543	4.50594	0.000083531
Drp2	7.0108	0	1.7977E+308	0
Brdt	6.91636	0.42922	4.01023	0.00896553
Cdh7	6.9122	0	1.7977E+308	5.37763E-33
Rps6kl1	6.90735	0.214704	5.00771	0.010983
Tmem196	6.87376	0.274934	4.64394	0.0124223
Gal3st3	6.86192	0	1.7977E+308	0
6030405A18Rik	6.84016	0	1.7977E+308	0
Otud7a	6.83271	0.0572397	6.8993	0.0116382
Npy1r	6.82399	0.356281	4.25953	1.92645E-05
Gm17470	6.81439	0	1.7977E+308	0
Ankrd6	6.80367	0.106	6.00418	0.00271896
3110039M20Rik	6.80212	0	1.7977E+308	8.90751E-12
Atp6ap1l	6.79502	0	1.7977E+308	1.84713E-37
Gjc3	6.76679	0	1.7977E+308	0
Trank1	6.76347	0	1.7977E+308	0
2400009B08Rik	6.75159	0	1.7977E+308	3.9465E-10
1110032F04Rik	6.75073	0	1.7977E+308	0
Nova1	6.72547	0.159744	5.3958	1.59609E-09
Pigz	6.68698	0.164232	5.34754	0.0174864
Gm9866	6.68469	0	1.7977E+308	7.20709E-45
Lrch2	6.64115	0.332484	4.32008	0.00210345
Flrt3	6.63525	0.0882539	6.23235	0.00351101
Lrfn2	6.62904	0	1.7977E+308	1.4013E-45
Hs6st2	6.61827	0.344964	4.26194	4.67249E-08
Samd12	6.61634	0	1.7977E+308	3.25857E-11
Ephb1	6.57279	0.164155	5.32338	2.63356E-06
Cartpt	6.56653	0	1.7977E+308	2.38386E-30
Purg	6.55771	0.275922	4.57086	0.00597756
Akap5	6.55544	0.0625932	6.71054	0.00131272
Syt2	6.53409	0.0227392	8.16666	0.0178456
Daam2	6.51552	0.30793	4.40321	9.10305E-12
Slc13a3	6.48883	0.370488	4.13046	0.00158147
Sacs	6.48202	0.146784	5.46467	0
Nanos1	6.44824	0	1.7977E+308	0
Zfyve28	6.44368	0	1.7977E+308	1.00903E-43
1700003M07Rik	6.43453	0	1.7977E+308	3.32006E-19
Gm17576	6.39074	0	1.7977E+308	0.0217226
Chst11	6.38784	0.387954	4.04137	9.95427E-11

Kcnq3	6.38511	0	1.7977E+308	0
Grin2a	6.38025	0	1.7977E+308	0
Grik2	6.37913	0	1.7977E+308	0
Plxdc1	6.37586	0.146469	5.44395	0.0135439
Fezf2	6.36447	0	1.7977E+308	0
Trhde	6.36314	0.189293	5.07105	9.18938E-08
Satb2	6.36248	0.0969014	6.03693	9.05586E-05
Adrb1	6.34583	0.332567	4.25409	0.0001882
Kif17	6.32968	0	1.7977E+308	8.59669E-29
Agxt2l1	6.32696	0	1.7977E+308	0
2900055J20Rik	6.30162	0	1.7977E+308	5.3323E-26
Slc35f4	6.30055	0	1.7977E+308	0
Slmo1	6.27955	0	1.7977E+308	0
Gm11978	6.2571	0	1.7977E+308	0.000233283
Gm17524	6.23036	0.375553	4.05223	0.0216392
Psd2	6.2195	0.221823	4.80932	1.64931E-05
Emx2	6.17525	0.319115	4.27435	0.0111925
Ankrd34b	6.15676	0	1.7977E+308	0
Ttbk1	6.1333	0	1.7977E+308	0
Gm10601	6.12405	0	1.7977E+308	1.61953E-30
Gabrb1	6.11431	0.0646724	6.5629	0.0169862
Hrh1	6.09802	0.353855	4.10711	0.00357709
Hapln1	6.05635	0.18819	5.00818	9.07289E-05
Ankrd56	6.05342	0.324542	4.22127	5.08031E-06
Scn3a	6.04791	0	1.7977E+308	1.03328E-10
Gm13704	6.04692	0.217806	4.79509	0.00333489
Htr2a	6.04436	0	1.7977E+308	0
Xkr4	6.04085	0	1.7977E+308	0
Slc7a14	6.01449	0.268378	4.4861	1.5498E-14
Zfp941	6.0124	0.102704	5.87138	0.00132405
Efnb3	5.9866	0.344585	4.11881	7.40846E-05
Spred3	5.94352	0	1.7977E+308	0
Wnk3-ps	5.92921	0.246517	4.58808	1.73394E-08
Sema3a	5.92465	0.113344	5.70795	0.000490417
Dbndd1	5.90708	0	1.7977E+308	0
Slc3a1	5.89528	0.245071	4.58829	0.000837805
Paqr9	5.87402	0	1.7977E+308	0
Kcnj11	5.86482	0.226663	4.69347	0.000371435
Gpr17	5.85973	0.086152	6.08781	0.000198636
Cacng4	5.85961	0.255145	4.52142	0.000170416
Ptchd2	5.84091	0	1.7977E+308	5.34567E-12
Aff3	5.77926	0.185465	4.96166	1.13249E-06
Car7	5.76713	0	1.7977E+308	6.98818E-33
Shd	5.68709	0	1.7977E+308	1.17472E-41
Tnr	5.67945	0.0856386	6.05135	0.015768
AI854517	5.67219	0.161871	5.13099	0.00528171

F730043M19Rik	5.64841	0.13046	5.43616	0.00202594
Krt12	5.61616	0	1.7977E+308	6.09793E-45
1700084C01Rik	5.61387	0	1.7977E+308	1.88962E-43
Rin1	5.60919	0.319251	4.13503	1.36293E-06
Tmem121	5.58221	0	1.7977E+308	1.39261E-41
Gm13303	5.57499	0	1.7977E+308	3.49669E-36
AI504432	5.53208	0.202557	4.77142	0.00397038
Lingo2	5.4885	0	1.7977E+308	1.9701E-17
Kcnh5	5.4746	0	1.7977E+308	0
Dlx6os1	5.47055	0	1.7977E+308	3.99307E-20
4930447C04Rik	5.43155	0	1.7977E+308	7.95364E-18
Dgki	5.35383	0	1.7977E+308	6.42718E-34
Slc17a6	5.32855	0	1.7977E+308	0
Fmn2	5.31544	0.203766	4.7052	8.01242E-07
1700001L19Rik	5.30999	0	1.7977E+308	1.04802E-43
Rab36	5.28942	0.284923	4.21447	0.000296357
Gm16105	5.28097	0	1.7977E+308	1.6987E-21
Gm5567	5.24441	0.315936	4.05308	0.00185222
Grm8	5.24331	0.0957468	5.77511	0.000403349
Zkscan16	5.23523	0	1.7977E+308	0
4930429B21Rik	5.23055	0	1.7977E+308	1.40536E-41
Gucy1a2	5.22895	0.256537	4.34928	0.000147675
Wnt7b	5.21927	0.119831	5.44477	0.0107358
Rlbp1	5.1965	0	1.7977E+308	0
Kcnj6	5.18717	0	1.7977E+308	0
Rcor2	5.14905	0	1.7977E+308	9.21132E-15
Dusp15	5.12331	0.144994	5.14301	0.00190663
Grm2	5.11078	0.203366	4.65139	0.000394149
Chrnb2	5.08971	0.14145	5.16922	5.44136E-06
BC030500	5.07576	0	1.7977E+308	2.39764E-22
Gm12281	5.06103	0	1.7977E+308	2.68605E-05
Shisa9	5.02943	0	1.7977E+308	8.73927E-44
Prss12	5.0142	0.182948	4.77652	0.00392856
Enox1	4.99204	0	1.7977E+308	0
Gm10598	4.98299	0	1.7977E+308	2.33365E-40
Sfxn4	4.97765	0.151841	5.03483	0.0183521
Kcns2	4.97189	0	1.7977E+308	0
Ntng1	4.9559	0	1.7977E+308	0
Gm10597	4.94978	0	1.7977E+308	2.88702E-10
2810032G03Rik	4.89905	0.236373	4.37336	0.0247531
Grin2c	4.89571	0.107953	5.50304	0.000756824
Hes5	4.8807	0	1.7977E+308	1.8727E-11
Tmem132d	4.8461	0	1.7977E+308	0
Opalin	4.84564	0	1.7977E+308	3.53659E-42
Gm14915	4.83994	0	1.7977E+308	0.0236288
snoU90	4.8219	0	1.7977E+308	7.10593E-07

Mchr1	4.80944	0	1.7977E+308	1.29377E-45
Slc6a20a	4.78813	0	1.7977E+308	8.32602E-32
Chrna4	4.75872	0	1.7977E+308	7.23192E-15
9430031J16Rik	4.72779	0	1.7977E+308	0
1700019N12Rik	4.71325	0	1.7977E+308	4.28632E-23
Klhl4	4.6821	0.120991	5.27418	0.0475815
Prr18	4.66972	0	1.7977E+308	0
March11	4.65904	0	1.7977E+308	7.41576E-21
Prdm8	4.65069	0.163154	4.83314	0.00345602
Calb2	4.65024	0	1.7977E+308	1.84115E-36
Gpr68	4.63317	0.209642	4.466	0.00390006
Kctd4	4.62896	0	1.7977E+308	0
Elfn2	4.62363	0.0701292	6.04286	0.00588446
Epha10	4.61781	0	1.7977E+308	6.18586E-41
Plxnc1	4.60909	0.234843	4.29472	9.18594E-09
Pla2g4e	4.59802	0	1.7977E+308	0
E130309D14Rik	4.58438	0.192868	4.57104	0.00006732
Cplx3	4.57445	0.167307	4.77303	0.00395844
Fam181b	4.55081	0	1.7977E+308	5.79251E-41
Wscd2	4.53656	0	1.7977E+308	0
1110035M17Rik	4.53059	0	1.7977E+308	2.18973E-13
Gm14285	4.50239	0	1.7977E+308	1.08823E-07
Rspo2	4.49424	0	1.7977E+308	0
Egr4	4.48946	0	1.7977E+308	1.87455E-43
Zfp382	4.46966	0	1.7977E+308	6.60866E-07
AW495222	4.41855	0	1.7977E+308	8.80499E-18
Rbm24	4.40946	0	1.7977E+308	0
Tmsb15b2	4.40638	0	1.7977E+308	2.12856E-05
Masp1	4.40468	0.158558	4.79596	0.032846
4933400F03Rik	4.40433	0	1.7977E+308	7.21236E-12
Coro6	4.37842	0	1.7977E+308	0
Scube1	4.37599	0.0582593	6.23098	0.00128761
Fam43b	4.36835	0	1.7977E+308	1.4013E-45
Usp13	4.36546	0	1.7977E+308	3.10726E-21
Olig2	4.35391	0	1.7977E+308	8.6786E-46
Gm13302	4.34321	0	1.7977E+308	9.26605E-40
Cacna1e	4.28429	0.0352376	6.9258	1.63876E-05
Pclo	4.26159	0.233763	4.18827	0
Tmem169	4.24422	0.0975456	5.44328	0.00297019
Gp1bb	4.2368	0	1.7977E+308	1.66565E-23
Gldc	4.23348	0	1.7977E+308	0
Pygo1	4.20636	0.197478	4.41281	2.14E-08
Dscam	4.2037	0	1.7977E+308	0
Ndst3	4.1951	0	1.7977E+308	2.39445E-12
Tcap	4.18381	0	1.7977E+308	5.46322E-25
Phf21b	4.18141	0	1.7977E+308	4.13648E-05

7SK	4.15966	0	1.7977E+308	2.51547E-05
Slc6a13	4.1219	0.2165	4.25087	0.0113408
Grp	4.11294	0	1.7977E+308	6.09172E-22
Lsm3	4.11131	0	1.7977E+308	9.96148E-07
Neurod1	4.10286	0.219202	4.2263	0.0172732
4833422C13Rik	4.04661	0.151549	4.73886	0.00925642
Hhatl	4.04073	0	1.7977E+308	0
Mgat4c	4.03124	0	1.7977E+308	4.16823E-20
Zik1	4.02832	0.0665413	5.91978	0.00111285
Kcnk4	4.00891	0	1.7977E+308	1.17866E-36
Jakmip3	4.0046	0	1.7977E+308	0
Fstl5	3.98356	0	1.7977E+308	3.26469E-21
Fam123a	3.98353	0	1.7977E+308	0
Cpne7	3.9815	0	1.7977E+308	8.47671E-39
Sema3e	3.9808	0.221848	4.16542	2.35902E-06
Kcna4	3.96673	0	1.7977E+308	1.47031E-07
Odz4	3.95707	0.170259	4.53863	5.1139E-13
Elovl2	3.93986	0.0924034	5.41406	0.0488407
5930412G12Rik	3.93056	0	1.7977E+308	0.000270046
Dok7	3.89856	0.210607	4.21032	0.00161338
Cecr6	3.89755	0	1.7977E+308	8.40167E-20
Unc5d	3.89698	0.0352625	6.78808	0.00541081
2200002K05Rik	3.8942	0	1.7977E+308	2.1323E-39
Pcdh17	3.87006	0.198233	4.28709	2.24815E-11
Gm16042	3.86331	0	1.7977E+308	7.12163E-29
Gm16179	3.8514	0	1.7977E+308	1.1642E-06
Lrfn4	3.8511	0.221386	4.12064	0.000434715
Ppp1r3g	3.85013	0.203775	4.23985	0.0123538
AI854703	3.84576	0	1.7977E+308	0
Ccdc65	3.84016	0	1.7977E+308	4.04153E-12
AW047730	3.83821	0	1.7977E+308	2.10562E-44
Kcns1	3.81809	0	1.7977E+308	1.4013E-45
C530008M17Rik	3.80889	0	1.7977E+308	7.97015E-18
Pgr	3.79718	0	1.7977E+308	0
Pkib	3.79113	0	1.7977E+308	7.73819E-29
Grin2b	3.76935	0	1.7977E+308	5.39297E-20
Mdga2	3.76838	0	1.7977E+308	6.11254E-08
C230004F18Rik	3.76633	0	1.7977E+308	8.0459E-13
Fam123c	3.74233	0.106106	5.14035	0.00177812
Lingo3	3.73533	0	1.7977E+308	0
Mamld1	3.73199	0.171992	4.43954	0.0178184
Cdh12	3.72946	0.0809592	5.52563	0.000723845
Ppp1r14c	3.71132	0	1.7977E+308	7.81225E-44
Gm9899	3.70253	0	1.7977E+308	6.18529E-12
Gpr12	3.69187	0	1.7977E+308	5.97531E-43
Nova2	3.68002	0.116819	4.97736	0.000912836

Kcnj12	3.66612	0.121062	4.92044	0.0174864
Gm12371	3.6622	0	1.7977E+308	6.75082E-26
Tmem74	3.63799	0	1.7977E+308	6.67818E-32
Crh	3.63547	0	1.7977E+308	1.15418E-29
Ripply2	3.62972	0	1.7977E+308	6.49373E-10
Cdkl4	3.59563	0.0974384	5.20561	0.00460994
Egr2	3.59078	0	1.7977E+308	2.32859E-06
Hrk	3.58891	0.0515091	6.12257	0.0007205
Pcdh20	3.58298	0.18139	4.30399	0.000889343
Nr4a3	3.56506	0.0669307	5.73511	0.029833
Robo3	3.56426	0	1.7977E+308	6.29269E-25
Tnfaip6	3.56156	0.161884	4.45948	0.0328099
Grik3	3.55843	0	1.7977E+308	0
Gm16832	3.5484	0	1.7977E+308	3.09267E-34
Fam40b	3.53528	0.180281	4.29351	0.000781227
Cntnap5a	3.51229	0	1.7977E+308	0
Dleu7	3.51174	0	1.7977E+308	7.14095E-29
Ctxn2	3.50751	0	1.7977E+308	4.47506E-24
Usp29	3.50582	0	1.7977E+308	2.18987E-43
Gm16108	3.49208	0	1.7977E+308	3.91047E-12
Ndp	3.47863	0	1.7977E+308	5.99777E-37
Rpgrip1l	3.4751	0.139306	4.64072	5.78077E-06
Trpm3	3.47478	0.109483	4.98814	0.00985307
Nr2e1	3.47211	0	1.7977E+308	6.28459E-13
Zfp583	3.47077	0.138652	4.64572	0.0409436
Plcd4	3.46663	0.191325	4.17944	5.14682E-05
Cntn3	3.45852	0	1.7977E+308	0
Plcxd3	3.44696	0	1.7977E+308	1.35682E-16
Adra2c	3.4467	0	1.7977E+308	0
Nacad	3.43433	0.0567129	5.92021	0.00111239
Capn3	3.43229	0	1.7977E+308	0.0297411
1110018N20Rik	3.41637	0	1.7977E+308	3.44396E-19
Iqck	3.36729	0.152244	4.46713	0.0155499
Gm15852	3.35403	0	1.7977E+308	3.58191E-20
Dscaml1	3.35291	0	1.7977E+308	7.08904E-22
Gm16485	3.31488	0	1.7977E+308	0
Cntnap4	3.30046	0	1.7977E+308	0
Gjc2	3.29856	0	1.7977E+308	1.52331E-35
Gm11627	3.29701	0	1.7977E+308	9.89576E-12
Grm1	3.2937	0	1.7977E+308	5.32703E-16
Etv4	3.27634	0	1.7977E+308	2.36626E-11
Hmga1-rs1	3.25701	0	1.7977E+308	1.16447E-16
Lhfpl3	3.25113	0	1.7977E+308	7.22238E-14
Slc5a5	3.25053	0.149327	4.44413	0.046882
Ptgs2	3.24463	0.0674864	5.58731	0.00220498
Gm20393	3.23854	0	1.7977E+308	1.62393E-12

Gpr83	3.23584	0	1.7977E+308	0
Gm15631	3.2302	0	1.7977E+308	1.98935E-15
Bfsp2	3.2247	0	1.7977E+308	2.60813E-18
Kcnk9	3.21805	0	1.7977E+308	1.88176E-25
Zkscan2	3.21055	0	1.7977E+308	1.60322E-14
Prr16	3.19606	0	1.7977E+308	0
Gm10493	3.18987	0	1.7977E+308	2.39057E-11
Gm16871	3.1878	0	1.7977E+308	1.19745E-40
Dbx2	3.17263	0	1.7977E+308	0
Htr7	3.16302	0	1.7977E+308	0
Pcdh8	3.163	0.116032	4.76869	0.00399757
Gm17305	3.15935	0	1.7977E+308	5.994E-09
Gm10595	3.15613	0	1.7977E+308	5.73153E-07
Fam55c	3.14854	0.0871801	5.17454	6.19653E-05
Cdh19	3.13466	0.114165	4.77911	0.0335483
Fam135b	3.13411	0	1.7977E+308	0
Wnt10a	3.11749	0	1.7977E+308	6.06714E-40
Raver2	3.09279	0.0485106	5.99446	0.0308974
Gm10930	3.08784	0.0785689	5.2965	0.00440327
Trpc6	3.07996	0.186669	4.04436	0.0471565
Gcnt4	3.07861	0.066589	5.53085	0.0124223
Trpc4	3.05596	0.098338	4.95773	0.0454837
Gm13629	3.05443	0	1.7977E+308	1.04504E-15
Gm14233	3.04581	0	1.7977E+308	0.000307249
Slc9a5	3.03921	0	1.7977E+308	0
Htr5a	3.02301	0	1.7977E+308	0
Cdh9	3.02078	0	1.7977E+308	1.48516E-42
Nog	2.97744	0	1.7977E+308	8.46005E-34
Gm996	2.97557	0	1.7977E+308	0
Ccdc39	2.93903	0.121636	4.5947	0.0085794
Bcl11b	2.93249	0.125237	4.5494	0.000283116
Ano4	2.93084	0	1.7977E+308	0
Gm17081	2.92403	0	1.7977E+308	1.02804E-07
7SK	2.92401	0	1.7977E+308	0.00128116
Cort	2.92276	0	1.7977E+308	2.43992E-12
Ccdc74a	2.91699	0	1.7977E+308	3.14404E-25
Grik4	2.91653	0.118122	4.6259	0.00024647
Il1rapl1	2.89756	0	1.7977E+308	0
Prkg2	2.89704	0	1.7977E+308	3.32424E-10
Vwc2	2.88291	0	1.7977E+308	7.91097E-25
Gm12868	2.87448	0	1.7977E+308	3.54335E-06
Glra2	2.87237	0	1.7977E+308	1.81523E-43
Zfp423	2.86868	0.177377	4.01549	0.00365288
Gpr61	2.86463	0	1.7977E+308	0
Gm3209	2.85449	0	1.7977E+308	0.0135896
Hmgcll1	2.85295	0.124497	4.51828	0.00665734

Stk30	2.84611	0	1.7977E+308	2.79289E-28
Htr1a	2.83683	0	1.7977E+308	0
Myl1	2.81727	0	1.7977E+308	6.04176E-11
2610316D01Rik	2.76092	0	1.7977E+308	2.89101E-17
Gm14205	2.75849	0	1.7977E+308	9.04255E-13
Epha6	2.75724	0	1.7977E+308	1.03945E-42
Neurl1b	2.7538	0.137151	4.32759	0.000463502
Gm13322	2.74328	0	1.7977E+308	0.0218665
A330041J22Rik	2.73678	0	1.7977E+308	0.000789554
Gm20530	2.72319	0	1.7977E+308	0.0128052
Slc1a6	2.70102	0	1.7977E+308	9.42356E-34
Gm10590	2.69994	0.0851664	4.9865	0.00331604
Rnf182	2.69984	0	1.7977E+308	1.91296E-10
RP23-428N8.1	2.69906	0	1.7977E+308	1.45074E-09
4930570G19Rik	2.68366	0	1.7977E+308	5.55001E-14
Rnf165	2.67081	0	1.7977E+308	0
E130114P18Rik	2.66233	0	1.7977E+308	2.40772E-14
Adcy8	2.64647	0.0928552	4.83294	0.0181729
1700071M16Rik	2.63345	0	1.7977E+308	1.01684E-11
Mdga2	2.63154	0	1.7977E+308	0
D930007J09Rik	2.59651	0	1.7977E+308	4.48361E-05
Gad1-ps	2.58595	0	1.7977E+308	3.10241E-42
Gm11646	2.58585	0	1.7977E+308	3.34965E-05
Gm3764	2.54787	0	1.7977E+308	1.75936E-19
4933409K07Rik	2.54476	0	1.7977E+308	3.26207E-28
Gpr3	2.54355	0	1.7977E+308	7.87257E-28
Tcerg1l	2.49546	0	1.7977E+308	1.40905E-14
Lrrc6	2.49012	0	1.7977E+308	3.59547E-32
Gm15663	2.48875	0.15436	4.01105	0.011655
Gm1337	2.4809	0	1.7977E+308	0
Megf10	2.47948	0	1.7977E+308	0
Gdf11	2.47029	0.114019	4.43733	0.0078075
Dear1	2.44571	0	1.7977E+308	1.21052E-07
C030030A07Rik	2.43828	0	1.7977E+308	1.43585E-21
Gpr62	2.41711	0	1.7977E+308	2.11371E-30
Gm15642	2.41675	0	1.7977E+308	0.00245708
Ankrd34c	2.41056	0	1.7977E+308	6.45535E-35
Efcab10	2.39192	0	1.7977E+308	2.40967E-10
Pou3f2	2.38036	0	1.7977E+308	3.29134E-27
Gm13446	2.37112	0	1.7977E+308	5.69419E-09
Gm16255	2.36282	0	1.7977E+308	5.81945E-14
Slc8a3	2.36012	0	1.7977E+308	5.87715E-44
Nudt17	2.34796	0	1.7977E+308	5.30507E-22
Flrt1	2.34656	0.066007	5.15179	0.00751154
Gpr75	2.34044	0.0732128	4.99854	0.0484515
Gm15738	2.33446	0	1.7977E+308	0.00007904

Rbm11	2.33071	0	1.7977E+308	8.39965E-28
Gm12497	2.31169	0	1.7977E+308	0.0390279
Zbtb8b	2.31166	0	1.7977E+308	1.71075E-07
Drd1a	2.30371	0	1.7977E+308	5.33079E-41
Clgn	2.28779	0	1.7977E+308	0
Ccdc37	2.27044	0	1.7977E+308	0.00558111
Elfn1	2.25447	0.121608	4.21247	0.0119888
Nxf7	2.24849	0	1.7977E+308	7.93641E-09
Bean1	2.2465	0	1.7977E+308	0
Hgf	2.24518	0	1.7977E+308	6.393E-36
Tekt5	2.22566	0	1.7977E+308	7.12231E-23
Shisa6	2.22395	0.106952	4.37809	0.0226878
Gpr27	2.21705	0	1.7977E+308	4.30197E-18
Npl	2.18168	0	1.7977E+308	4.05871E-22
Zfpm2	2.17981	0.104563	4.38176	0.0344144
Pld5	2.17417	0	1.7977E+308	6.54458E-42
Cntn5	2.17398	0	1.7977E+308	0.000136743
Ppapdc1a	2.17056	0	1.7977E+308	1.26595E-16
S1pr5	2.17006	0.115699	4.22929	0.0241933
Hunk	2.15541	0.112942	4.25431	0.00119042
Oprd1	2.12557	0	1.7977E+308	1.08773E-42
Khdrbs2	2.11652	0	1.7977E+308	7.63876E-21
Gm15860	2.1112	0	1.7977E+308	5.99134E-05
BB114351	2.10395	0	1.7977E+308	2.02456E-29
1700007K13Rik	2.10335	0	1.7977E+308	5.49321E-06
Lmln	2.10057	0.0314152	6.06317	0.0305021
Gm13872	2.08062	0	1.7977E+308	1.31921E-21
Htr2c	2.07864	0	1.7977E+308	0
Zfp811	2.07703	0	1.7977E+308	1.49829E-24
D630023F18Rik	2.07356	0	1.7977E+308	3.59017E-11
Grip1	2.06263	0	1.7977E+308	0
Trim66	2.04138	0	1.7977E+308	0
1500017E21Rik	2.03828	0	1.7977E+308	3.39153E-10
Fosb	2.03267	0	1.7977E+308	2.04043E-38
Gpr173	2.03223	0	1.7977E+308	1.40669E-18
Gm17595	2.01483	0	1.7977E+308	7.82805E-43
AI118078	2.01124	0	1.7977E+308	1.19291E-14
9230115E21Rik	2.0053	0	1.7977E+308	1.15597E-07
Gm13298	2.00301	0.0564247	5.1497	0.0218139
AL627182.1	2.00241	0	1.7977E+308	0.0461038
Kcnb2	1.97399	0	1.7977E+308	7.75659E-36
Scrt2	1.9514	0.0832869	4.55028	0.014494
AL591070.1	1.93473	0	1.7977E+308	0.0181729
Rimkla	1.93364	0.112995	4.09698	0.0157332
Nppc	1.93127	0	1.7977E+308	2.23323E-14
C1ql1	1.92573	0	1.7977E+308	4.93358E-21

4933407L21Rik	1.92271	0	1.7977E+308	2.1923E-06
Zdbf2	1.91996	0.10113	4.2468	0.000462272
Npas4	1.90441	0	1.7977E+308	1.27987E-35
Zfp804a	1.89179	0	1.7977E+308	3.55928E-43
Tnfrsf25	1.88658	0	1.7977E+308	0.000349081
Gm15878	1.88607	0	1.7977E+308	0.0113257
Gm1568	1.88437	0	1.7977E+308	0
Samd5	1.88425	0	1.7977E+308	1.21426E-30
Gm2542	1.88389	0.0594982	4.98473	0.027003
Glra3	1.88099	0	1.7977E+308	5.56295E-15
Gm17456	1.86561	0	1.7977E+308	3.36968E-36
Gm12224	1.86386	0	1.7977E+308	1.33429E-06
Gm5423	1.85126	0	1.7977E+308	0.000012458
Zscan18	1.84668	0.077671	4.57141	0.0139935
Mrap2	1.84593	0	1.7977E+308	7.25858E-08
Igfn1	1.83803	0	1.7977E+308	2.43487E-15
Nlk-ps1	1.822	0	1.7977E+308	3.07286E-16
Pnma3	1.81817	0	1.7977E+308	4.97201E-36
Htr3a	1.81213	0	1.7977E+308	1.26674E-26
C230037L18Rik	1.80911	0	1.7977E+308	0.00204895
Qrfpr	1.80731	0	1.7977E+308	2.33419E-23
Crabp2	1.80405	0	1.7977E+308	9.06671E-12
Mcf2	1.80367	0	1.7977E+308	1.66326E-40
Gucy2g	1.80227	0	1.7977E+308	9.48243E-38
Grip2	1.802	0.050018	5.17101	0.0049416
Susd5	1.78837	0.0724278	4.62596	0.0127896
Sox21	1.78751	0	1.7977E+308	1.81916E-41
Accn4	1.78613	0	1.7977E+308	1.2787E-32
AC122525.1	1.7825	0	1.7977E+308	0.0246857
Spag6	1.78129	0	1.7977E+308	3.56906E-06
Col9a2	1.77307	0	1.7977E+308	4.54072E-09
Gpr165	1.77199	0	1.7977E+308	9.49706E-33
0610040B10Rik	1.76992	0	1.7977E+308	9.97167E-06
Mylk3	1.75886	0	1.7977E+308	4.13954E-06
Cyp11a1	1.75536	0	1.7977E+308	2.59142E-23
Gm694	1.74786	0	1.7977E+308	5.04083E-11
Ocm	1.74497	0	1.7977E+308	0.00717337
Gm10594	1.73673	0	1.7977E+308	0.000223025
March4	1.73424	0	1.7977E+308	3.47275E-41
Atp13a5	1.73314	0	1.7977E+308	2.5819E-20
Gm13687	1.73179	0	1.7977E+308	0.031157
Gm7819	1.73075	0	1.7977E+308	1.49609E-35
Frmd3	1.71733	0	1.7977E+308	3.96229E-31
Scn8a	1.71435	0	1.7977E+308	4.18933E-13
Gm4392	1.70687	0	1.7977E+308	0.00551796
Tnnt2	1.69573	0	1.7977E+308	4.76241E-13

Spag4	1.69226	0	1.7977E+308	0.000773282
Gm8812	1.69012	0	1.7977E+308	0.000481248
Gm9925	1.68449	0	1.7977E+308	4.29936E-05
Alox12b	1.68326	0	1.7977E+308	8.39034E-28
AC131316.1	1.68015	0	1.7977E+308	0.02373
Gm10047	1.6782	0	1.7977E+308	2.44573E-16
Gm15760	1.6749	0	1.7977E+308	0.023822
Gm13845	1.67125	0	1.7977E+308	4.19039E-12
BC061194	1.66646	0	1.7977E+308	1.21682E-07
Gm16008	1.66194	0	1.7977E+308	0.00223431
Npy5r	1.65299	0	1.7977E+308	8.82049E-27
Amn	1.65129	0	1.7977E+308	4.7528E-21
Dmrtc1a	1.65106	0	1.7977E+308	6.43057E-14
Slc13a4	1.64904	0	1.7977E+308	7.45663E-34
RP23-341C5.10	1.64249	0	1.7977E+308	0.000129357
Gm5859	1.63585	0	1.7977E+308	5.75728E-26
Zfp831	1.63076	0.0678285	4.58751	0.000516039
Gm20509	1.62105	0	1.7977E+308	0.0347733
Gm17202	1.6198	0	1.7977E+308	5.44831E-11
Vwa5b1	1.61134	0	1.7977E+308	3.74763E-05
Car12	1.59955	0	1.7977E+308	7.84135E-11
Gm16284	1.58724	0	1.7977E+308	0.000825928
Smad9	1.57513	0.0852046	4.20839	0.0120659
Dmp1	1.57374	0	1.7977E+308	2.52615E-29
Gm15655	1.56451	0	1.7977E+308	0.000410697
Grm4	1.56066	0	1.7977E+308	2.01104E-40
Tmem132c	1.56017	0.0892457	4.12777	0.0158418
Igsf9b	1.55716	0	1.7977E+308	1.02941E-39
Frmpd3	1.55361	0	1.7977E+308	3.27547E-08
Gm12394	1.5503	0	1.7977E+308	1.60874E-32
Slc30a10	1.54354	0	1.7977E+308	5.21256E-44
Gm12788	1.54319	0	1.7977E+308	0.0164637
Clcn1	1.53621	0	1.7977E+308	1.25464E-06
Vwa3a	1.52983	0.0844768	4.17867	0.0361744
Cox6b2	1.5115	0	1.7977E+308	0.000015698
Insc	1.51038	0	1.7977E+308	0.00017032
Eya1	1.50706	0	1.7977E+308	3.36152E-42
Gm2464	1.50198	0	1.7977E+308	3.71767E-27
Ctxn3	1.49459	0	1.7977E+308	2.04238E-16
Zic2	1.48474	0	1.7977E+308	2.14192E-23
Hhip	1.48099	0	1.7977E+308	1.4419E-11
Fam59b	1.47662	0	1.7977E+308	1.18439E-34
1110017D15Rik	1.4752	0	1.7977E+308	0.0284213
Gm17180	1.47503	0	1.7977E+308	0.000728427
Nos1	1.47498	0	1.7977E+308	4.90411E-13
Grid2	1.47415	0	1.7977E+308	6.57409E-43

Asgr1	1.47207	0	1.7977E+308	6.04656E-05
A330048O09Rik	1.46536	0	1.7977E+308	9.03407E-07
Fgfbp1	1.46004	0	1.7977E+308	2.55194E-12
Doc2b	1.45691	0.0639506	4.50981	0.0154899
Dazl	1.45631	0	1.7977E+308	1.6294E-28
Gm13558	1.45318	0	1.7977E+308	0.000028035
Cntnap5b	1.43827	0	1.7977E+308	6.56074E-40
Gm14057	1.43571	0	1.7977E+308	0.00034575
Tmco5	1.43284	0	1.7977E+308	1.03953E-05
Kcnb2	1.43026	0	1.7977E+308	4.37039E-35
Tmem232	1.42398	0	1.7977E+308	1.17294E-24
Sv2c	1.42356	0.0600119	4.56811	0.0329168
Tmem40	1.42329	0	1.7977E+308	2.13984E-11
Celsr3	1.41501	0.066111	4.41978	0.000109024
Magee2	1.41009	0	1.7977E+308	1.89244E-24
Fgfbp3	1.40634	0	1.7977E+308	4.47204E-19
Slc4a1	1.40461	0	1.7977E+308	0.0131291
Ccdc155	1.39893	0	1.7977E+308	0.000105035
Gm15351	1.39887	0	1.7977E+308	0.029701
Sftpc	1.35636	0	1.7977E+308	7.98646E-08
Slc27a2	1.3562	0	1.7977E+308	6.94701E-05
Gm15717	1.35368	0	1.7977E+308	0.00964777
Gm9987	1.34292	0	1.7977E+308	3.49984E-05
Kcnh4	1.34181	0	1.7977E+308	5.23009E-35
5430405G05Rik	1.33878	0	1.7977E+308	5.5054E-14
Gm11629	1.33469	0	1.7977E+308	0.00439515
4930441O14Rik	1.32282	0	1.7977E+308	6.13793E-21
Gm10118	1.30091	0	1.7977E+308	7.55014E-25
Gna15	1.29817	0	1.7977E+308	2.10647E-06
Gm17637	1.29034	0	1.7977E+308	2.12308E-19
Gm17732	1.28735	0	1.7977E+308	1.62464E-07
Vwc2l	1.2862	0	1.7977E+308	3.23003E-25
Gm16040	1.28525	0	1.7977E+308	5.41486E-05
Pcp2	1.28499	0	1.7977E+308	3.94933E-06
5330434G04Rik	1.27929	0	1.7977E+308	4.92477E-18
Marcksl1-ps4	1.271	0	1.7977E+308	0.0408765
Nat1	1.26875	0	1.7977E+308	6.83033E-13
Gpr150	1.26527	0	1.7977E+308	1.15517E-20
Ccdc113	1.26197	0	1.7977E+308	4.37739E-12
Gm3510	1.25775	0	1.7977E+308	8.50341E-14
Fam196a	1.2573	0	1.7977E+308	4.6952E-35
Gm8348	1.25664	0	1.7977E+308	2.07934E-06
Actn2	1.25582	0	1.7977E+308	3.40857E-28
Cwh43	1.2518	0	1.7977E+308	1.3354E-07
Pip5kl1	1.24925	0	1.7977E+308	2.93433E-07
Gm16535	1.24834	0	1.7977E+308	0.0194932

Cox8b	1.24671	0	1.7977E+308	0.0125106
Gm9955	1.23754	0	1.7977E+308	0.03439
Gm14169	1.22954	0	1.7977E+308	1.18873E-23
Gm16309	1.22801	0	1.7977E+308	0.0102107
Gm10434	1.22024	0	1.7977E+308	0.000689536
7SK	1.21997	0	1.7977E+308	0.0395015
Kbtbd5	1.21722	0	1.7977E+308	3.25772E-23
Tnnt3	1.21365	0	1.7977E+308	0.00237496
Wisp1	1.21225	0	1.7977E+308	1.47882E-36
Sebox	1.21078	0	1.7977E+308	7.57938E-12
AL672076.1	1.20866	0	1.7977E+308	0.0433033
Gpr25	1.2046	0	1.7977E+308	3.00165E-18
Gm7276	1.20242	0	1.7977E+308	2.43102E-11
Spata9	1.19949	0	1.7977E+308	1.53693E-08
3830431G21Rik	1.19616	0	1.7977E+308	0.00548576
9330188P03Rik	1.1914	0	1.7977E+308	1.44007E-08
Apol8	1.18434	0	1.7977E+308	1.04505E-23
Gm3086	1.18385	0	1.7977E+308	0.000235572
Kcnj14	1.18255	0	1.7977E+308	5.71807E-24
Gm13659	1.17307	0	1.7977E+308	2.32598E-05
Gm14004	1.16786	0	1.7977E+308	9.21599E-05
Gm9996	1.16783	0	1.7977E+308	7.90645E-08
Kiss1r	1.16628	0	1.7977E+308	1.81443E-09
Rpe65	1.16412	0	1.7977E+308	3.12342E-14
Tmem132e	1.16191	0	1.7977E+308	4.25696E-17
Cox7b2	1.15629	0	1.7977E+308	0.000313041
A830092H15Rik	1.15605	0	1.7977E+308	8.90473E-11
9430021M05Rik	1.15353	0	1.7977E+308	2.00652E-10
RP24-89N4.5	1.15017	0	1.7977E+308	1.60219E-05
Arr3	1.14906	0	1.7977E+308	0.000178093
Myh7	1.14901	0	1.7977E+308	2.61704E-39
Zfp664	1.14672	0	1.7977E+308	0.014558
Gpr45	1.13954	0	1.7977E+308	1.61942E-13
D430036J16Rik	1.13909	0	1.7977E+308	1.7666E-12
Myl2	1.13597	0	1.7977E+308	0.004154
A630023P12Rik	1.135	0	1.7977E+308	0.000437737
Agmat	1.13365	0	1.7977E+308	3.89325E-12
Gm13300	1.13307	0	1.7977E+308	1.82861E-13
Pmaip1	1.12972	0	1.7977E+308	4.30222E-23
Gm715	1.12928	0	1.7977E+308	5.76794E-07
Syt10	1.12756	0	1.7977E+308	4.22908E-16
3010001F23Rik	1.11903	0	1.7977E+308	0.000482259
Gm9934	1.11714	0	1.7977E+308	1.90629E-17
Gm16192	1.11446	0	1.7977E+308	1.18287E-07
Dpf3	1.11444	0	1.7977E+308	5.40584E-06
Gm11266	1.11407	0	1.7977E+308	7.81769E-11

4930500M09Rik	1.11129	0	1.7977E+308	1.79689E-05
Il1rapl2	1.10596	0	1.7977E+308	4.15747E-19
Fbxo47	1.10583	0	1.7977E+308	4.94535E-07
Trhr2	1.09986	0	1.7977E+308	2.24887E-11
Cbln1	1.09957	0	1.7977E+308	1.11872E-10
2310026L22Rik	1.09787	0	1.7977E+308	0.00711736
Bambi-ps1	1.09512	0	1.7977E+308	0.000148957
A430108G06Rik	1.09447	0	1.7977E+308	1.35785E-11
Gh	1.09041	0	1.7977E+308	6.85236E-07
Gm266	1.08895	0	1.7977E+308	5.04316E-10
Tbata	1.08863	0	1.7977E+308	2.43924E-08
2610034M16Rik	1.08792	0.06696	4.02213	0.0331522
Gm13530	1.0823	0	1.7977E+308	0.0113257
Gm11611	1.08	0	1.7977E+308	5.54966E-11
Gm10543	1.07721	0	1.7977E+308	2.36618E-13
A730056A06Rik	1.07485	0	1.7977E+308	1.17299E-21
Hey2	1.07322	0	1.7977E+308	1.53225E-21
Gm15956	1.07175	0	1.7977E+308	0.00105086
Med20	1.07162	0	1.7977E+308	0.00370174
Htr1b	1.0686	0	1.7977E+308	2.64387E-10
Kcng2	1.06249	0	1.7977E+308	0.000020043
Ube2t	1.06103	0	1.7977E+308	5.42775E-09
Spats1	1.05943	0	1.7977E+308	7.72674E-08
Gm5150	1.05804	0	1.7977E+308	3.32848E-07
Gm16707	1.05363	0	1.7977E+308	1.40775E-09
Gm17543	1.04545	0	1.7977E+308	7.97625E-12
Gm16266	1.04252	0	1.7977E+308	0.000412746
Siah3	1.03919	0	1.7977E+308	4.50299E-07
Klhl1	1.03733	0	1.7977E+308	1.25767E-29
1700013G23Rik	1.03681	0	1.7977E+308	0.0499783
Gm15503	1.03646	0	1.7977E+308	0.00282794
Gm10702	1.03221	0	1.7977E+308	4.72339E-10
Sgcz	1.03077	0	1.7977E+308	1.08678E-14
2900072N19Rik	1.03017	0	1.7977E+308	3.45004E-06
Gm13091	1.02879	0	1.7977E+308	0.00228624
Gm16339	1.02366	0	1.7977E+308	2.71036E-07
E530011L22Rik	1.02077	0	1.7977E+308	3.78533E-16
Cd7	1.01438	0	1.7977E+308	2.04699E-07
Kcnk10	1.01361	0	1.7977E+308	1.36672E-13
Gm10593	1.00678	0	1.7977E+308	6.8444E-26
7SK	1.0054	0	1.7977E+308	0.0274059
Gm13883	1.00032	0	1.7977E+308	1.15271E-08
Gm16560	0.99954	0	1.7977E+308	0.0121904
Cstad	0.992456	0	1.7977E+308	5.45109E-05
1500035N22Rik	0.992249	0	1.7977E+308	1.51498E-06
2210008F06Rik	0.986252	0	1.7977E+308	3.28164E-08

4930599N23Rik	0.980339	0	1.7977E+308	6.25304E-07
Tmem202	0.979833	0	1.7977E+308	1.46885E-09
4732415M23Rik	0.979177	0	1.7977E+308	0.00103474
Dynlrb2	0.973809	0	1.7977E+308	0.00233096
Ucp3	0.972241	0	1.7977E+308	3.99837E-13
Kcnd1	0.971165	0	1.7977E+308	1.76815E-32
Slc6a20b	0.967712	0	1.7977E+308	8.60092E-08
Prima1	0.965658	0	1.7977E+308	0.000194736
Fibcd1	0.96413	0	1.7977E+308	6.78241E-31
Gm15624	0.960858	0	1.7977E+308	2.43329E-05
2310050B05Rik	0.960482	0	1.7977E+308	1.01328E-08
Fgf22	0.953507	0	1.7977E+308	0.000736405
Gm52	0.950085	0	1.7977E+308	5.06119E-15
1700007P06Rik	0.948779	0	1.7977E+308	0.00140941
Gm10840	0.943449	0	1.7977E+308	0.0463798
Gm17493	0.928515	0	1.7977E+308	5.74824E-08
Slc22a6	0.926864	0	1.7977E+308	5.1893E-27
Gm15849	0.92524	0	1.7977E+308	0.0346912
Trfr2	0.924288	0	1.7977E+308	9.52747E-20
Slc16a14	0.919875	0	1.7977E+308	3.30651E-23
Gm15998	0.919656	0	1.7977E+308	2.26552E-13
Ascl1	0.918614	0	1.7977E+308	4.67531E-18
Gm12300	0.918076	0	1.7977E+308	2.32461E-05
Cacng5	0.918031	0	1.7977E+308	5.03085E-25
Gm2897	0.918003	0	1.7977E+308	8.90998E-05
Gm13713	0.913765	0	1.7977E+308	7.97909E-05
D930019O06Rik	0.911148	0	1.7977E+308	3.27101E-25
Ybx2	0.902543	0	1.7977E+308	0.00094381
BC030867	0.902451	0	1.7977E+308	1.13799E-05
4930479D17Rik	0.8981	0	1.7977E+308	5.07573E-05
2510046G10Rik	0.896193	0	1.7977E+308	0.0406344
Dlx5	0.89503	0	1.7977E+308	1.14294E-09
Npas3	0.892923	0	1.7977E+308	1.45919E-31
Pdzrn4	0.892403	0	1.7977E+308	4.33548E-23
A830005F24Rik	0.889666	0	1.7977E+308	2.17556E-05
Gm13547	0.88898	0	1.7977E+308	0.00842798
Rxfp2	0.887965	0	1.7977E+308	3.82918E-12
Gm4409	0.883838	0	1.7977E+308	2.78575E-13
Traip	0.880764	0	1.7977E+308	6.85663E-19
Dbil5	0.87824	0	1.7977E+308	0.000710355
1700112M01Rik	0.877194	0	1.7977E+308	1.35793E-05
1700030C12Rik	0.87695	0	1.7977E+308	0.0276395
Gm14259	0.872279	0	1.7977E+308	2.26933E-08
Gm15623	0.871821	0	1.7977E+308	0.000083
C230035I16Rik	0.871148	0	1.7977E+308	0.000551462
Gm16994	0.868917	0	1.7977E+308	1.37858E-06

AB041806	0.864203	0	1.7977E+308	1.85197E-14
Fam129c	0.860079	0	1.7977E+308	0.0220881
2010012P19Rik	0.855933	0	1.7977E+308	0.00140669
Gm11772	0.854265	0	1.7977E+308	0.00178163
5330416C01Rik	0.851884	0	1.7977E+308	2.19551E-05
RP23-405M24.1	0.848377	0	1.7977E+308	0.0154034
B230369F24Rik	0.84404	0	1.7977E+308	2.98127E-17
1700003M02Rik	0.8401	0	1.7977E+308	0.000094779
Rab42-ps	0.838703	0	1.7977E+308	5.36112E-05
Gm16033	0.837585	0	1.7977E+308	0.00322614
Ak8	0.834622	0	1.7977E+308	0.000177517
Pcdha3	0.833195	0	1.7977E+308	2.82396E-16
Pde11a	0.831701	0	1.7977E+308	1.0299E-12
Wl1-1377A22.2	0.831556	0	1.7977E+308	0.000146406
Pou3f4	0.831183	0	1.7977E+308	8.86733E-08
Gm16054	0.830278	0	1.7977E+308	9.11225E-12
Prss22	0.829621	0	1.7977E+308	1.42613E-08
Gm15726	0.827167	0	1.7977E+308	0.00308547
Gm11637	0.826663	0	1.7977E+308	0.0010351
Gm11940	0.824735	0	1.7977E+308	0.0124935
Hsd3b3	0.82393	0	1.7977E+308	0.00031533
3110070M22Rik	0.823926	0	1.7977E+308	2.59121E-07
Gm12525	0.820285	0	1.7977E+308	0.00216687
3110082J24Rik	0.820055	0	1.7977E+308	0.00422934
Clec18a	0.819218	0	1.7977E+308	5.90979E-13
Aard	0.819189	0	1.7977E+308	1.11632E-08
Scx	0.817107	0	1.7977E+308	2.23002E-07
Gm9885	0.816067	0	1.7977E+308	2.69045E-14
Gm15539	0.814509	0	1.7977E+308	0.00143732
Gm16588	0.812329	0	1.7977E+308	0.0342714
Krt77	0.810933	0	1.7977E+308	4.01831E-19
Crip3	0.808089	0	1.7977E+308	0.0322591
Nxph4	0.807322	0	1.7977E+308	8.66524E-11
Eya4	0.802153	0	1.7977E+308	1.62138E-26
March10	0.800456	0	1.7977E+308	0.00165649
Gm14164	0.800434	0	1.7977E+308	7.36397E-13
Gm11851	0.790571	0	1.7977E+308	0.000393036
Pcdhb13	0.789323	0	1.7977E+308	8.88971E-23
4922501L14Rik	0.786296	0	1.7977E+308	8.67149E-12
Cidea	0.783569	0	1.7977E+308	3.15031E-07
Tmem54	0.782504	0	1.7977E+308	1.68514E-06
Npff	0.776308	0	1.7977E+308	0.014004
D930015M05Rik	0.774095	0	1.7977E+308	2.09975E-07
Gm15723	0.77291	0	1.7977E+308	0.00111878
Gm12446	0.770239	0	1.7977E+308	0.000392308
Gm15576	0.769115	0	1.7977E+308	0.00358401

Gm15991	0.768885	0	1.7977E+308	9.40651E-06
Ccnjl	0.760724	0	1.7977E+308	0.0150108
Gm10308	0.759356	0	1.7977E+308	0.000177697
A330008L17Rik	0.758069	0	1.7977E+308	2.43766E-19
Gm12709	0.757336	0	1.7977E+308	1.23564E-11
Dlx2	0.755974	0	1.7977E+308	4.68215E-05
Ankrd55	0.751084	0	1.7977E+308	2.89111E-11
Gm14276	0.747888	0	1.7977E+308	0.000852649
Gm16596	0.738499	0	1.7977E+308	6.05562E-09
Gm14738	0.737793	0	1.7977E+308	1.30926E-14
Zfp300	0.73643	0	1.7977E+308	7.69481E-09
Gm17594	0.73626	0	1.7977E+308	6.3258E-13
A230009B12Rik	0.733934	0	1.7977E+308	5.33073E-05
Cntnap3	0.730586	0	1.7977E+308	1.93236E-26
Nkain2	0.730238	0	1.7977E+308	0.00385753
Gm10742	0.72708	0	1.7977E+308	6.49437E-20
Bhlha9	0.724361	0	1.7977E+308	4.98677E-07
Npy2r	0.712763	0	1.7977E+308	1.89756E-11
Samd3	0.710868	0	1.7977E+308	3.37086E-10
Wnk1	0.707775	0	1.7977E+308	4.03488E-06
Fau-ps2	0.706281	0	1.7977E+308	0.0416838
Lypd2	0.70451	0	1.7977E+308	0.00768037
Pcdhb8	0.701929	0	1.7977E+308	5.08594E-13
L3mbtl1	0.701733	0	1.7977E+308	0.00855715
Btbd8	0.701313	0	1.7977E+308	1.28246E-06
Kiss1	0.697589	0	1.7977E+308	0.000353123
Cdh24	0.697185	0	1.7977E+308	1.79608E-15
Allc	0.692781	0	1.7977E+308	7.93574E-08
Gm5468	0.687998	0	1.7977E+308	0.00102322
6330409D20Rik	0.686926	0	1.7977E+308	2.33789E-05
Gm11508	0.684321	0	1.7977E+308	0.0210194
Gm9089	0.683894	0	1.7977E+308	0.0063277
Gm13999	0.681256	0	1.7977E+308	3.13901E-05
Foxf2	0.677916	0	1.7977E+308	7.40863E-13
Ntsr1	0.676941	0	1.7977E+308	2.73695E-17
F2rl2	0.673579	0	1.7977E+308	8.90416E-14
Klhl33	0.671204	0	1.7977E+308	1.03942E-08
Sh3d2c-ps1	0.669779	0	1.7977E+308	5.16342E-05
Gm16938	0.668485	0	1.7977E+308	1.14012E-05
Pcdhb6	0.667636	0	1.7977E+308	7.63823E-15
Cstl1	0.667547	0	1.7977E+308	0.0430784
Gm15867	0.667174	0	1.7977E+308	0.00300199
Gm13334	0.659711	0	1.7977E+308	0.0014843
Gm12963	0.65934	0	1.7977E+308	0.0364146
1700080G11Rik	0.656683	0	1.7977E+308	0.0284519
2310002J15Rik	0.656111	0	1.7977E+308	0.000134536

Gm15415	0.65382	0	1.7977E+308	1.98673E-06
Gm15246	0.652323	0	1.7977E+308	0.0089734
5830418P13Rik	0.652121	0	1.7977E+308	0.00507247
Pomc	0.652046	0	1.7977E+308	1.82609E-05
4922502B01Rik	0.651631	0	1.7977E+308	2.31678E-07
9330171B17Rik	0.650352	0	1.7977E+308	2.40967E-10
A230006K03Rik	0.648426	0	1.7977E+308	0.000094886
4930579G18Rik	0.647051	0	1.7977E+308	3.28307E-05
1700013F07Rik	0.646375	0	1.7977E+308	0.00661656
BC022960	0.645876	0	1.7977E+308	1.68435E-09
9130019P16Rik	0.642225	0	1.7977E+308	5.48744E-13
A930035D04Rik	0.641214	0	1.7977E+308	0.00672866
Asb2	0.639278	0	1.7977E+308	0.0137256
Gm973	0.639172	0	1.7977E+308	1.27139E-18
Gm12523	0.63686	0	1.7977E+308	0.00326268
Gm14637	0.635137	0	1.7977E+308	0.0284519
A230006K03Rik	0.63479	0	1.7977E+308	5.51455E-12
Dcc	0.633921	0	1.7977E+308	4.12556E-26
D630008O14Rik	0.631797	0	1.7977E+308	2.45468E-05
Dnajb3	0.631784	0	1.7977E+308	2.61271E-05
Gm16894	0.631367	0	1.7977E+308	0.000210848
Cldn22	0.629818	0	1.7977E+308	2.93199E-05
P4ha3	0.628383	0	1.7977E+308	3.45545E-12
1700028P14Rik	0.624894	0	1.7977E+308	0.000143709
Gm13293	0.6237	0	1.7977E+308	0.00201463
Gm17733	0.623384	0	1.7977E+308	4.49526E-05
Pcdhb2	0.621999	0	1.7977E+308	6.05945E-14
Gm16049	0.621059	0	1.7977E+308	0.0108691
A930012L18Rik	0.620442	0	1.7977E+308	6.01441E-12
Hfe2	0.62028	0	1.7977E+308	3.02561E-10
1700112D23Rik	0.619599	0	1.7977E+308	0.00851367
Dll3	0.618378	0	1.7977E+308	0.00175918
Gm6970	0.6138	0	1.7977E+308	0.0025037
Gm4134	0.612432	0	1.7977E+308	0.00648269
Fam184b	0.610352	0	1.7977E+308	1.55696E-20
4930579K19Rik	0.610341	0	1.7977E+308	0.0023359
Gm10570	0.610238	0	1.7977E+308	0.0125942
Gan	0.609254	0	1.7977E+308	1.91115E-14
Mzf1	0.606575	0	1.7977E+308	4.44354E-13
Gm16661	0.605932	0	1.7977E+308	1.98022E-06
Shh	0.603878	0	1.7977E+308	4.64223E-13
Tph2	0.60215	0	1.7977E+308	5.56749E-13
C030005K06Rik	0.601874	0	1.7977E+308	0.00689524
Casq1	0.59431	0	1.7977E+308	0.00143116
4932441J04Rik	0.592208	0	1.7977E+308	0.000982274
2410080I02Rik	0.588931	0	1.7977E+308	0.0347946

Drd2	0.58823	0	1.7977E+308	4.08217E-12
Gm10532	0.586352	0	1.7977E+308	5.00106E-11
A930015D03Rik	0.583594	0	1.7977E+308	0.0057541
Lor	0.580325	0	1.7977E+308	1.70862E-08
Gm9801	0.580038	0	1.7977E+308	0.0404771
Gm13523	0.577752	0	1.7977E+308	0.0195208
Gm16731	0.577528	0	1.7977E+308	0.000145957
D830050J10Rik	0.576913	0	1.7977E+308	0.0163936
4930578N16Rik	0.57679	0	1.7977E+308	7.08854E-07
Trhr	0.573382	0	1.7977E+308	5.44077E-13
Gm11274	0.572997	0	1.7977E+308	0.023446
Gm15156	0.570794	0	1.7977E+308	0.0375742
Gm16739	0.570281	0	1.7977E+308	0.042639
D030055H07Rik	0.569745	0	1.7977E+308	0.00181064
Gm11802	0.569214	0	1.7977E+308	0.00284218
6820408C15Rik	0.566786	0	1.7977E+308	0.00530412
Krt9	0.566499	0	1.7977E+308	4.85811E-12
Cyp2j12	0.564319	0	1.7977E+308	6.02346E-08
C030019I05Rik	0.56404	0	1.7977E+308	1.32275E-10
Npsr1	0.562837	0	1.7977E+308	0.00120474
Cpxm2	0.56089	0	1.7977E+308	0.0109318
Gm15672	0.560477	0	1.7977E+308	8.49247E-06
Gm5959	0.556549	0	1.7977E+308	0.0419694
8030443G20Rik	0.553006	0	1.7977E+308	0.000254053
Gm16684	0.551152	0	1.7977E+308	0.000063969
Gm16705	0.547489	0	1.7977E+308	1.2716E-09
Gm11149	0.547017	0	1.7977E+308	8.19263E-06
Zar1l	0.547007	0	1.7977E+308	0.000346342
Gm11730	0.546359	0	1.7977E+308	0.00744665
Gm15870	0.545167	0	1.7977E+308	0.004989
Pcdhb21	0.540782	0	1.7977E+308	1.25092E-20
Stac3	0.539332	0	1.7977E+308	0.0266249
4922502B01Rik	0.537199	0	1.7977E+308	1.22954E-05
Batf3	0.536778	0	1.7977E+308	0.00242938
Lemd1	0.536057	0	1.7977E+308	0.000211979
4930579G22Rik	0.534589	0	1.7977E+308	0.00596449
Gm15384	0.534421	0	1.7977E+308	0.0204654
Fam83d	0.53253	0	1.7977E+308	7.16824E-10
Gm4211	0.529705	0	1.7977E+308	6.28375E-10
Gm17193	0.529636	0	1.7977E+308	0.00262099
Insl5	0.528443	0	1.7977E+308	0.046773
4931415C17Rik	0.526705	0	1.7977E+308	2.33213E-07
Gm14873	0.525934	0	1.7977E+308	0.0103545
Dusp13	0.525765	0	1.7977E+308	0.00502917
4930500J02Rik	0.525315	0	1.7977E+308	0.0495142
Gm12691	0.524965	0	1.7977E+308	0.0392312

Gm14286	0.524164	0	1.7977E+308	0.03439
Zcwpw2	0.522714	0	1.7977E+308	0.0275794
3110099E03Rik	0.522616	0	1.7977E+308	0.00849035
Gm15552	0.521556	0	1.7977E+308	2.82782E-06
4930512B01Rik	0.518688	0	1.7977E+308	4.68908E-08
Rtbdn	0.518599	0	1.7977E+308	1.82324E-05
Zfp879	0.517612	0	1.7977E+308	2.93729E-10
Gm15676	0.516769	0	1.7977E+308	0.0011035
AI115009	0.515767	0	1.7977E+308	3.81052E-08
Gm13744	0.513646	0	1.7977E+308	0.000726479
Cdsn	0.513266	0	1.7977E+308	1.91361E-11
Gm17614	0.509806	0	1.7977E+308	2.55231E-05
E130006D01Rik	0.508612	0	1.7977E+308	0.0229928
Thpo	0.502443	0	1.7977E+308	6.56883E-07
Ky	0.501228	0	1.7977E+308	9.38688E-14
Gm3696	0.498296	0	1.7977E+308	0.0106424
Gm13830	0.494183	0	1.7977E+308	0.0435651
2410076I21Rik	0.490203	0	1.7977E+308	0.000703528
Zglp1	0.489224	0	1.7977E+308	0.000193578
Colq	0.487335	0	1.7977E+308	0.0189547
Atoh7	0.487248	0	1.7977E+308	0.0404771
Gm16044	0.485413	0	1.7977E+308	0.0411005
Mc4r	0.485139	0	1.7977E+308	3.55643E-11
Hbq1a	0.484108	0	1.7977E+308	0.0107123
Gm3020	0.481748	0	1.7977E+308	1.15597E-07
Gm14125	0.48108	0	1.7977E+308	0.00514544
Galnt5	0.479916	0	1.7977E+308	3.20041E-15
Gm17566	0.478484	0	1.7977E+308	0.00147907
Nmbr	0.478174	0	1.7977E+308	3.18298E-05
Dydc2	0.477647	0	1.7977E+308	0.0292813
Slc9a2	0.476243	0	1.7977E+308	7.66998E-14
1700001G11Rik	0.475747	0	1.7977E+308	0.00439515
0610040F04Rik	0.475143	0	1.7977E+308	5.10056E-07
Gm5897	0.475116	0	1.7977E+308	9.56168E-06
Gm16866	0.474214	0	1.7977E+308	3.55132E-10
Gm12748	0.473794	0	1.7977E+308	0.0405748
A730035I17Rik	0.473351	0	1.7977E+308	0.00769418
Gm14606	0.473295	0	1.7977E+308	0.000103827
Gm14246	0.472333	0	1.7977E+308	0.00552172
Gm16638	0.46964	0	1.7977E+308	1.90946E-07
Cbln1	0.468149	0	1.7977E+308	0.000496356
Gm14932	0.466287	0	1.7977E+308	0.0461956
Cldn24	0.46483	0	1.7977E+308	0.00826669
RP23-191I16.2	0.463282	0	1.7977E+308	0.000365242
4930430E12Rik	0.463172	0	1.7977E+308	0.00386222
Rel	0.462907	0	1.7977E+308	8.91155E-11

Gm13524	0.462447	0	1.7977E+308	0.00555795
1700022N22Rik	0.462437	0	1.7977E+308	0.00404713
Ccdc87	0.461634	0	1.7977E+308	3.87145E-12
Gm7271	0.460092	0	1.7977E+308	0.0372461
S100a3	0.459726	0	1.7977E+308	0.00404713
2700069I18Rik	0.456158	0	1.7977E+308	0.00206703
Gm13709	0.4556	0	1.7977E+308	0.0136344
Gm16958	0.451511	0	1.7977E+308	0.00161773
Ttc34	0.450768	0	1.7977E+308	0.00979822
Gm17715	0.450206	0	1.7977E+308	1.05762E-11
Gm14575	0.45009	0	1.7977E+308	0.0226447
Gm12908	0.449495	0	1.7977E+308	7.4268E-07
Frmd4a	0.44885	0	1.7977E+308	3.90642E-13
Mei1	0.447828	0	1.7977E+308	1.98935E-15
5430402O13Rik	0.447466	0	1.7977E+308	0.00158785
Chrnb3	0.447016	0	1.7977E+308	9.28705E-17
Gm5602	0.446321	0	1.7977E+308	7.72694E-07
Vmn2r-ps19	0.443772	0	1.7977E+308	0.0247993
Gm17396	0.441244	0	1.7977E+308	2.87635E-06
Gm16577	0.440745	0	1.7977E+308	0.043977
Tnni2	0.438097	0	1.7977E+308	0.00537995
Gm14042	0.437046	0	1.7977E+308	0.00229271
Gm16899	0.436399	0	1.7977E+308	0.000128658
4921515J06Rik	0.436255	0	1.7977E+308	4.52114E-06
Gm15932	0.43498	0	1.7977E+308	0.0375203
Gm10638	0.433958	0	1.7977E+308	0.00125536
Btn2a2	0.433124	0	1.7977E+308	1.22067E-07
Gm11834	0.430442	0	1.7977E+308	0.0197732
Gm9974	0.429334	0	1.7977E+308	0.00598591
Gm14267	0.429089	0	1.7977E+308	0.0224953
Cpsf4l	0.428562	0	1.7977E+308	0.000597824
Wnt6	0.426473	0	1.7977E+308	1.81763E-07
Gm15537	0.426331	0	1.7977E+308	0.0408621
Gm17641	0.425779	0	1.7977E+308	1.61626E-08
Gpr1	0.424563	0	1.7977E+308	5.67559E-07
6530411M01Rik	0.421126	0	1.7977E+308	0.000626129
Asxl3	0.419233	0	1.7977E+308	3.0866E-33
Iqcj	0.418935	0	1.7977E+308	7.2228E-06
BC023719	0.418802	0	1.7977E+308	0.000939909
4930500F10Rik	0.417183	0	1.7977E+308	0.00802666
9030612E09Rik	0.415405	0	1.7977E+308	8.38203E-07
Zfp708	0.414702	0	1.7977E+308	4.10709E-05
Cbx3-ps3	0.414649	0	1.7977E+308	0.0270597
Gm15513	0.413478	0	1.7977E+308	1.10255E-05
Ldoc1	0.412463	0	1.7977E+308	5.79042E-05
Gm14257	0.411464	0	1.7977E+308	0.0044901

Gm15379	0.411377	0	1.7977E+308	0.0157235
Gm15135	0.411214	0	1.7977E+308	0.018295
Morn5	0.409892	0	1.7977E+308	0.00972035
Ccdc129	0.409262	0	1.7977E+308	8.11892E-11
Aspg	0.408611	0	1.7977E+308	1.40499E-09
Timp1	0.406766	0	1.7977E+308	0.00288402
RP23-32K16.4	0.406761	0	1.7977E+308	0.0372755
Gm5887	0.405978	0	1.7977E+308	0.000406592
Emx2os	0.404367	0	1.7977E+308	5.30128E-17
Slc23a3	0.403531	0	1.7977E+308	6.15641E-07
Fosl1	0.403033	0	1.7977E+308	3.94345E-06
Gm12353	0.402806	0	1.7977E+308	0.0423172
Gm14081	0.402592	0	1.7977E+308	0.0329195
Gm8778	0.401438	0	1.7977E+308	0.0177013
Gm8410	0.399581	0	1.7977E+308	0.0227844
Cntnap5c	0.399274	0	1.7977E+308	3.77166E-13
Gm17357	0.398889	0	1.7977E+308	2.5981E-08
CK137956	0.398473	0	1.7977E+308	5.17945E-08
Hbq1b	0.397645	0	1.7977E+308	0.0281715
E030013I19Rik	0.396926	0	1.7977E+308	4.10735E-07
Gm16957	0.39569	0	1.7977E+308	5.05083E-08
A830011K09Rik	0.395227	0	1.7977E+308	2.68651E-06
Krt73	0.394061	0	1.7977E+308	2.50065E-07
Sec14l5	0.393954	0	1.7977E+308	5.67669E-08
4933428G20Rik	0.39358	0	1.7977E+308	5.61085E-05
Olfr316	0.392941	0	1.7977E+308	0.00124708
E130215H24Rik	0.391319	0	1.7977E+308	0.00144014
Gm12404	0.391135	0	1.7977E+308	9.09928E-06
Zfp389	0.39063	0	1.7977E+308	0.0150697
Gm3164	0.390557	0	1.7977E+308	0.0475926
Lin28b	0.389782	0	1.7977E+308	1.25203E-12
Gm16990	0.389755	0	1.7977E+308	8.17114E-10
1700121F15Rik	0.389513	0	1.7977E+308	0.00789953
Gm17628	0.389251	0	1.7977E+308	0.00141943
1700023F06Rik	0.388263	0	1.7977E+308	0.000559439
Ccdc42	0.386543	0	1.7977E+308	0.00367877
Gm13005	0.386005	0	1.7977E+308	0.023822
A930006K02Rik	0.385952	0	1.7977E+308	0.00643846
4933402D24Rik	0.384816	0	1.7977E+308	5.22804E-06
Cdk15	0.383821	0	1.7977E+308	0.015768
1700109K24Rik	0.382272	0	1.7977E+308	0.00107018
1700029J07Rik	0.381282	0	1.7977E+308	0.000115827
Olfr464	0.379158	0	1.7977E+308	0.001067
Nhs	0.378975	0	1.7977E+308	1.11797E-25
Wnt16	0.378673	0	1.7977E+308	3.53772E-07
Gm9945	0.376724	0	1.7977E+308	0.00235213

Gm17593	0.373541	0	1.7977E+308	0.000104448
Il1a	0.373416	0	1.7977E+308	2.18767E-06
Gm5319	0.371817	0	1.7977E+308	0.00374851
C130040N14Rik	0.371798	0	1.7977E+308	0.000627106
Gm17702	0.370905	0	1.7977E+308	0.00173868
Mmel1	0.37068	0	1.7977E+308	0.0117056
Nkx3-1	0.370635	0	1.7977E+308	3.84534E-10
Ucma	0.370561	0	1.7977E+308	0.0117218
2310002F09Rik	0.366908	0	1.7977E+308	0.000975267
Pth2r	0.36672	0	1.7977E+308	1.03059E-07
A930003A15Rik	0.3663	0	1.7977E+308	0.00917204
Gm16534	0.366209	0	1.7977E+308	0.0123187
Lgr6	0.365238	0	1.7977E+308	0.0363307
Gm5403	0.365005	0	1.7977E+308	8.21375E-09
Gm13327	0.36423	0	1.7977E+308	1.12119E-08
Ebi3	0.364003	0	1.7977E+308	0.000577192
Gm15201	0.363698	0	1.7977E+308	0.000345494
Gpr6	0.363155	0	1.7977E+308	9.07186E-06
Gm14966	0.362034	0	1.7977E+308	0.0222398
Cd160	0.361388	0	1.7977E+308	8.89938E-08
B930082K07Rik	0.36138	0	1.7977E+308	6.87322E-08
Twist2	0.361068	0	1.7977E+308	0.00020255
C530025M09Rik	0.359721	0	1.7977E+308	0.0137183
Gm960	0.35957	0	1.7977E+308	1.38197E-06
Gm1604A	0.357501	0	1.7977E+308	0.0150697
Gm1604b	0.357501	0	1.7977E+308	0.0150697
Gm15839	0.357301	0	1.7977E+308	0.0367024
Epyc	0.356902	0	1.7977E+308	8.43512E-06
Acbd7	0.356348	0	1.7977E+308	0.0461956
Gm16334	0.356247	0	1.7977E+308	0.0138625
1700003D09Rik	0.354905	0	1.7977E+308	0.000121162
Gm8396	0.354573	0	1.7977E+308	0.0068203
1110035H17Rik	0.354518	0	1.7977E+308	0.000331802
Aox4	0.353599	0	1.7977E+308	1.07313E-14
A330033J07Rik	0.352915	0	1.7977E+308	9.96549E-07
Gm16583	0.352674	0	1.7977E+308	0.0357498
Gm9767	0.35181	0	1.7977E+308	0.000656252
1700067K01Rik	0.349451	0	1.7977E+308	0.00746558
D830025C05Rik	0.349258	0	1.7977E+308	0.00271597
Gm12930	0.347572	0	1.7977E+308	0.0201518
B230216G23Rik	0.346091	0	1.7977E+308	0.000163923
Gm16240	0.345924	0	1.7977E+308	0.0289192
A330040F15Rik	0.344436	0	1.7977E+308	0.00100246
Gm1614	0.343809	0	1.7977E+308	5.85734E-09
Popdc3	0.343253	0	1.7977E+308	4.94013E-05
Tmem149	0.343117	0	1.7977E+308	0.019584

Gm17382	0.341315	0	1.7977E+308	7.44594E-05
Gm9982	0.340805	0	1.7977E+308	0.000617772
Cysltr2	0.339771	0	1.7977E+308	2.58959E-05
2810055G20Rik	0.339717	0	1.7977E+308	7.29293E-05
Epha8	0.336955	0	1.7977E+308	2.67733E-13
Gm10545	0.336689	0	1.7977E+308	5.0913E-14
Gm7148	0.336264	0	1.7977E+308	0.0402524
4933406C10Rik	0.335565	0	1.7977E+308	0.000170416
Klhl14	0.335059	0	1.7977E+308	2.2647E-11
Prph	0.334416	0	1.7977E+308	1.93917E-05
Has1	0.334039	0	1.7977E+308	2.64867E-06
Gm14717	0.333293	0	1.7977E+308	0.022949
Gm12522	0.332818	0	1.7977E+308	2.81809E-07
Rad51ap2	0.331482	0	1.7977E+308	5.10381E-09
1700023E05Rik	0.33025	0	1.7977E+308	0.00661182
Gm3715	0.330148	0	1.7977E+308	0.0178766
Gm15594	0.329941	0	1.7977E+308	1.25813E-06
Gm12105	0.328339	0	1.7977E+308	0.0129393
1500002F19Rik	0.328165	0	1.7977E+308	0.00171331
Sp8	0.327603	0	1.7977E+308	2.70699E-08
Syce1l	0.327155	0	1.7977E+308	0.014004
Gm12821	0.326632	0	1.7977E+308	0.0442208
1700001G17Rik	0.326549	0	1.7977E+308	0.00732877
Zfp352	0.325445	0	1.7977E+308	3.47704E-06
Gm11762	0.32429	0	1.7977E+308	4.49526E-05
Rln1	0.324278	0	1.7977E+308	0.0232662
C1ql2	0.323349	0	1.7977E+308	6.52161E-06
Tpsg1	0.323085	0	1.7977E+308	0.0119187
Optc	0.322525	0	1.7977E+308	0.00190538
Gm14168	0.32098	0	1.7977E+308	3.02533E-06
Gm15548	0.320897	0	1.7977E+308	0.0128826
Gm16615	0.320552	0	1.7977E+308	4.58071E-09
Socs1	0.31966	0	1.7977E+308	0.000962867
Gjd3	0.318985	0	1.7977E+308	0.00815921
Gm13054	0.318948	0	1.7977E+308	0.00996191
Mmp8	0.31882	0	1.7977E+308	7.58082E-07
Alk	0.316612	0	1.7977E+308	4.94269E-13
A330070K13Rik	0.316609	0	1.7977E+308	0.0154034
G630016G05Rik	0.315965	0	1.7977E+308	0.0123606
Olfr78	0.315552	0	1.7977E+308	1.13582E-07
Gm15328	0.315009	0	1.7977E+308	2.73879E-08
4732440D04Rik	0.313863	0	1.7977E+308	0.0218292
Gm11821	0.312231	0	1.7977E+308	0.00477727
D830044I16Rik	0.311554	0	1.7977E+308	0.00507922
Gm16760	0.310626	0	1.7977E+308	0.000154671
2900041M22Rik	0.308744	0	1.7977E+308	4.38308E-05

Gypa	0.308182	0	1.7977E+308	2.78864E-05
Gm70	0.307438	0	1.7977E+308	0.000351651
Olfr288	0.307198	0	1.7977E+308	1.42688E-05
Gm9017	0.306689	0	1.7977E+308	0.0262031
Gm17378	0.305809	0	1.7977E+308	0.00639447
Gm7873	0.305792	0	1.7977E+308	0.0189727
Tnfrsf17	0.305338	0	1.7977E+308	0.014004
Gm16704	0.305098	0	1.7977E+308	2.78458E-05
2310043M15Rik	0.303816	0	1.7977E+308	0.000180937
4930471I20Rik	0.302974	0	1.7977E+308	0.0297638
Gm17116	0.30291	0	1.7977E+308	0.00430873
1110002E22Rik	0.300717	0	1.7977E+308	2.78046E-23
Dnd1	0.300667	0	1.7977E+308	0.000513291
Gm11650	0.300069	0	1.7977E+308	0.00177643
Gm15816	0.299447	0	1.7977E+308	8.27424E-05
Gm10657	0.296612	0	1.7977E+308	0.00426863
Clcnka	0.295795	0	1.7977E+308	0.0358424
Vmn2r87	0.294026	0	1.7977E+308	7.48222E-08
Wfdc3	0.293632	0	1.7977E+308	0.0120422
Agrp	0.29336	0	1.7977E+308	0.038805
Gm20482	0.293303	0	1.7977E+308	0.000113809
Klri1	0.290802	0	1.7977E+308	0.0150697
Cacna2d4	0.290499	0	1.7977E+308	1.74392E-12
Gm15688	0.290299	0	1.7977E+308	2.71655E-06
A830031A19Rik	0.28898	0	1.7977E+308	0.023446
Mup5	0.287871	0	1.7977E+308	0.0103077
C430049B03Rik	0.287616	0	1.7977E+308	0.0310619
Gm9901	0.287345	0	1.7977E+308	0.00477727
9530052E02Rik	0.28682	0	1.7977E+308	0.00550262
Gm15585	0.286134	0	1.7977E+308	0.039056
Adrb3	0.284815	0	1.7977E+308	3.16019E-06
4930469G21Rik	0.283818	0	1.7977E+308	0.00191134
Mypn	0.282932	0	1.7977E+308	1.14797E-12
Trpc7	0.282734	0	1.7977E+308	9.8686E-07
Gm628	0.282699	0	1.7977E+308	5.26706E-06
A930013B10Rik	0.282464	0	1.7977E+308	0.0382041
Lrriq1	0.281759	0	1.7977E+308	1.59459E-06
Pnma5	0.281447	0	1.7977E+308	5.33486E-07
2310042E22Rik	0.281394	0	1.7977E+308	0.00179984
Tbx1	0.281092	0	1.7977E+308	0.000235261
C230030N03Rik	0.280927	0	1.7977E+308	0.000256748
A830093I24Rik	0.280361	0	1.7977E+308	3.40661E-07
Bves	0.280126	0	1.7977E+308	0.000208708
Dnahc7b	0.279543	0	1.7977E+308	1.81473E-26
Hapln3	0.277747	0	1.7977E+308	4.0594E-08
1700014D04Rik	0.277561	0	1.7977E+308	0.0203733

1700069B07Rik	0.277453	0	1.7977E+308	0.0154994
5330413P13Rik	0.277091	0	1.7977E+308	6.57305E-07
Gm15172	0.276698	0	1.7977E+308	0.00651789
2410137M14Rik	0.276281	0	1.7977E+308	0.021784
Gm6297	0.276268	0	1.7977E+308	1.92165E-05
Trh	0.27361	0	1.7977E+308	0.0010351
1700060J05Rik	0.272736	0	1.7977E+308	0.00641492
Ccdc18	0.272533	0	1.7977E+308	5.84892E-11
Gm12835	0.271787	0	1.7977E+308	4.21389E-05
Nts	0.270772	0	1.7977E+308	0.00353077
Pgpep1l	0.270622	0	1.7977E+308	0.00786621
4930578M01Rik	0.270557	0	1.7977E+308	0.0124292
Npc1l1	0.269321	0	1.7977E+308	1.49111E-09
Drd5	0.268868	0	1.7977E+308	9.14542E-07
Xkr7	0.268689	0	1.7977E+308	1.41867E-06
Serpine3	0.268436	0	1.7977E+308	0.00108261

Pancreas specific genes

gene	Cortex (FPKM)	Pancreas (FPKM)	log2 (fold change)	FDR
Mgl2	0.461228	7.42035	4.00794	6.57915E-07
Fam60a	1.31408	21.1627	4.0094	0.0161113
Tmem20	0.550283	8.93659	4.02148	0
Wfdc2	0.924118	15.1183	4.03208	5.08373E-07
1700112E06Rik	0.887983	14.5464	4.03399	5.75197E-07
Hk2	0.655921	10.8097	4.04266	1.50393E-10
Slpi	0.864696	14.2896	4.04663	6.77888E-10
Gm13730	0.374262	6.18767	4.04728	0
Gm12612	0.498375	8.33781	4.06436	0
Arhgef5	0.38395	6.42809	4.0654	0
Ifi44	0.493474	8.37438	4.08494	1.95762E-08
Ccrl2	0.340294	5.79007	4.08873	0
Fmo2	0.530536	9.08513	4.09798	1.42369E-14
Gm5385	0.498675	8.59814	4.10785	0
Gm12626	0.2842	4.90026	4.10788	0
Fbln2	0.988261	17.0773	4.11104	1.70185E-12
Cish	2.1274	37.4675	4.13848	0
Gm12623	0.524171	9.23253	4.13862	0
Mgmt	0.646672	11.42	4.14238	0
Kcp	0.266636	4.7189	4.14551	0.000425589
Gm5246	0.35056	6.22327	4.14994	1.86866E-07
Iglv1	0.653912	11.6206	4.15144	0.00363563
Apol7d	2.45978	43.8399	4.15564	0
Antxr2	0.38519	6.88419	4.15965	0

Loxl1	0.403302	7.20875	4.15982	9.1268E-15
2310001H17Rik	0.198861	3.56829	4.1654	0.00014918
D17H6S56E-5	1.01376	18.3976	4.18173	0
Gm12620	0.544253	9.9342	4.19006	0
Bst2	2.60895	47.8487	4.19694	0
Cfb	0.655374	12.0398	4.19935	7.33229E-12
Gm17423	0.252718	4.66782	4.20715	0
Sdc1	0.38918	7.18982	4.20745	2.7264E-08
Fcna	0.366323	6.77842	4.20976	6.33237E-08
Tstd1	0.231821	4.31295	4.21759	0.000836733
Igkv19-93	0.999434	18.628	4.22021	1.77874E-06
Lad1	0.278576	5.23143	4.23106	0
Sgms2	0.504638	9.49459	4.23378	0
Zbtb42	0.545386	10.2911	4.23797	2.46455E-09
Sec14l4	0.650796	12.3501	4.24618	1.54873E-13
Cd79b	0.264837	5.0489	4.25279	2.14624E-11
Igkv1-117	0.339769	6.48512	4.25451	0.012121
Fam160a1	0.457488	8.74791	4.25713	0
Tpk1	0.985298	19.1079	4.27746	7.58698E-09
Hp	0.460556	9.06062	4.29816	0
Tmc4	1.33688	26.6427	4.3168	0
Gm11839	0.380212	7.57822	4.31698	0
Igkv1-110	0.324788	6.48512	4.31956	0.0134625
Slc25a35	1.05148	21.2323	4.33577	0
Nipal2	1.08377	22.0002	4.34339	0
Gjb2	2.5413	51.884	4.35165	0
Sec24d	1.22969	25.1501	4.3542	0
Col6a3	0.462868	9.55195	4.36712	1.06693E-10
Gm11841	0.410532	8.52526	4.37618	0
Gimap4	0.322724	6.70475	4.37681	7.31832E-10
Mmp2	0.38531	8.03712	4.38259	0
Fam129a	0.588872	12.3287	4.38792	0
Ehhadh	0.685255	14.3944	4.39273	0
Col1a1	1.07596	22.7107	4.39967	2.3033E-11
Csrp2	2.58515	54.6918	4.40301	0
Ptpn18	0.634984	13.6033	4.42109	0
Srpx	0.195559	4.23492	4.43666	1.44059E-10
Myc	0.944584	20.5034	4.44004	0
Col15a1	1.37975	29.9672	4.44091	8.17046E-12
2510049J12Rik	0.361758	7.90884	4.45037	0
Gm5277	0.177075	3.8754	4.45191	0.00087465
Plvap	1.59425	35.0971	4.4604	0
Apoa2	0.653431	14.3886	4.46075	8.05438E-08
Rhobtb1	1.06454	23.7193	4.47776	0
Chac1	2.07393	46.4165	4.4842	0
Dram1	0.567621	12.7056	4.4844	1.67553E-06

Isg20	1.27119	28.4995	4.48669	0
Gm17572	0.352378	7.90961	4.48841	0.000641178
RP24-323I5.2	0.232984	5.23978	4.4912	1.59107E-05
1810059H22Rik	0.274402	6.17411	4.49187	1.21223E-07
Man2a1	2.9682	67.1058	4.49878	0
Sigirr	0.248981	5.6456	4.50302	0
Rem1	0.351691	8.062	4.51876	0.00279149
Ildr1	0.151857	3.51559	4.53298	2.7946E-07
Gm15821	0.235095	5.45498	4.53626	2.56419E-12
Sema3b	0.318966	7.41616	4.5392	0
Crispld2	0.357618	8.35181	4.5456	4.57138E-10
Stap2	0.429156	10.0527	4.54994	0
Theg	0.698307	16.4494	4.55803	5.1071E-10
Hsbp1l1	1.07681	25.5925	4.57089	0
Cldn15	0.14537	3.47029	4.57725	0.00015062
Cmtm8	0.57338	13.7011	4.57865	0
Gm16345	2.86412	69.1872	4.59434	0.00997112
Trim16	0.676333	16.5585	4.6137	0
Fbn1	0.177986	4.36633	4.61658	0
Tspan1	0.155936	3.90417	4.64599	1.88021E-08
Gm10320	1.65512	41.5391	4.64947	0
Cd79a	0.269806	6.78269	4.65186	0
Pecr	1.74029	43.8095	4.65384	0
Plac8	0.428824	10.8324	4.65882	2.99585E-12
Echdc3	0.285945	7.25757	4.66567	2.30781E-14
Gck	0.31172	7.92571	4.66822	1.89415E-06
1700026L06Rik	0.404088	10.3502	4.67884	0.00137379
Cd2	0.156139	4.01217	4.68348	0.000137468
Thbs1	0.151981	3.92222	4.68971	0
Gm5474	2.06563	53.3663	4.69128	0
Fstl3	0.170301	4.40149	4.69184	5.44136E-06
Adamts9	0.169933	4.39369	4.6924	0
Parp16	0.508813	13.1996	4.69722	0
Gm15441	0.354064	9.19625	4.69896	0
Tnk1	0.1984	5.15619	4.69982	1.58391E-10
Gm12181	0.179094	4.73966	4.726	0.00109335
Arhgap28	0.159065	4.22748	4.73211	6.99179E-05
4932425I24Rik	0.59368	15.8942	4.74267	0
Igsf5	0.628959	16.9386	4.7512	1.4639E-11
Procr	0.640319	17.3899	4.76331	1.56066E-13
Gm16234	0.991993	26.9766	4.76523	0
Pik3ap1	0.583889	16.004	4.7766	0
Ccdc68	0.121107	3.33556	4.78357	8.53853E-07
1810011O10Rik	0.487264	13.497	4.79179	0
Ntn1	0.663497	18.4692	4.79888	0
Elmo3	0.26195	7.36744	4.8138	0

Mfap5	0.704509	19.8168	4.81397	2.08957E-06
Ifrd2	1.36424	38.5589	4.82089	0
Agpat2	0.450589	12.7563	4.82325	2.65507E-15
Celsr1	0.210795	6.02877	4.83795	0
Mecom	0.388216	11.1282	4.84121	0
Mfsd2b	0.124308	3.56768	4.843	8.24821E-08
Tyms	0.572326	16.5521	4.85404	0
1810008B01Rik	0.211785	6.2119	4.87436	1.59585E-09
Grb7	0.40531	11.9011	4.87593	2.93781E-13
Pi16	0.385406	11.3572	4.88108	0
Igkv12-41	0.298268	8.94458	4.90633	0.00931884
Gm6047	0.37029	11.1346	4.91025	3.50145E-09
Cth	2.43469	73.8621	4.92302	0
Igkv4-57-1	0.18271	5.5599	4.92743	0.0444912
Pbld1	0.452597	13.7745	4.92763	0
Col14a1	0.181486	5.55562	4.93602	0
BC017612	0.99971	30.7904	4.94483	0
Ano1	0.460446	14.1827	4.94496	0
Steap4	0.180035	5.56787	4.95077	0
St6galnac2	0.744944	23.1091	4.95519	0
Gm16693	0.264541	8.24255	4.96152	0.0189727
Syngr2	2.5097	78.2917	4.96327	0
Hspg2	0.371262	11.6155	4.96747	0
Sytl1	0.577067	18.1118	4.97205	0
Perp	1.96993	61.9256	4.97432	0
Gm5077	0.126312	3.98892	4.98093	0.00250391
Rph3al	0.406298	12.8657	4.98485	6.88836E-12
1190003J15Rik	1.28835	40.8522	4.98682	0
Clec3b	0.838806	26.6701	4.99074	0
Itih2	1.01305	32.764	5.01533	0
Prelid2	0.259976	8.49821	5.03071	2.5931E-09
Prss53	0.268532	8.78065	5.03116	0
Trp73	0.106598	3.48822	5.03224	1.92425E-05
E030030I06Rik	0.112555	3.7036	5.04023	0.0100252
Snord123	0.87248	28.7489	5.04224	0
Atp8b1	0.274246	9.1165	5.05494	0
Ifi27l2b	0.17834	5.93941	5.05762	0.0374189
Styxl1	0.0987004	3.29031	5.05902	1.19548E-05
Pon3	1.29208	43.3201	5.06727	0
Slc12a8	1.17857	39.634	5.07163	0
2210411K11Rik	0.653629	22.0386	5.07541	0
Serpinb1-ps1	0.102094	3.46996	5.08694	0.00330018
Lgals2	0.301654	10.2987	5.09342	7.22129E-09
Stox1	2.05952	70.8311	5.104	0
Gm4913	0.151948	5.24258	5.10863	4.07807E-12
Fam119b	0.18673	6.51571	5.12489	0

H2-Ab1	1.16145	41.2797	5.15144	0
Angptl1	0.153008	5.44298	5.15271	0
Hn1l	1.03342	37.3137	5.1742	0
Rbp7	0.482239	17.5141	5.18263	1.94023E-08
Npw	0.33042	12.249	5.21221	2.98659E-10
Hs3st3b1	0.146793	5.45961	5.21694	0
Cd300lg	0.13968	5.25873	5.23452	4.14658E-13
Prss34	0.104248	3.93681	5.23894	5.56316E-08
Gm9826	2.58866	97.8933	5.24093	0
Rasa4	0.807286	30.5447	5.2417	0
Sfxn2	0.369669	14.0284	5.24597	0
Gstt2	0.564339	21.4489	5.2482	0
Smtnl2	0.116823	4.44278	5.24907	3.59683E-06
Fer1l4	0.187841	7.1868	5.25777	0.00899304
Acacb	0.225719	8.70417	5.26911	0
Stc2	0.401538	15.4854	5.26923	7.84976E-13
Gm5638	0.521584	20.2272	5.27725	0
Hnf1b	0.161356	6.38215	5.30572	2.15301E-07
Gm11963	0.178895	7.08838	5.30827	0.000366779
Tes	0.901228	35.9283	5.31708	0
Igkv1-122	0.161608	6.48512	5.32656	0.00553122
Frk	0.154898	6.23913	5.33195	0
H2-Aa	1.71593	69.8175	5.34653	0
Glt28d2	0.140006	5.79486	5.37121	0
Pex11c	0.415821	17.2583	5.37519	0
1700110K17Rik	0.0820461	3.41087	5.37756	8.53367E-05
Aldh1a7	1.48265	61.6569	5.37801	0
Gm14892	0.552461	23.3493	5.40136	0.000781227
H2-Q2	0.287591	12.1662	5.40272	0
0610005C13Rik	0.155707	6.65406	5.41733	9.29034E-07
Slc22a18	0.155444	6.65986	5.42103	7.64863E-07
Col2a1	0.110501	4.75475	5.42723	0.00540737
Gm17099	0.133108	5.76009	5.43542	0.0207141
Igkv6-20	0.177793	7.74486	5.44497	0.0105525
Gm17071	0.813086	35.5953	5.45213	3.81102E-05
Igkv3-12	0.283732	12.4675	5.4575	0.00175494
Ifi204	0.110591	4.88872	5.46616	0
Ces2g	0.117672	5.34216	5.50458	0
D630039A03Rik	0.0823757	3.75248	5.50948	0
2010001M09Rik	0.0821194	3.74837	5.5124	5.77271E-05
Aqp1	0.292267	13.3713	5.51571	0
Creb3l1	0.509207	23.4508	5.52524	0
Tmem102	0.116677	5.38923	5.52949	0
Ttc39a	0.553509	25.7479	5.5397	0
Gm16814	0.193944	9.07859	5.54875	0.0153436
Gstt3	0.853334	40.3315	5.56265	0

Gm2822	0.495486	23.6119	5.57452	0
Serpinb1c	0.163595	7.80107	5.57548	9.95834E-10
Cd36	0.207313	9.96887	5.58754	0
Iglc2	0.137375	6.64569	5.59623	0.000429943
B230314M03Rik	0.168098	8.15853	5.60094	0.0259779
Ggta1	1.38114	67.4351	5.60957	0
Ppy	0.156495	7.81104	5.64133	0.000939909
Tmprss4	0.0702396	3.52199	5.64796	1.44747E-12
Clic6	0.211766	10.6307	5.64962	8.72462E-06
Plek2	0.0973373	4.90113	5.65398	1.42682E-12
H2-Eb1	1.07014	54.1616	5.6614	0
Slc6a4	0.0865225	4.39724	5.66738	0.000475971
Hs3st6	0.0810247	4.14385	5.67647	1.39703E-07
Ifi30	1.77354	92.6413	5.70696	0
Gm15545	0.191879	10.0476	5.71051	1.58335E-07
Rab20	0.0883009	4.65009	5.71869	1.42738E-10
Cd74	2.15484	114.448	5.73097	0
Igkv8-21	0.111078	6.04502	5.7661	0.0276609
Rab3d	2.95998	162.559	5.77924	0
Sdr9c7	0.12826	7.05694	5.7819	8.31791E-08
Vipr2	0.139826	7.71753	5.78644	1.53332E-06
Cdc42bpg	0.43656	24.4416	5.80701	7.81551E-06
Gm17546	0.0768147	4.30329	5.80791	0.000189194
Lrmp	0.507095	28.4703	5.81106	0
Slc1a5	0.698867	39.295	5.81318	0
Edem1	2.37559	134.338	5.82144	0
Cdcp1	0.0697702	3.98159	5.83459	1.4774E-10
Anpep	1.17945	67.6208	5.84128	0.000422335
Igj	0.445765	25.6327	5.84556	0
Cdh1	0.579111	33.5788	5.85757	0
1810020O05Rik	0.0926897	5.5092	5.89329	1.02595E-07
Myo5c	0.212569	12.6437	5.89434	0
Marveld3	0.0848385	5.13111	5.91841	0.000142481
Cnksr1	0.122486	7.45655	5.92782	5.43544E-06
Cblc	0.0903495	5.53031	5.9357	0.0192325
Galnt3	0.347297	21.3155	5.93959	0
Rorc	0.236233	14.5149	5.94118	0
Cyp2e1	0.102727	6.35971	5.95208	0.000415189
Apol7a	0.0828472	5.15018	5.95803	0
Nphs1	0.488382	30.4161	5.96068	0
Srd5a2	0.0885249	5.58153	5.97843	4.60232E-06
Lamb3	0.267303	16.9007	5.98246	1.22671E-11
Llgl2	0.700859	44.6641	5.99385	0
Rbm47	0.249381	16.0247	6.0058	0.00107202
Tmem27	0.172179	11.2186	6.02584	5.50273E-05
Gsta3	0.391965	25.9213	6.04727	0

Gm12357	0.159019	10.5444	6.05113	0.000336824
Sntb1	0.21508	14.4324	6.0683	0
Arhgap8	0.120925	8.18368	6.08057	0.00566327
Zfp503	0.308024	21.2782	6.11019	0
Pdzk1ip1	0.379718	26.7783	6.13999	0
Slc16a5	0.4793	34.3002	6.16114	3.02488E-12
Krt7	0.067174	4.80896	6.16168	5.26066E-15
Akr1c13	0.256076	18.3596	6.16382	9.80293E-05
Mnda	0.0588089	4.26875	6.18164	7.39697E-10
Fam83f	0.0857603	6.28188	6.19474	0
Gm14143	0.186738	13.792	6.20667	0.00334141
Gfi1	0.0888099	6.57251	6.20958	9.25702E-10
Car3	0.26052	19.4478	6.22207	0
Tdh	0.110326	8.26552	6.22726	1.9742E-06
Fam46c	0.726736	54.9734	6.24116	0
BC030476	0.0733074	5.56792	6.24703	0
Gm12551	0.280515	21.4705	6.25813	0
Pde6a	0.0633802	4.89298	6.27054	1.08169E-12
Pi4k2b	0.357824	27.7046	6.27473	0
Ptger3	0.83084	64.8499	6.28639	0
Col7a1	0.175683	13.9256	6.30862	8.01516E-10
Pbld2	0.230459	19.0538	6.36942	2.65507E-15
Trim50	0.0750136	6.25096	6.38078	3.97598E-11
Gm10109	0.244479	20.3868	6.38178	0
Col3a1	0.490176	41.6437	6.40866	0
Nup62cl	0.207483	17.6424	6.40991	0.00060231
Dhx34	1.28429	111.99	6.44626	0
Mthfd2	1.83208	161.392	6.46094	0
Ap1m2	0.268899	23.767	6.46575	0
Ighg	0.17521	15.5821	6.47466	0
Dsg2	0.256103	22.7977	6.47602	0
Dsc2	0.044609	4.02135	6.4942	0
St14	0.138594	13.0377	6.55569	1.54572E-06
Krt23	0.117899	11.1459	6.56282	0
Gzme	0.0353356	3.34176	6.56334	0.00578602
Rec8	0.0346644	3.31424	6.57908	0.000941915
Mapk13	0.252213	24.6079	6.60834	0
Cyp39a1	1.18753	115.878	6.60849	0
Cfd	0.290482	28.3548	6.609	0
Eif4ebp1	1.53776	151.012	6.6177	0
Ifi205	0.0689152	6.81707	6.62819	1.67589E-14
Tead2	2.78026	275.378	6.63005	0
Cpa5	0.0544584	5.48198	6.6534	9.54825E-08
Nr1h4	0.0614931	6.25583	6.66863	1.33718E-15
Fabp4	0.66939	68.8933	6.68537	0
1110017F19Rik	0.117734	12.3622	6.71427	2.04059E-13

Cldn7	0.410167	43.5999	6.73197	6.65784E-11
Ms4a1	0.0671202	7.18426	6.74195	0
Ehf	0.0898138	9.75894	6.76364	3.23664E-06
Ripk4	0.0420279	4.6024	6.7749	0
Atp2c2	0.0867106	9.54713	6.78272	0
Slc43a3	0.153814	17.1046	6.79705	5.9833E-07
Igf1	2.50483	279.487	6.80192	0
Igkv8-16	0.610634	68.4725	6.80907	7.54027E-09
Igkv5-39	0.279575	32.1301	6.84454	4.61101E-05
Gm12368	0.123768	14.3582	6.8581	0.00109873
Igkv8-24	0.799675	98.2212	6.94048	0
Fgl2	0.563513	70.1728	6.96032	0
Adh1	0.21951	27.3939	6.96342	0
AI428936	0.313079	39.1246	6.9654	0
2210404O07Rik	0.562831	70.6985	6.97283	0
Aldh1l2	0.497639	62.7188	6.97765	0
1810035I16Rik	0.134545	16.9949	6.98087	0.00791735
Hrh4	0.026123	3.36604	7.00958	0.00654907
2610528J11Rik	0.0739778	9.64923	7.02718	6.25495E-05
Scara5	0.039664	5.25209	7.04892	0
AI661453	0.0654676	8.69506	7.05327	0
Osgin1	0.0985133	13.3519	7.08252	3.52313E-12
Crlf1	1.07761	146.31	7.08506	0
Cldn9	0.0469108	6.37187	7.08565	1.30308E-08
Mia2	0.0411463	5.62376	7.09463	5.12357E-07
Epcam	0.125837	17.4237	7.11335	0
Cytip	0.14499	20.2248	7.12403	2.05543E-12
Gna14	0.0567456	8.26463	7.1863	0
1700011H14Rik	0.029902	4.36296	7.18892	0.000672925
Pkp3	0.184442	27.0176	7.19459	4.78658E-05
Chmp4c	0.0323929	4.84141	7.22361	7.17163E-08
Cyp3a13	0.0393532	5.96637	7.24423	0
Anxa13	0.0411748	6.29098	7.25538	0.000174481
Lgals12	0.0899945	13.7578	7.2562	0
Sh2d4a	0.121881	18.7264	7.26346	0
Tmem221	0.0600941	9.28111	7.27093	1.09962E-12
F2	0.0466691	7.30692	7.29065	4.38727E-11
Saa3	0.0778529	12.2285	7.29528	9.21049E-06
Ppic	1.3985	219.98	7.29735	0
Gpihbp1	0.0450107	7.10866	7.30316	0.00113825
Retnla	0.227536	35.9998	7.30575	1.33718E-15
1810010K12Rik	0.152397	24.3862	7.32209	0
Cpa3	0.0231181	3.70428	7.32402	0.000407956
Hpn	0.932454	149.633	7.32618	0
1810009N23Rik	0.0813749	13.0639	7.32678	0
G6pc2	0.0991691	15.9387	7.32842	0.000399655

Pycr1	0.821279	132.544	7.33438	0
Dennd2d	0.0766988	12.4292	7.34031	0
Ccl11	0.0936127	15.1813	7.34137	1.48765E-13
Ms4a4d	0.0403318	6.56801	7.34739	5.68279E-08
Lpin3	0.130929	21.4364	7.35513	1.13582E-07
Gata6	0.0322217	5.31745	7.36656	7.83987E-15
Irf6	0.210388	34.7828	7.36918	0
Cd5	0.022086	3.66702	7.37533	2.39842E-07
Wdr72	0.0672099	11.3157	7.39544	5.64513E-10
Gm16136	0.0252911	4.29759	7.40875	0.00135209
C1rl	0.117315	20.687	7.4622	0
Pkd1l2	0.034321	6.0725	7.46705	0
Rab25	0.375085	67.1962	7.48502	5.67333E-07
Arhgef16	0.0985698	18.6058	7.56039	3.35224E-09
Kdelr3	0.231597	43.9539	7.56823	0
Tc2n	0.0749429	15.0301	7.64785	0
Dpt	0.156309	32.0167	7.67828	0
Gm16285	0.0951732	19.8684	7.70571	0.0125452
Klb	0.0510369	10.7216	7.71477	0
Bspry	0.09199	19.4221	7.72201	0
Kcnq1	0.117635	24.8448	7.72249	0
Fam187b	0.0402942	8.55475	7.73001	7.78114E-08
Myo15b	0.107374	23.0097	7.74345	3.36035E-08
Tjp3	0.0198111	4.28605	7.7572	7.91455E-10
Glyat	0.0200841	4.35707	7.76116	1.55873E-06
Gm12718	0.0365224	8.05663	7.78525	0.0212362
Slc38a5	2.80302	627.506	7.8065	0
Sult1c2	0.0527514	11.8802	7.81514	0
Nr0b2	0.0621144	14.4807	7.86499	1.31207E-10
Spint1	0.391345	92.0709	7.87816	0
Iyd	0.101168	24.4353	7.91607	1.4302E-09
Vdr	0.03909	9.44246	7.91622	0
Cd3g	0.0351714	8.63895	7.94031	0.000465443
Mep1a	0.0189084	4.71719	7.96276	0.000562588
Tsga10ip	0.143904	37.0358	8.00767	1.25172E-08
Fam110c	0.0276026	7.15729	8.01847	9.1268E-15
Ang	0.956974	252.64	8.04439	0
Tm4sf4	0.0446663	12.3334	8.10917	2.93705E-11
Gnat2	0.0617406	17.4624	8.14381	7.97254E-09
Derl3	0.771579	219.745	8.1538	0
Dap	2.79547	797.626	8.15648	0
Gyltl1b	0.0195035	5.6318	8.17372	5.5718E-07
Glp1r	0.0419086	12.1719	8.1821	1.51342E-06
Gm12499	0.0850013	24.7981	8.18853	0.000040979
Spag17	0.0286351	8.38244	8.19344	0.0140117
4930415O20Rik	0.191613	56.4729	8.20322	4.9676E-11

Tmem30b	0.0609123	18.0104	8.20788	0
Ttc29	0.0114478	3.4424	8.2322	2.49951E-05
Tinag	0.0451582	13.7483	8.25005	1.33718E-15
Cxcl13	0.0706166	21.5433	8.25301	2.67972E-12
Tcea3	0.164788	50.8559	8.26966	0
Ces1d	0.15	47.2409	8.29893	6.09541E-11
Dsp	0.0301828	9.51168	8.29983	0
Esrp2	0.097088	30.9727	8.31749	7.52177E-06
Grhl2	0.0104653	3.35378	8.32404	1.81374E-06
Foxa2	0.0593079	19.4229	8.35532	3.6975E-11
Spag16	0.0309988	10.1929	8.36114	5.2729E-10
Slc17a9	0.0344671	11.4633	8.37759	0.000499489
Gm13824	0.0807092	27.3552	8.40487	0.00131779
Sostdc1	0.182451	64.3773	8.4629	0
Fetub	0.0201446	7.38859	8.51876	0.00664013
Crb3	0.118944	43.7923	8.52425	1.15331E-09
Akr1c12	0.0399659	14.8609	8.53853	2.53338E-10
P2rx1	0.25889	96.7083	8.54516	0
Elf3	0.0215567	8.81349	8.67544	4.95447E-09
Afm	0.0159363	6.58313	8.69031	0.000467593
Ambp	0.0241197	10.0119	8.69729	1.25292E-07
Igkv3-2	0.161608	67.1563	8.69888	4.30255E-08
Klrb1f	0.0191931	7.9761	8.69895	2.19127E-05
Iapp	0.695864	289.257	8.69933	0
Dpep1	0.0331282	14.4613	8.76992	0
Abca13	0.0109687	4.78828	8.76997	7.46358E-08
Esrp1	0.0490355	21.4132	8.77046	0
Klk1b22	0.433952	189.855	8.77314	0
Gm11695	0.0676013	30.2052	8.80353	0.00372477
C3	0.145331	65.6031	8.81828	0
Serpina10	0.0417304	19.6571	8.87973	1.00386E-10
Baiap2l1	0.0719196	34.8128	8.91902	0
Prom2	0.0271554	13.3963	8.94638	0
Krt19	0.0623304	31.0472	8.96031	7.33011E-05
Spdef	0.0442625	23.4987	9.05228	6.54249E-06
Ggt1	2.29288	1237.62	9.07619	0
Gm14755	0.314557	175.351	9.12271	3.69021E-14
Slc44a3	0.0472592	26.989	9.15756	0
Fkbp11	1.51996	877.042	9.17247	0
Gcg	0.709806	412.375	9.18232	0
Rasef	0.00969335	5.64697	9.18627	1.5049E-10
Gnmt	0.513774	306.262	9.21942	0
Pah	0.566826	352.342	9.27986	0
Foxa3	0.0312782	19.6993	9.29877	4.15807E-07
Cldn8	0.0272707	17.1862	9.29968	1.07959E-11
Gc	0.0175707	11.2419	9.3215	3.19075E-09

Gm15915	0.0197036	12.9625	9.36168	0.00193012
Azgp1	0.0259591	17.1337	9.36638	2.93125E-06
Gm6484	0.0195443	13.0291	9.38078	0.00407243
Aqp8	0.0225068	15.2044	9.39991	2.69907E-06
Egf	0.0992226	68.3321	9.42768	0
Klk1b26	0.0721267	51.1433	9.4698	1.44756E-08
Klk1b1	0.296803	211.712	9.47838	0
Klk1b9	0.547567	403.513	9.52536	0
9130219A07Rik	0.0448617	33.1568	9.52961	0
Adipoq	0.0235895	17.6488	9.54721	1.61656E-09
Alb	0.0139761	10.527	9.55692	1.19067E-09
Ces1e	0.0390326	29.8781	9.58019	0
Nr5a2	0.0229354	18.1318	9.62673	0
Krt18	0.354305	283.231	9.64277	0
Piwil4	0.0774866	62.8332	9.66337	0
Ugt2b34	0.0297006	24.0866	9.66352	0
Klk1b8	0.27343	225.46	9.68748	0
Ins1	0.780969	646.203	9.69251	0
Hamp	0.220566	185.06	9.71257	4.85216E-13
Rbpjl	0.126439	107.507	9.73177	0
Fgf21	0.0352901	31.904	9.82026	3.65455E-10
Klk1b16	0.11667	108.738	9.86421	0
Klk1b3	1.25059	1168.47	9.8678	0
Gata4	0.025703	24.8536	9.9173	3.36818E-12
Klk1b4	0.939403	910.403	9.92055	0
Klk1b21	0.651441	647.562	9.95717	0
Klk1b24	0.537256	538.226	9.96839	0
Krt8	0.140251	147.44	10.0379	0
Gm13336	0.0241144	25.6225	10.0533	2.44819E-05
Klk1b27	0.295444	323.554	10.0969	0
Reg3g	0.0448841	49.2157	10.0987	1.03584E-10
Hsd17b13	0.602819	666.836	10.1114	0
Reg3a	0.585311	648.158	10.1129	0
Tmed11	0.90572	1006.5	10.118	0
Slc39a5	0.252078	291.99	10.1778	0
Muc1	0.285788	335.701	10.198	0
Pax5	0.00669856	7.99278	10.2206	0.000891493
Fut1	0.00769944	9.20735	10.2238	4.6056E-06
Tmed6	2.15607	2600.85	10.2364	0
Reg3d	2.57827	3149.34	10.2544	0
Tmem184a	0.0370273	46.3166	10.2887	0
Aqp12	0.509439	648.801	10.3147	0
Erp27	1.54481	2033.52	10.3623	0
Klk1b11	0.403441	534.049	10.3704	0
Prss8	0.0729706	96.8079	10.3736	0
Itih4	0.117024	156.243	10.3828	0

Mat1a	0.0391188	52.3266	10.3855	0
Cpn1	0.0684817	97.3861	10.4738	0
Gm2663	0.020019	29.1855	10.5097	0.000728427
Cabp2	0.690863	1008.88	10.5121	1.20609E-12
Hamp2	0.753756	1110.32	10.5246	0
Habp2	0.0671788	102.501	10.5753	5.6807E-09
Gal	0.605189	947.344	10.6123	0
1810009J06Rik	0.020019	31.3894	10.6147	0.000636603
Bhlha15	0.0813015	140.541	10.7554	0
Ptf1a	0.0498924	87.0205	10.7683	0
Il22ra1	0.012217	21.7377	10.7971	5.0705E-08
Cckar	0.221781	407.66	10.844	0
Cldn3	0.0265522	53.8283	10.9853	7.21969E-08
Prr15l	0.0588786	122.971	11.0283	0
2210010C17Rik	0.00548271	17.6866	11.6555	0.0112349
Hgfac	0.0216914	95.1789	12.0993	0
Ccdc64b	0	3.20542	1.7977E+308	7.37799E-05
Mcpt1	0	3.33084	1.7977E+308	0.00496495
A1cf	0	3.72485	1.7977E+308	2.95536E-10
Hrasls5	0	4.0073	1.7977E+308	0.0384314
Agr2	0	4.01372	1.7977E+308	0.0101629
Gm16551	0	4.34305	1.7977E+308	0.000532621
Gm12082	0	4.35922	1.7977E+308	0.0279766
1700006A11Rik	0	4.3918	1.7977E+308	9.88065E-06
Klk15	0	5.30504	1.7977E+308	0.00370051
Gm12298	0	5.36998	1.7977E+308	0.0058119
Dio1	0	5.92617	1.7977E+308	0.0228468
Hnf4a	0	7.96782	1.7977E+308	0.000172497
Chrdl2	0	8.10837	1.7977E+308	0.000482224
Upk3b	0	8.47312	1.7977E+308	3.4604E-12
Gm20418	0	9.16983	1.7977E+308	0.00257507
Al324046	0	10.2181	1.7977E+308	2.16749E-06
1810019D21Rik	0	10.7397	1.7977E+308	0.000160058
Igkv4-55	0	11.0083	1.7977E+308	0.0351907
4930405O22Rik	0	11.5834	1.7977E+308	0.000284087
1810019J16Rik	0	11.7275	1.7977E+308	7.66685E-11
Igkv16-104	0	11.8483	1.7977E+308	0.0401714
Iglv2	0	11.8483	1.7977E+308	0.0401714
Igkv12-44	0	11.9261	1.7977E+308	0.0401714
Igkv12-46	0	11.9261	1.7977E+308	0.0401714
Ighv8-5	0	12.8481	1.7977E+308	0.0401714
Gm9740	0	13.0087	1.7977E+308	0.0261034
Gm16637	0	13.9304	1.7977E+308	0.0262162
Krtap6-2	0	14.4072	1.7977E+308	0.00390258
Gm13010	0	14.6024	1.7977E+308	2.13889E-07
Ugt3a1	0	15.4798	1.7977E+308	0.00403412

Igkv8-28	0	16.294	1.7977E+308	0.0401714
Gm16698	0	16.7833	1.7977E+308	0.0115093
Gm16930	0	16.888	1.7977E+308	0.0115093
Ighv11-2	0	17.2099	1.7977E+308	0.0115093
Klk1b7-ps	0	19.0009	1.7977E+308	0.000311401
Pyy	0	20.7368	1.7977E+308	4.93355E-05
1810058N05Rik	0	20.879	1.7977E+308	4.98298E-05
Adm2	0	21.8522	1.7977E+308	2.46807E-12
Igkv4-50	0	23.3816	1.7977E+308	0.00203963
Gm4744	0	26.9229	1.7977E+308	6.26964E-11
Defb34	0	29.8178	1.7977E+308	0.0244075
Igkv4-91	0	32.3827	1.7977E+308	0.000274039
Gm16717	0	33.661	1.7977E+308	0.000140659
Ighv1-5	0	39.3992	1.7977E+308	0.00131362
Gm12135	0	42.5832	1.7977E+308	3.70889E-08
1810063I02Rik	0	44.7306	1.7977E+308	0.00146081
Igkv15-103	0	45.3506	1.7977E+308	2.03558E-05
Rnf212	0	59.7349	1.7977E+308	2.49427E-05
Igkv14-126	0	87.8421	1.7977E+308	4.66655E-10
Ndufb8	0	88.3562	1.7977E+308	0.0274107
Snord118	0	206.443	1.7977E+308	0.0359811
1700112K13Rik	0	215.54	1.7977E+308	3.908E-36
SNORA17	0	428.356	1.7977E+308	0.00232494
Snord13	0	490.99	1.7977E+308	0.0301686

Supplementary Table 5

Genes significantly down-regulated in SA1 KO

gene	E17.5 WT (FPKM)	E17.5 KO (FPKM)	log2 (fold change)	FDR
Cyp26b1	6.91	2.26	-1.61	0
Ttr	626.44	216.86	-1.53	0
Htr2c	4.32	1.64	-1.40	0
Tmem181b-ps	48.77	23.42	-1.06	0
Lrrc8b	13.42	7.15	-0.91	0
Cntn1	35.15	21.25	-0.73	0
Col3a1	31.81	19.55	-0.70	0
Sema6d	19.50	14.01	-0.48	0
Syt6	16.54	12.32	-0.42	0
Trpm3	6.90	3.02	-1.19	4.65289E-13
Cobl	16.33	9.85	-0.73	4.65289E-13
Kcne2	6.64	2.01	-1.73	1.80828E-12
Col1a1	28.90	11.47	-1.33	2.11403E-12
Grin3a	16.86	7.59	-1.15	2.21012E-12
Tac1	27.20	11.93	-1.19	2.29853E-12
Sepp1	80.69	35.62	-1.18	4.25023E-12
Btbd3	27.82	18.45	-0.59	5.07509E-12
Dnajc6	49.08	32.22	-0.61	1.32607E-11
Gm17669	26.62	4.70	-2.50	4.17784E-11
Napb	37.18	29.71	-0.32	8.76012E-11
Gh	28.31	4.40	-2.69	8.81448E-11
Rims3	31.68	23.66	-0.42	4.09118E-10
Clic6	7.04	1.36	-2.38	5.85852E-10
Mecp2	20.36	16.52	-0.30	5.85852E-10
Gprasp1	154.72	134.94	-0.20	1.59894E-09
Myo16	15.39	11.78	-0.39	1.95745E-09
Dlg2	36.89	24.46	-0.59	3.71124E-09
Nav1	35.69	30.46	-0.23	3.85762E-09
Slc24a3	21.79	14.68	-0.57	4.26262E-09
Enpp2	17.26	9.82	-0.81	9.98226E-09
Stag1	25.74	11.12	-1.21	1.10607E-08
Dnajc5	106.09	81.73	-0.38	1.10607E-08
Tcf7l2	109.14	71.67	-0.61	1.29586E-08
Gabrb3	53.51	39.21	-0.45	1.48052E-08
Sema6a	19.01	14.41	-0.40	1.53982E-08
Gm16042	4.06	0.00	-1.7977E+308	2.02012E-08
Aqp1	6.83	1.98	-1.79	2.51902E-08
Mdm4	10.36	6.58	-0.66	2.64062E-08
Pcdh10	27.66	16.63	-0.73	2.7749E-08

Cbln2	30.62	20.47	-0.58	3.0098E-08
Sv2c	2.16	0.53	-2.03	3.35832E-08
Npy	101.54	37.36	-1.44	3.86552E-08
Tro	57.31	42.89	-0.42	3.86552E-08
Atp6v1a	72.99	56.57	-0.37	3.94227E-08
Ptk2b	5.49	2.52	-1.12	5.97605E-08
Pcdh7	6.48	2.75	-1.24	7.01107E-08
Eif2s3y	48.58	24.45	-0.99	7.01107E-08
Spock3	16.30	11.08	-0.56	7.07109E-08
Osbpl1a	40.06	25.19	-0.67	7.71049E-08
Kif1b	120.10	80.11	-0.58	7.71049E-08
Col6a1	8.33	4.92	-0.76	8.84022E-08
Dgkk	3.68	1.68	-1.13	1.15217E-07
Tmtc1	6.01	4.04	-0.57	1.15217E-07
Pltp	36.47	18.83	-0.95	1.74304E-07
Car12	3.57	1.28	-1.48	1.79173E-07
Ednrb	27.18	17.71	-0.62	2.39228E-07
Dnmt3a	52.19	31.76	-0.72	2.39325E-07
40969	15.47	10.49	-0.56	2.39325E-07
Col1a2	39.21	23.16	-0.76	2.91579E-07
Foxn3	6.08	3.29	-0.89	3.86544E-07
Gm12987	12.89	1.36	-3.25	3.92137E-07
Fam40b	3.21	1.77	-0.86	4.37363E-07
Pcdh11x	6.99	2.75	-1.35	4.58589E-07
Agps	14.03	10.17	-0.46	4.72848E-07
Accn1	14.56	9.47	-0.62	4.75717E-07
Pcdh17	14.49	6.80	-1.09	5.66178E-07
Zim1	4.42	1.61	-1.46	6.16831E-07
Pcdh19	12.91	6.99	-0.88	6.44318E-07
Alcam	41.69	23.42	-0.83	7.73032E-07
Scg2	62.88	40.85	-0.62	7.73032E-07
Caln1	7.62	4.13	-0.88	9.26816E-07
Wdr7	21.06	17.03	-0.31	9.70112E-07
Edil3	19.79	15.95	-0.31	1.15559E-06
Calcr	3.25	1.27	-1.36	1.1657E-06
Sstr1	6.42	2.63	-1.29	1.23676E-06
Tgfb2	10.35	5.55	-0.90	1.24123E-06
Postn	17.94	7.93	-1.18	1.28487E-06
Ttyh1	171.45	116.34	-0.56	1.49824E-06
Gprasp2	155.72	104.40	-0.58	1.81767E-06
Sema3c	32.34	19.76	-0.71	1.85801E-06
Apoe	266.37	192.79	-0.47	1.98909E-06
Dpp10	15.43	9.78	-0.66	2.05411E-06
Atp1a2	50.29	33.58	-0.58	2.36216E-06
Epha7	26.50	16.47	-0.69	2.46623E-06
Tln2	8.48	6.22	-0.45	2.99482E-06

Grm5	27.67	14.93	-0.89	3.21849E-06
Kif26b	5.21	3.11	-0.74	3.21849E-06
Pdgfra	9.79	5.70	-0.78	3.44468E-06
Cdhr1	5.35	1.95	-1.46	3.4607E-06
Cntn6	7.85	5.05	-0.64	3.49002E-06
Slc6a2	0.57	0.09	-2.74	3.84556E-06
Pja2	136.29	99.38	-0.46	4.3044E-06
Klhl11	4.46	1.45	-1.62	4.7606E-06
Shc3	7.03	3.05	-1.20	4.7606E-06
Ogdh	49.13	41.13	-0.26	5.01422E-06
Dlgap3	35.97	21.10	-0.77	5.24527E-06
Igf2	103.61	77.46	-0.42	7.00519E-06
Trpc4	6.62	3.19	-1.06	8.21563E-06
Ptgds	219.89	172.87	-0.35	8.21563E-06
Sulf1	8.76	3.78	-1.21	8.66034E-06
Aplnr	6.79	2.70	-1.33	9.06657E-06
Slc22a23	24.05	17.97	-0.42	9.6594E-06
S100pbp	34.73	19.07	-0.86	1.03647E-05
Igfbp5	45.62	31.39	-0.54	1.06993E-05
Add3	14.29	10.50	-0.44	1.40387E-05
Prrc2b	121.00	94.36	-0.36	1.56324E-05
Abhd14a	31.64	20.05	-0.66	1.72649E-05
Cpne7	11.10	5.40	-1.04	1.74886E-05
Iqsec3	10.64	8.21	-0.37	1.74886E-05
Ctnnb1	607.96	503.53	-0.27	1.74886E-05
Unc13c	1.62	0.49	-1.71	1.79377E-05
Rreb1	2.61	0.96	-1.45	1.79926E-05
Mgll	10.58	6.50	-0.70	1.79926E-05
Astn2	9.04	5.93	-0.61	1.79926E-05
Pcdha11	65.75	53.73	-0.29	1.79926E-05
Efna5	8.64	2.65	-1.70	1.91932E-05
AC115697.1	2545.43	784.63	-1.70	1.95437E-05
Eif4g2	2545.12	2119.50	-0.26	2.15229E-05
Col8a2	2.96	0.76	-1.95	2.71569E-05
Kif5c	249.85	158.98	-0.65	2.74148E-05
Cntnap5b	0.98	0.32	-1.64	2.97066E-05
Trim9	22.42	18.57	-0.27	0.000030494
Cpne6	7.55	3.99	-0.92	3.30081E-05
Whsc1	89.14	64.07	-0.48	0.000033696
Atp2b3	6.55	4.76	-0.46	0.000033696
Gfra2	14.22	9.47	-0.59	0.000033911
Adra1b	2.92	1.08	-1.43	0.000034697
Man1a2	15.56	9.56	-0.70	3.50685E-05
Rerg	5.46	2.29	-1.25	3.51823E-05
Neto2	40.97	28.13	-0.54	3.63219E-05
Igsf9b	1.45	0.50	-1.52	3.70821E-05

Atp6v0a1	129.88	91.69	-0.50	4.22676E-05
Tnks	16.63	9.00	-0.89	4.54411E-05
Frmpd4	1.84	0.90	-1.04	4.62747E-05
Vstm2a	27.89	15.43	-0.85	4.67449E-05
Amot	6.51	4.98	-0.39	4.83686E-05
Ddx3y	5.69	2.38	-1.25	4.84338E-05
Pcsk6	2.52	1.37	-0.88	4.84338E-05
Gm17236	3.40	1.26	-1.43	5.18073E-05
Gm5567	6.39	2.61	-1.29	5.18073E-05
Arhgap32	13.81	11.14	-0.31	5.58756E-05
Abat	43.06	22.93	-0.91	5.85832E-05
Sostdc1	6.29	2.30	-1.45	5.88832E-05
Dcc	3.55	1.56	-1.19	5.88832E-05
Kctd12	20.44	10.83	-0.92	6.50768E-05
Ptprg	21.85	11.97	-0.87	6.73577E-05
Eno2	93.42	66.45	-0.49	6.85812E-05
Lmbrd2	4.63	1.89	-1.30	6.96957E-05
Cldn1	2.96	1.08	-1.45	7.51821E-05
Crebbp	10.00	7.93	-0.33	7.90076E-05
Nrxn3	29.27	20.64	-0.50	0.000079359
Hs6st3	3.70	1.14	-1.70	8.67207E-05
Pls3	20.26	13.75	-0.56	8.71414E-05
Tmem72	0.87	0.08	-3.48	9.00523E-05
Nrxn1	53.35	36.39	-0.55	9.03162E-05
Lpcat1	56.90	44.23	-0.36	9.55878E-05
Tnc	38.79	32.53	-0.25	9.67065E-05
Nell1	12.56	6.42	-0.97	9.86167E-05
Arhgef3	4.55	2.57	-0.82	0.000101496
Mitf	1.16	0.40	-1.55	0.000109868
Sorcs1	6.54	3.87	-0.76	0.000118809
Mgat5	12.55	8.17	-0.62	0.000119533
Ibsp	1.25	0.14	-3.13	0.000126266
Gfra1	11.54	6.99	-0.72	0.000140609
Sv2b	7.81	4.84	-0.69	0.000142233
Cadm1	89.42	75.41	-0.25	0.000142233
Adnp	36.30	21.79	-0.74	0.000153266
Hap1	173.28	137.86	-0.33	0.00015627
Clmn	1.54	0.96	-0.67	0.000163974
Prkcb	38.57	23.07	-0.74	0.000169159
Hbb-b1	2057.79	1663.33	-0.31	0.000186481
9330182L06Rik	12.73	8.78	-0.53	0.000192091
Tmem132d	1.83	0.68	-1.43	0.000195469
Gm13740	20.74	2.29	-3.18	0.000198624
Sorbs1	15.41	11.06	-0.48	0.000198624
Celf1	75.19	58.71	-0.36	0.000203515
Zkscan16	1.77	0.55	-1.68	0.000210868

Cdh3	0.97	0.29	-1.72	0.000225581
AC073947.1	3206.63	1174.49	-1.45	0.000231033
AC163694.1	3205.50	1174.49	-1.45	0.000232288
Tmem181a	31.23	16.44	-0.93	0.000233479
6330439K17Rik	16.64	7.80	-1.09	0.000236259
Tmem132b	9.30	3.95	-1.24	0.000238725
Lrig1	12.32	6.96	-0.82	0.000253041
Ngef	22.27	13.16	-0.76	0.000259398
Itga7	2.28	1.11	-1.04	0.000266071
Htr7	5.36	2.70	-0.99	0.000267586
Gm20546	3.67	1.36	-1.43	0.000296196
Wfikkn2	4.33	1.48	-1.55	0.000302895
Ncam2	7.39	4.06	-0.86	0.000302895
Fam65b	17.30	14.21	-0.28	0.000302895
Slco1a4	1.48	0.38	-1.95	0.000324382
Nfe2l1	81.13	60.90	-0.41	0.000324382
Abca9	2.35	0.99	-1.25	0.000331776
Gm17446	20.12	11.22	-0.84	0.000331776
Pex5l	4.79	2.10	-1.19	0.000352916
Pcdh1	27.28	19.26	-0.50	0.000359269
Npnt	6.87	3.33	-1.05	0.000377853
Cpne4	13.11	8.47	-0.63	0.000378698
Gm13213	8.08	1.48	-2.45	0.000440713
Mtap9	42.70	32.20	-0.41	0.000440713
Akap7	27.51	19.21	-0.52	0.000440873
Npcd	16.09	8.69	-0.89	0.000442907
Usp6nl	8.85	5.97	-0.57	0.000442907
Folr1	21.07	7.53	-1.48	0.000486435
Clu	67.25	47.06	-0.51	0.000503988
Calb1	14.28	7.29	-0.97	0.000505085
Pik3r1	55.68	34.20	-0.70	0.000524909
Nts	30.73	15.50	-0.99	0.000551555
Adamts12	0.77	0.27	-1.54	0.000563471
Ccdc108	1.37	0.60	-1.20	0.000577071
Cadm3	144.12	120.96	-0.25	0.000579283
Fam120c	5.75	3.39	-0.76	0.000634423
Cdh18	4.98	2.52	-0.98	0.000650225
Alg10b	20.22	11.49	-0.81	0.000653029
Rasgrf2	11.11	5.61	-0.98	0.000693725
Nisch	476.07	403.90	-0.24	0.000697352
Plekhg1	3.61	1.99	-0.86	0.000716046
Net1	5.53	3.72	-0.57	0.000737628
Cacna2d2	34.11	21.74	-0.65	0.000746636
Ermp1	9.04	4.79	-0.92	0.000756669
Cpeb4	29.03	21.63	-0.42	0.00077412
Ndst4	1.83	0.69	-1.40	0.000784097

Tgfa	13.09	7.12	-0.88	0.000802045
Gstm1	55.45	41.13	-0.43	0.000816582
Kcnk9	3.40	0.93	-1.87	0.000834864
Il1rap	4.16	2.00	-1.05	0.00085483
Ckm	0.74	0.00	-1.7977E+308	0.000882236
Prox1	6.22	3.08	-1.01	0.000887939
Slc9a7	2.12	0.89	-1.24	0.000894585
Aqp4	3.88	1.72	-1.17	0.000907749
Zfp106	35.30	21.14	-0.74	0.000932327
Lrtm2	8.25	5.55	-0.57	0.000933429
Kif2a	89.19	59.92	-0.57	0.000937342
Cdkl2	11.50	7.35	-0.65	0.000952936
Ppm1m	10.23	4.73	-1.11	0.000971786
Tmem164	12.72	10.18	-0.32	0.0010158
Cfh	4.64	3.16	-0.55	0.00106829
Vgf	13.61	6.90	-0.98	0.00109081
Serpinf1	22.23	11.16	-0.99	0.00112077
Nov	9.07	4.30	-1.08	0.00113001
Rgnef	5.06	3.58	-0.50	0.00116109
Syn3	15.44	9.02	-0.77	0.00116769
Eif2c2	6.16	3.42	-0.85	0.00124229
Mdga2	3.73	2.14	-0.80	0.00128505
Gja1	40.41	23.98	-0.75	0.00130257
Uhmk1	15.35	10.57	-0.54	0.00137677
Anks1b	27.61	22.74	-0.28	0.00137709
Cul5	23.52	16.68	-0.50	0.00138836
Apod	102.88	68.75	-0.58	0.00139248
Ntm	88.37	65.42	-0.43	0.00139248
Rasgrp1	4.24	2.08	-1.03	0.00140813
E230008N13Rik	0.65	0.11	-2.56	0.0014755
Gabra5	24.41	13.84	-0.82	0.00150754
Nxph1	18.88	14.40	-0.39	0.00151602
Pcp4l1	7.95	3.47	-1.20	0.00157353
Matn2	2.48	1.35	-0.87	0.00159545
Klf12	4.93	2.58	-0.94	0.00160276
Kcna2	0.60	0.10	-2.52	0.00164071
Adcy1	26.27	16.79	-0.65	0.00167249
4930402H24Rik	75.60	51.55	-0.55	0.00167314
Deptor	0.69	0.28	-1.31	0.00167766
Slc6a3	1.62	0.59	-1.46	0.00169453
Prrc2c	16.14	10.99	-0.55	0.00169453
Col25a1	5.66	3.20	-0.82	0.00169837
L3mbtl3	25.31	20.48	-0.31	0.00169837
Chrm2	2.40	1.08	-1.16	0.00179725
Arhgap24	4.26	2.37	-0.84	0.00185701

Glrb	20.86	16.18	-0.37	0.00185701
Pip5k1c	101.07	89.67	-0.17	0.00185701
Slc1a3	70.73	46.26	-0.61	0.00188995
Slc22a8	6.02	3.87	-0.64	0.00189717
Tom1l2	45.46	35.74	-0.35	0.00189717
D5Ertd579e	57.22	37.36	-0.61	0.00191283
Ptprk	17.62	13.11	-0.43	0.00191537
Abca1	11.43	6.55	-0.80	0.00192006
Fstl5	18.57	10.74	-0.79	0.00199352
Shisa9	7.45	3.72	-1.00	0.00204312
Pdzd2	3.98	2.28	-0.80	0.00205481
Pvrl3	22.39	14.85	-0.59	0.00205481
Otud4	16.67	13.23	-0.33	0.00206198
Zfp398	5.36	3.40	-0.66	0.00210203
Dab2	11.12	6.19	-0.85	0.00220067
Grb10	45.26	30.85	-0.55	0.00220919
Odz1	5.76	3.43	-0.75	0.00221685
St3gal1	11.74	9.33	-0.33	0.00222292
Lcor	1.28	0.53	-1.27	0.00224514
1110059M19Rik	2.49	0.66	-1.91	0.00229277
Grik2	24.79	19.61	-0.34	0.00229277
Gm7292	95.70	57.22	-0.74	0.00239516
Pid1	20.00	14.40	-0.47	0.0023993
Cd47	31.82	21.02	-0.60	0.00244937
Hmgcr	212.33	167.39	-0.34	0.00244937
Kcna3	1.74	0.61	-1.51	0.00249595
Ppfia2	24.85	20.75	-0.26	0.0025064
Cdh7	8.33	4.38	-0.93	0.00251594
Hipk2	5.03	2.77	-0.86	0.00252865
Kif1c	9.02	7.11	-0.34	0.00254454
H19	213.22	173.32	-0.30	0.00254454
Syt11	135.21	120.44	-0.17	0.00254454
Cnr1	47.94	42.93	-0.16	0.00254454
Cds2	49.37	32.38	-0.61	0.00263015
Gabrg1	7.47	3.89	-0.94	0.00263699
Spp1	7.17	2.84	-1.33	0.00268988
Tmem181d-ps	9.11	3.71	-1.29	0.00268988
Tmem181c-ps	9.11	3.71	-1.29	0.00268988
Htr1a	1.89	0.78	-1.27	0.00268988
Nacc2	6.34	3.42	-0.89	0.00268988
Cntnap4	8.12	5.50	-0.56	0.00268988
Igf1r	7.35	5.35	-0.46	0.00279715
Cadps2	7.77	4.76	-0.71	0.00280967
Xrn1	2.50	1.19	-1.07	0.00287714
Rpl29	68.03	39.17	-0.80	0.00299391
Ubr3	55.52	41.21	-0.43	0.00300156

Trpc5	1.17	0.46	-1.34	0.00301996
Cgnl1	6.30	2.52	-1.32	0.00302376
Myof	0.92	0.40	-1.19	0.00307818
Ncald	73.92	52.98	-0.48	0.00315523
Sulf2	78.58	57.46	-0.45	0.00316802
Ntng1	27.38	18.71	-0.55	0.00317772
Igsf1	5.16	2.96	-0.80	0.00327618
Dlgap1	19.54	15.13	-0.37	0.00327921
Pla2g7	19.13	11.79	-0.70	0.00330591
Mlec	36.63	23.13	-0.66	0.00332307
Rab27b	2.97	1.68	-0.82	0.00334724
Inpp4a	31.06	21.93	-0.50	0.00337511
Samd5	2.29	0.90	-1.35	0.00353395
Dock10	1.73	0.93	-0.89	0.00354375
Ptchd1	3.14	0.96	-1.71	0.00360122
Synm	3.98	2.51	-0.67	0.00369595
Ogn	7.57	3.84	-0.98	0.00371516
Unc5c	4.54	2.44	-0.90	0.00373519
Wiz	46.16	40.48	-0.19	0.00374513
Fstl4	1.11	0.44	-1.32	0.00378171
Grik1	10.35	6.87	-0.59	0.00379448
Gm17675	0.92	0.34	-1.45	0.00383898
Sphkap	17.16	9.26	-0.89	0.00386908
Zic4	51.52	32.92	-0.65	0.00386908
Slmap	30.97	21.47	-0.53	0.00388303
Gda	8.15	4.59	-0.83	0.00393108
Chst2	16.73	10.48	-0.67	0.00393108
Epb4.1l2	13.18	10.61	-0.31	0.00399879
Aebp1	8.93	5.90	-0.60	0.00402466
Vwc2l	3.97	2.31	-0.78	0.00402785
2810011L19Rik	11.29	8.58	-0.40	0.0040707
Sema3d	1.02	0.41	-1.32	0.00411625
Igf1	3.35	1.12	-1.58	0.00418546
Zfp871	1.89	0.87	-1.11	0.00423189
Adamts15	3.34	1.64	-1.03	0.00442927
Pkp4	69.77	51.44	-0.44	0.00445668
Stx1a	75.12	61.00	-0.30	0.00455595
AI593442	13.66	8.22	-0.73	0.00455628
Rnf112	44.53	33.12	-0.43	0.00455628
Atp1a3	289.79	202.22	-0.52	0.00460589
Fam5c	13.05	7.73	-0.76	0.0046912
Ube3a	10.17	6.94	-0.55	0.00470108
Adcy9	2.96	1.68	-0.82	0.00474397
Lmo4	141.52	123.17	-0.20	0.00474472
Dhcr7	72.70	52.51	-0.47	0.00484174
Cntnap3	2.03	0.95	-1.09	0.00484741

Hook1	50.28	35.45	-0.50	0.00484741
Actn4	98.83	76.85	-0.36	0.00491496
Rod1	9.10	5.99	-0.60	0.00491567
Epb4.1l1	107.41	86.03	-0.32	0.00493755
Xkr4	2.41	1.43	-0.75	0.00499035
Diras2	17.19	10.52	-0.71	0.00499608
Cxcl14	8.70	5.62	-0.63	0.00500508
Shank1	49.42	34.73	-0.51	0.00500508
Plcxd3	3.60	0.94	-1.95	0.00500595
Vat1l	44.79	28.64	-0.65	0.00500595
Kdm5d	3.74	1.81	-1.05	0.00501353
Pgap1	5.12	2.55	-1.00	0.00509629
Angel2	28.47	23.35	-0.29	0.00523851
Slc6a11	31.12	19.36	-0.68	0.00532175
Met	5.37	2.32	-1.21	0.0053823
Lmtk3	110.41	91.81	-0.27	0.00553361
Slit2	16.35	9.09	-0.85	0.00558754
Trhde	2.77	1.37	-1.01	0.00563649
Sesn3	6.95	3.45	-1.01	0.00563649
Hspa5	260.48	211.25	-0.30	0.00565574
Gprin3	0.65	0.16	-1.99	0.00570146
Mfrp	1.12	0.28	-1.99	0.00572697
Mtdh	50.69	40.14	-0.34	0.00572697
Grid2	2.63	1.31	-1.00	0.00574038
Chrm1	3.08	2.05	-0.59	0.00584834
Def8	34.58	22.81	-0.60	0.0058865
Chrm3	3.99	1.74	-1.20	0.005966
Atxn1	2.52	1.26	-1.00	0.00621455
Nos1ap	15.11	8.11	-0.90	0.00621455
Trpc7	3.20	2.10	-0.61	0.00621455
Cntnap5a	1.35	0.60	-1.18	0.00633853
Mical3	8.15	5.91	-0.46	0.00636037
Hmgcs2	5.28	3.13	-0.76	0.00648722
Kif5b	42.34	29.41	-0.53	0.00696176
Fam84b	6.22	3.62	-0.78	0.00705118
Mpdz	24.16	16.12	-0.58	0.00705432
Hyou1	42.50	32.21	-0.40	0.00705432
Pcdhb21	1.13	0.48	-1.23	0.00710828
S100a16	28.45	17.93	-0.67	0.00711964
Sparc	158.74	117.67	-0.43	0.00721244
Alx4	1.21	0.55	-1.14	0.00722415
Gabbr1	300.47	230.34	-0.38	0.00735491
6330403A02Rik	10.17	6.26	-0.70	0.00748438
Syp	204.22	164.59	-0.31	0.00760266
Myc	19.90	14.34	-0.47	0.0076316
Ccdc135	1.28	0.50	-1.37	0.00764936

Hsph1	74.86	61.49	-0.28	0.00774683
Kcnj2	2.74	1.41	-0.96	0.00787633
Aldh1a1	4.25	1.84	-1.21	0.00803985
Vsnl1	47.66	29.52	-0.69	0.0080425
Prune2	3.19	1.76	-0.86	0.00814242
Atp10d	3.04	1.75	-0.80	0.00819857
St5	6.08	4.37	-0.48	0.00831916
Foxp1	25.51	20.25	-0.33	0.00835007
Mrc1	4.10	2.15	-0.93	0.00842064
Mtap7d2	18.70	15.39	-0.28	0.00848195
Alkbh8	19.55	13.58	-0.53	0.00876481
Cacna1e	10.24	6.71	-0.61	0.00894823
Gm15564	52.04	25.78	-1.01	0.00928326
Notch2	5.99	5.04	-0.25	0.00931638
Krt18	3.05	1.29	-1.25	0.00935879
Gm5135	3.86	0.56	-2.78	0.00939745
Ncor1	153.53	123.55	-0.31	0.00956243
4921513D23Rik	11.90	10.03	-0.25	0.00966189
Cdh6	3.10	1.48	-1.07	0.00967175
Sox10	3.24	1.97	-0.72	0.00968417
Galnt7	5.99	3.60	-0.74	0.0098135
Larp4b	21.60	16.47	-0.39	0.00988691
AW551984	113.19	86.65	-0.39	0.00988691
Uprt	2.83	1.31	-1.11	0.00994099
Foxj1	7.42	4.02	-0.88	0.00994099
Gm15212	6.03	1.26	-2.26	0.00998621
1700009P17Rik	8.64	4.10	-1.07	0.0102259
Adra1a	0.74	0.28	-1.41	0.0103772
Fbxw7	20.09	16.41	-0.29	0.0106988
Six2	1.62	0.66	-1.30	0.0107068
Pak3	34.58	23.56	-0.55	0.0107551
Dpp6	45.00	37.97	-0.24	0.0108243
Arpp21	46.32	34.41	-0.43	0.010909
Mkx	1.21	0.50	-1.27	0.0109763
Pomc	4.99	2.03	-1.29	0.0110518
Thbs2	1.56	0.73	-1.10	0.0112529
Tmem106b	24.99	15.56	-0.68	0.0116544
Ralgapa1	14.98	12.64	-0.25	0.0116544
Scn3a	22.47	15.56	-0.53	0.0117657
Cask	75.46	54.56	-0.47	0.0117657
Cand1	65.57	45.03	-0.54	0.0119892
Lhx9	18.11	14.64	-0.31	0.0120855
Man1a	4.91	2.81	-0.81	0.0121808
Gfap	5.03	1.62	-1.63	0.0122442
Ctdspl2	14.57	11.63	-0.33	0.0122442
Zic1	91.61	64.57	-0.50	0.0122829

Tmem132b	5.53	2.58	-1.10	0.0127498
Adra2a	4.94	2.63	-0.91	0.012759
Mapkbp1	18.67	14.63	-0.35	0.0128701
Mbnl2	7.51	6.07	-0.31	0.0130986
Lrrc1	5.77	4.04	-0.51	0.0131401
Pde4d	14.30	10.28	-0.48	0.0132273
4932411E22Rik	1.53	0.62	-1.31	0.0132978
Atp1b1	127.16	85.28	-0.58	0.0135088
Ndst1	25.35	18.99	-0.42	0.0135088
Ctsk	4.05	1.88	-1.11	0.0137492
Rgs9	9.75	6.79	-0.52	0.0138104
Mast4	9.78	7.27	-0.43	0.0138147
Ttc21a	1.87	0.57	-1.70	0.0138739
Snca	42.05	33.30	-0.34	0.0138739
Slc11a2	27.82	17.41	-0.68	0.013886
Zdhhc23	2.88	1.35	-1.10	0.0140955
Zkscan2	14.07	8.77	-0.68	0.0140955
Rsph4a	1.60	0.82	-0.96	0.0141445
Ndrg4	193.25	155.44	-0.31	0.0142007
Reps2	9.12	7.16	-0.35	0.0142094
Aff2	4.37	2.31	-0.92	0.0142995
Slc16a12	1.38	0.63	-1.12	0.0145922
Ahcyl1	123.00	103.88	-0.24	0.0147708
Tgfbr2	2.83	1.64	-0.79	0.014801
Irs4	2.55	1.27	-1.01	0.0148722
Col5a2	13.68	8.11	-0.75	0.0148786
Slc16a9	1.66	0.68	-1.28	0.0149592
Xylt1	2.80	1.39	-1.01	0.0149969
Gnb4	32.26	25.08	-0.36	0.0150456
Fam149a	6.52	4.68	-0.48	0.0150563
Htr2a	1.14	0.47	-1.28	0.015403
Pcdhb7	5.26	2.90	-0.86	0.015403
Kif21b	98.11	85.53	-0.20	0.0159047
Pcdhb22	3.93	2.31	-0.77	0.0159768
Ptch1	19.94	13.59	-0.55	0.0160023
Klf9	2.22	1.07	-1.06	0.0160758
Arl4a	38.00	28.26	-0.43	0.0160758
Usp15	21.73	18.28	-0.25	0.0160758
BC067074	0.90	0.43	-1.08	0.0160822
Plekhb1	10.14	5.16	-0.97	0.0162632
Fstl1	67.12	45.50	-0.56	0.0162931
Dcn	19.99	11.93	-0.74	0.0163426
Apcdd1	34.62	23.89	-0.54	0.0163426
Snx27	37.40	26.01	-0.52	0.0163426
Ptpn14	1.09	0.66	-0.71	0.0165015
Col18a1	9.42	5.86	-0.69	0.016516

Zmat4	6.70	2.07	-1.69	0.01652
Anxa6	23.34	17.87	-0.38	0.01652
Abi2	49.39	43.01	-0.20	0.0165316
Fam189a1	16.78	10.79	-0.64	0.0165901
Ipo8	13.36	10.32	-0.37	0.0166544
Olfm1	191.75	162.71	-0.24	0.0166841
Farp1	53.10	39.17	-0.44	0.0167324
Fgf14	8.08	5.99	-0.43	0.0167552
Rasgrp2	118.46	91.45	-0.37	0.016849
Daam1	34.48	30.01	-0.20	0.0170157
Slc9a3r2	16.54	13.49	-0.29	0.0170932
Shank2	18.72	14.62	-0.36	0.0171775
Phactr2	3.66	2.32	-0.66	0.0173048
Car8	3.23	1.65	-0.97	0.0173993
Lum	4.97	2.50	-0.99	0.017472
Ptp4a2	119.51	93.96	-0.35	0.0175931
Pign	4.63	2.45	-0.92	0.0176467
Pcdhb16	1.42	0.71	-1.01	0.0177723
Pla2g4e	9.74	7.23	-0.43	0.0177723
D430036J16Rik	3.46	1.86	-0.89	0.0181198
Camta2	15.36	12.75	-0.27	0.0181662
Rxrg	16.38	12.77	-0.36	0.0182503
Sdk2	4.52	2.08	-1.12	0.0187951
Cd44	1.40	0.68	-1.04	0.0188642
Sbf2	54.87	43.68	-0.33	0.0188835
Ankfn1	0.91	0.29	-1.65	0.0190638
Lancl3	2.63	1.36	-0.95	0.0192485
Sbf1	80.61	61.81	-0.38	0.0192485
Me1	17.84	11.33	-0.66	0.0192507
Canx	301.90	214.82	-0.49	0.0192507
Sox13	7.48	4.52	-0.73	0.0193054
Sirpa	55.39	39.50	-0.49	0.0193432
Klhl29	12.99	9.92	-0.39	0.0193432
Arhgap31	3.55	2.14	-0.73	0.0197005
Rsph1	4.29	2.22	-0.95	0.0200093
Gpr165	3.28	1.77	-0.89	0.0200093
Wfs1	9.14	5.66	-0.69	0.0200093
Unc80	5.51	3.50	-0.66	0.0200093
Ly75	1.07	0.53	-1.03	0.0200183
Sash1	6.13	3.79	-0.70	0.0200891
Tnr	2.25	1.19	-0.92	0.0201855
Nqo1	2.77	1.22	-1.18	0.020288
Enpp1	1.45	0.77	-0.91	0.0203197
Dusp3	18.32	10.61	-0.79	0.0203754
Pcdhb18	1.96	1.28	-0.62	0.02048
Eps15	35.16	28.11	-0.32	0.02048

Zfp445	27.15	17.93	-0.60	0.0205491
Mapk9	41.23	34.31	-0.27	0.0206046
Chrna7	5.37	3.62	-0.57	0.0206402
2010300C02Rik	3.85	2.34	-0.72	0.0206971
B4galt5	48.06	30.88	-0.64	0.0213758
4933411K20Rik	8.75	6.52	-0.42	0.021507
Fras1	1.17	0.67	-0.81	0.0215219
Ski	43.65	37.89	-0.20	0.0215219
Gria3	16.17	10.30	-0.65	0.0215619
Jmy	6.93	5.31	-0.39	0.0215619
Gjb2	3.17	1.49	-1.09	0.0217355
Calml4	5.57	2.56	-1.12	0.0217432
Zmiz1	45.86	34.32	-0.42	0.0217596
Sema4a	48.21	36.67	-0.39	0.0217596
Slc12a5	47.96	38.08	-0.33	0.0220963
Casc4	53.84	45.14	-0.25	0.0220963
Oprl1	60.99	49.09	-0.31	0.0221711
Kcnd2	18.53	12.13	-0.61	0.0222274
Cadm2	33.06	21.93	-0.59	0.0223194
Rgs7bp	4.31	2.57	-0.75	0.0223427
Zfp715	17.22	11.30	-0.61	0.0223427
Magi3	9.16	7.42	-0.30	0.0223427
Cdk14	34.60	19.32	-0.84	0.0227953
AW555464	28.41	23.83	-0.25	0.0227953
Neto1	10.57	6.60	-0.68	0.0228102
Kcnh1	2.10	1.18	-0.83	0.0235194
Ndufa3	687.20	411.00	-0.74	0.023566
Mtap1a	25.90	17.54	-0.56	0.023566
Pde3a	1.28	0.42	-1.61	0.0237081
Trf	3.70	1.65	-1.17	0.0237081
Camk2d	76.04	41.17	-0.89	0.0237081
Dusp8	57.49	43.53	-0.40	0.0237081
Lpin2	23.20	16.01	-0.54	0.0238346
Clock	4.99	3.83	-0.38	0.0241422
Cbr2	4.07	0.63	-2.68	0.0241995
Kank2	3.22	2.31	-0.48	0.0242012
C130074G19Rik	4.50	2.45	-0.88	0.0243118
Usp2	2.38	1.57	-0.61	0.0245514
Fzd4	1.34	0.64	-1.06	0.0248466
Slco2a1	2.68	1.73	-0.63	0.0248466
Gng12	16.23	10.76	-0.59	0.0248466
Usp20	25.21	16.99	-0.57	0.0249879
Fat1	29.75	20.58	-0.53	0.0253506
Foxo1	6.25	3.89	-0.68	0.0254377
Dok6	2.11	0.91	-1.21	0.0255708
Slc5a6	20.30	13.28	-0.61	0.0257366

Bpifa1	3.81	0.06	-6.05	0.0258431
Scd1	15.38	10.17	-0.60	0.0260494
2610005L07Rik	47.58	38.91	-0.29	0.0260494
Gprin2	3.28	1.57	-1.06	0.0261654
Slc17a8	1.40	0.68	-1.04	0.0262862
Ak7	1.73	0.85	-1.03	0.0262998
Dixdc1	29.84	20.75	-0.52	0.0264234
Etv4	11.12	6.42	-0.79	0.0265915
Kank1	4.40	2.37	-0.89	0.026699
Cx3cl1	21.55	14.45	-0.58	0.0273045
Trip11	2.16	1.19	-0.86	0.0276502
Adcy2	9.27	5.83	-0.67	0.0276792
Nsf	113.60	79.84	-0.51	0.0277847
Pnmt	3.60	0.46	-2.95	0.027809
Ctsh	15.35	8.00	-0.94	0.027809
Slc40a1	6.83	4.06	-0.75	0.027809
Lrrc23	10.51	4.68	-1.17	0.0278303
Ptprt	11.79	8.01	-0.56	0.0281407
Gnas	1231.23	1156.36	-0.09	0.0282191
Gnaz	26.64	23.39	-0.19	0.0285689
Gpr64	1.61	0.93	-0.79	0.0285742
Sphk1	2.19	0.74	-1.57	0.0286709
Camk2a	24.09	16.48	-0.55	0.0287253
Agpat3	45.19	33.66	-0.43	0.0287253
Pde2a	26.16	22.44	-0.22	0.0287253
Klhl18	20.11	14.17	-0.50	0.0288566
Pbx3	52.91	45.62	-0.21	0.0288971
Tnks2	61.48	44.72	-0.46	0.029334
Ugt2a1	0.59	0.00	-1.7977E+308	0.0296266
Rnf144b	1.35	0.67	-1.00	0.0296266
Klhl14	1.54	0.95	-0.70	0.0296506
Penk	19.42	12.94	-0.59	0.0296506
Aak1	17.49	13.15	-0.41	0.0296506
Rbm41	4.86	2.88	-0.75	0.029756
Ntrk3	17.79	12.82	-0.47	0.029756
Galntl6	5.11	2.85	-0.84	0.0299222
Gm12371	5.50	2.58	-1.09	0.0301107
Trip4	18.94	13.64	-0.47	0.0302179
Arhgap26	14.03	9.49	-0.56	0.030262
Gpr17	4.10	2.40	-0.77	0.0308377
Slc23a2	29.46	18.20	-0.69	0.0309084
Flnc	1.65	1.29	-0.35	0.0311433
Mapk15	9.11	4.38	-1.06	0.0312975
Synpo2	1.95	1.02	-0.94	0.0313255
Luzp2	22.44	13.04	-0.78	0.0315683

Gm5454	5.38	2.79	-0.95	0.031897
Adap1	82.88	68.28	-0.28	0.031897
Cpne2	33.01	24.31	-0.44	0.03209
Syncrip	89.10	75.29	-0.24	0.0321207
AI504432	6.80	3.87	-0.81	0.0321258
Usp12	23.11	17.71	-0.38	0.0327642
Prrx1	3.03	1.88	-0.69	0.0329722
Ror1	0.63	0.28	-1.15	0.0332157
Pdxk	15.98	10.62	-0.59	0.0335221
Chml	1.71	0.75	-1.18	0.0335864
Nr3c1	3.38	2.13	-0.67	0.0336365
Gpcpd1	43.36	33.64	-0.37	0.0336365
Tgfbi	2.55	1.33	-0.94	0.0336571
Parm1	3.41	1.99	-0.78	0.0336808
Pla2g3	3.28	2.06	-0.67	0.0336943
Dclk1	119.34	102.44	-0.22	0.0337529
Itpr2	3.18	1.10	-1.53	0.0339195
Dhrs3	9.56	6.29	-0.60	0.0339741
Olig1	28.88	18.78	-0.62	0.0341224
Stard4	12.38	8.05	-0.62	0.0341502
Msx1	3.38	1.72	-0.97	0.0342556
Ptpn11	38.85	32.75	-0.25	0.0351279
Npy1r	6.22	3.66	-0.76	0.0353586
Tm9sf3	52.28	43.57	-0.26	0.0353586
D18Ertd653e	4.99	3.12	-0.68	0.0354241
Ucp2	33.95	23.53	-0.53	0.0354281
Ap1g1	42.80	31.78	-0.43	0.0354281
Nrsn1	26.20	21.16	-0.31	0.0356761
Nckap1	141.79	117.48	-0.27	0.0356761
Pbrm1	32.01	24.75	-0.37	0.0357007
Grm4	7.19	4.58	-0.65	0.0357719
Matn4	2.10	1.04	-1.01	0.0357801
9930021J03Rik	4.65	2.41	-0.95	0.0359307
Gatm	19.83	13.19	-0.59	0.0359307
Dmrt2	0.71	0.19	-1.91	0.0360744
Cep350	8.51	5.54	-0.62	0.0360744
Tcerg1l	23.29	16.10	-0.53	0.0360744
Arhgap5	10.61	7.05	-0.59	0.0361771
Rap1gap	78.17	62.82	-0.32	0.0363099
Gpr155	8.32	4.91	-0.76	0.0364451
F13a1	5.96	3.56	-0.74	0.0364659
Plp1	11.62	8.17	-0.51	0.0364659
Oprk1	1.17	0.50	-1.24	0.0367363
Mlf1	10.31	5.95	-0.79	0.0370549
Zcchc14	59.23	46.95	-0.34	0.0370549
Dzip3	53.78	44.04	-0.29	0.0370549

Cga	1.13	0.00	-1.7977E+308	0.0375609
Tgfb1i1	9.29	6.85	-0.44	0.038006
Steap3	1.33	0.60	-1.14	0.0383295
Bgn	27.92	18.85	-0.57	0.0385291
Prkg1	0.94	0.33	-1.50	0.0385405
Pclo	4.92	3.61	-0.45	0.0385405
Jmjd4	8.32	6.71	-0.31	0.0385405
Pecam1	12.82	9.33	-0.46	0.0385568
Ide	16.13	11.10	-0.54	0.0387559
Il6st	10.06	6.64	-0.60	0.0389417
Kifc3	13.08	10.78	-0.28	0.0389582
Krt8	1.24	0.49	-1.33	0.0391047
Col8a1	1.52	0.77	-0.98	0.0391215
Zfp800	4.45	2.90	-0.61	0.039698
Cyp1b1	2.16	1.20	-0.85	0.0398298
Rell2	83.14	66.57	-0.32	0.0400219
Epb4.9	43.32	38.44	-0.17	0.0400219
Gm2792	2.01	0.94	-1.10	0.0401883
C030034L19Rik	1.95	1.11	-0.81	0.0404255
Gpatch2	7.18	5.62	-0.35	0.0405022
AF064781	4.15	2.43	-0.77	0.0405467
Stard7	118.70	94.96	-0.32	0.0408102
Adcy8	3.58	2.09	-0.77	0.0409011
Fam46a	1.44	0.74	-0.97	0.0412604
Zzz3	20.50	16.62	-0.30	0.0414835
Slc7a14	5.43	3.58	-0.60	0.041861
Aars	77.02	55.67	-0.47	0.0426033
Calu	100.30	82.76	-0.28	0.0432979
Rin2	9.64	5.31	-0.86	0.0433619
Frmpd1	1.37	0.65	-1.08	0.0440111
Slitrk6	2.16	1.16	-0.89	0.0440886
Map3k1	6.31	4.21	-0.58	0.0440886
Lgr4	5.92	4.76	-0.31	0.0440886
Dynlrb2	8.12	3.60	-1.17	0.0445902
A830010M20Rik	19.88	16.18	-0.30	0.0445902
Prickle2	9.63	6.80	-0.50	0.0446613
St6galnac5	15.21	10.44	-0.54	0.0447256
Lhfpl2	11.01	6.45	-0.77	0.0447354
Pcx	12.96	8.85	-0.55	0.0447354
Klhl23	52.75	37.99	-0.47	0.0447553
Usp29	12.62	7.98	-0.66	0.045053
Mboat7	70.22	57.20	-0.30	0.0460286
Erap1	1.53	0.97	-0.66	0.0471171
Tll1	1.25	0.65	-0.95	0.0471523
Syn2	38.01	28.47	-0.42	0.0471523

Sstr4	1.48	0.62	-1.24	0.047182
Vcl	8.17	6.43	-0.35	0.047182
Mtss1l	89.55	70.83	-0.34	0.047353
6230409E13Rik	21.67	15.96	-0.44	0.0475491
Mmp15	14.69	12.05	-0.29	0.0475491
Gbp9	0.70	0.31	-1.18	0.0477194
Car2	6.74	3.80	-0.83	0.0478068
Kitl	39.91	28.71	-0.48	0.047868
Kit	26.76	18.04	-0.57	0.0482645
Cmtm4	7.92	4.37	-0.86	0.0490934
Gpr126	0.69	0.35	-0.98	0.0491188
Got1	63.14	50.84	-0.31	0.0492339
Syt1	70.57	51.01	-0.47	0.049624
Kcnt1	27.31	20.67	-0.40	0.049624
Klf7	23.17	16.55	-0.49	0.0499885

Genes significantly up-regulated in SA1 KO

gene	E17.5 WT (FPKM)	E17.5 KO (FPKM)	log2 (fold change)	FDR
Eef1a1	5273.15	6258.95	0.25	0
Rbm3	131.71	156.67	0.25	0
Gm15500	191.61	263.55	0.46	0
Rasgef1b	23.56	33.67	0.52	0
Pgk1	83.46	121.53	0.54	0
Eno1	407.85	599.47	0.56	0
Gas5	424.09	749.94	0.82	0
Gm13841	26.38	92.89	1.82	0
Kdm3a	21.49	33.86	0.66	6.63036E-13
Tpi1	227.85	350.82	0.62	1.05244E-12
Rpl7	652.77	913.34	0.48	7.10396E-12
Rps3	386.65	502.14	0.38	2.40166E-11
Rplp0	444.56	628.50	0.50	4.30974E-11
Pfkfb3	23.37	30.69	0.39	1.49783E-10
Xist	135.04	286.73	1.09	5.52411E-10
Btf3	320.24	392.09	0.29	1.51294E-09
Igfbpl1	156.66	246.46	0.65	1.95745E-09
P4ha1	16.21	25.40	0.65	2.28848E-09
Gm11512	74.75	167.71	1.17	5.36498E-09
Rpl10	240.16	294.98	0.30	1.2102E-08
Tiam2	27.85	38.93	0.48	1.48052E-08
Eef1b2	837.01	1092.80	0.38	3.87283E-08
Rpl21	44.12	82.32	0.90	4.29041E-08
Rpl5	193.31	261.23	0.43	4.39957E-08

Rps5	773.09	1009.72	0.39	4.7164E-08
Mid1	78.70	141.72	0.85	7.89278E-08
Mapk1ip1	27.39	37.33	0.45	1.13792E-07
Gm13699	100.85	142.79	0.50	4.58589E-07
Rps6	204.34	258.53	0.34	7.06614E-07
2610035D17Rik	8.88	14.73	0.73	1.37658E-06
Gm15427	270.84	357.57	0.40	1.57778E-06
Rps17	525.43	775.16	0.56	1.61292E-06
Jmjd6	31.59	41.74	0.40	2.25672E-06
Rps15	845.44	1140.20	0.43	2.56433E-06
Stmn1	2150.77	2478.88	0.20	2.73621E-06
Cdk2ap1	100.37	130.83	0.38	3.81089E-06
Rps15-ps2	211.54	364.81	0.79	4.01717E-06
Nme2	7.20	24.60	1.77	4.07109E-06
Rpl38	427.21	559.15	0.39	5.08741E-06
Rps19	376.49	485.30	0.37	5.20251E-06
Fis1	138.06	175.21	0.34	5.95956E-06
Neurog2	11.97	24.37	1.03	6.32632E-06
Commd3	176.64	232.82	0.40	6.46149E-06
Gm4997	121.89	219.84	0.85	8.9719E-06
Emx1	10.77	19.53	0.86	1.04862E-05
Scnm1	46.53	66.67	0.52	1.26216E-05
Gm1673	118.50	151.98	0.36	1.32997E-05
Hdac2	253.48	319.14	0.33	0.000016327
Rpl30	341.76	522.27	0.61	1.80748E-05
Gapdh	22.31	44.21	0.99	2.65669E-05
Gm8210	66.90	133.79	1.00	2.71569E-05
Pafah1b3	239.71	308.28	0.36	3.13329E-05
Uqcrh	264.13	362.09	0.46	3.76495E-05
Akap8l	32.71	40.64	0.31	4.51672E-05
Sla	37.44	45.54	0.28	5.18073E-05
Prdm8	17.44	23.23	0.41	5.18073E-05
Anp32a	312.34	422.65	0.44	5.64899E-05
Gm12322	18.14	49.42	1.45	5.85574E-05
Pisd-ps1	274.77	350.96	0.35	6.50768E-05
Rpl27a-ps2	7.47	24.34	1.70	7.51821E-05
Eomes	15.41	24.80	0.69	8.19471E-05
Rpl35a	196.43	316.58	0.69	8.19471E-05
Rpl23	790.35	1027.45	0.38	8.24828E-05
Neurod1	18.21	24.81	0.45	0.000101984
Gm8430	259.98	340.97	0.39	0.000110427
BC004004	40.48	55.79	0.46	0.00014662
Ldha	213.05	311.08	0.55	0.00014722
Ppp2r2b	105.51	125.09	0.25	0.000160958
Rpl11	476.52	601.11	0.34	0.000163974
Hscb	4.61	11.52	1.32	0.000199064

Rpl18	493.45	649.37	0.40	0.000210484
Gm12901	14.49	34.46	1.25	0.000239611
Gm11223	1964.08	2573.32	0.39	0.000248273
H3f3a	526.61	666.36	0.34	0.000265578
Rpl7a	98.22	126.55	0.37	0.000274606
Gpi1	114.94	163.95	0.51	0.000279987
1500012F01Rik	88.33	122.32	0.47	0.000287214
Rpl12	189.49	236.08	0.32	0.00029506
Rpl28	217.95	293.89	0.43	0.000321834
Ddit4	50.69	84.25	0.73	0.000361018
D430001F17Rik	0.51	2.08	2.03	0.000414534
Ldb1	127.80	153.50	0.26	0.000432673
Gm10072	180.96	247.31	0.45	0.000440713
Orc6	22.81	29.84	0.39	0.00048507
Rps24	630.65	932.98	0.56	0.00048507
Rpl21-ps15	2.73	10.68	1.97	0.00048507
Gm11972	15.95	40.79	1.35	0.000545395
Cct3	230.12	296.89	0.37	0.000591445
D930015E06Rik	30.12	35.89	0.25	0.000658074
Polr3gl	29.64	45.48	0.62	0.000673335
Mdk	68.09	88.56	0.38	0.000687101
Cdk4	448.26	561.23	0.32	0.000698593
6720416L17Rik	0.00	0.48	1,79E+308	0.000700714
Rpl18-ps2	124.83	156.26	0.32	0.00073073
Ptprh	0.34	1.19	1.81	0.00073073
Hnrnpa1	200.97	238.55	0.25	0.000740139
Cabp1	25.25	36.44	0.53	0.000768562
Zfp821	49.95	60.35	0.27	0.000902248
Mad2l2	72.63	107.12	0.56	0.000943281
Pdcd5	123.63	160.14	0.37	0.00102671
Gm11671	21.21	47.15	1.15	0.0010475
Rps2	127.48	171.58	0.43	0.00109081
Zfp637	63.30	86.81	0.46	0.00109081
Gnb2l1	999.81	1304.37	0.38	0.00134019
Ppia	513.01	603.02	0.23	0.00141013
Rbm17	98.04	127.33	0.38	0.00141634
Chtf8	43.90	50.85	0.21	0.00142446
Pkm2	325.15	407.57	0.33	0.00159545
Pla2g4b	12.13	19.43	0.68	0.00173609
Mcm7	52.98	67.52	0.35	0.00179915
5930416I19Rik	41.97	56.42	0.43	0.00186516
H2afz	311.45	383.11	0.30	0.00186713
Ppdpf	132.06	162.01	0.29	0.00191322
Rpl13a	3134.36	4313.25	0.46	0.00191537
Pfdn5	359.49	478.93	0.41	0.001938
Hnrpdl	201.92	220.68	0.13	0.00205304

Dynll1	428.32	508.72	0.25	0.0021574
Smarca2	99.59	119.67	0.26	0.00236003
Prex2	2.73	4.56	0.74	0.00237532
Cyth2	112.44	133.37	0.25	0.0023993
Ap2s1	180.93	211.46	0.22	0.00241747
Nsmce4a	49.34	65.94	0.42	0.00242913
Gabarap	265.29	325.99	0.30	0.002441
Calcoco1	44.08	56.44	0.36	0.00244937
Gm10163	14.37	30.16	1.07	0.00268989
Ddah2	233.73	304.35	0.38	0.00270118
Rpl10a-ps1	279.90	328.95	0.23	0.00286635
Dync1i1	41.01	49.19	0.26	0.00290162
Rpl27a	165.74	209.60	0.34	0.00295083
Igsf8	54.43	77.41	0.51	0.00298864
D4Wsu53e	412.78	496.02	0.27	0.00307869
1110038B12Rik	76.13	99.32	0.38	0.00310865
Rpl35a-ps2	169.67	227.72	0.42	0.00315298
Gm7973	12.55	27.99	1.16	0.00322317
Stmn4	494.47	576.74	0.22	0.00360864
Eif3m	67.04	85.69	0.35	0.00383898
Rps18	411.83	531.29	0.37	0.00383898
Gm14059	148.62	203.01	0.45	0.00393912
H3f3b	518.32	660.40	0.35	0.00405311
Pdap1	124.88	162.12	0.38	0.00414866
Hdac5	102.06	129.67	0.35	0.00455628
Nae1	64.60	82.21	0.35	0.00455628
Hist3h2ba	69.87	113.84	0.70	0.00473674
Ier5	16.89	26.56	0.65	0.00503189
Idh2	102.07	130.35	0.35	0.00503202
Gm17352	28.07	54.79	0.96	0.00504399
Gm15531	36.57	87.74	1.26	0.00534692
Rps29	704.18	1054.58	0.58	0.00563331
Ybx1	902.04	992.65	0.14	0.00568932
Fezf2	18.24	29.16	0.68	0.00570146
Gm16020	95.27	189.25	0.99	0.00580394
Rpl35	297.31	398.73	0.42	0.0064883
Rpl34-ps1	250.70	320.04	0.35	0.00667524
Rps4x	548.18	749.40	0.45	0.00682973
Gm6136	165.68	194.17	0.23	0.00739239
Gm13268	145.65	180.42	0.31	0.00760266
mt-Tq	935.12	2673.05	1.52	0.00797667
Rcor2	62.80	85.54	0.45	0.00803985
Snrnp70	210.68	247.39	0.23	0.00876685
Fam107b	23.21	27.28	0.23	0.00894823
3110003A17Rik	49.73	79.37	0.67	0.00912756
Gm5506	81.03	119.67	0.56	0.00955723

Schip1	99.69	116.19	0.22	0.00983858
Foxg1	99.65	135.58	0.44	0.0101789
Fam89b	44.57	59.72	0.42	0.0102637
Gm13654	210.71	268.27	0.35	0.0107671
Ldha-ps2	10.65	19.04	0.84	0.010899
Pabpc1	318.67	373.59	0.23	0.0111994
Serinc2	19.73	25.47	0.37	0.0115326
Akr1a4	378.43	447.86	0.24	0.0121104
Rpl36a	352.89	503.78	0.51	0.0121352
Nasp	98.04	114.16	0.22	0.0123668
Paip2	157.51	185.98	0.24	0.0124056
Gm15772	280.63	335.66	0.26	0.0131855
0610007P22Rik	23.33	31.97	0.45	0.0135088
Gm11266	9.60	16.75	0.80	0.0138739
Apex1	83.50	100.06	0.26	0.013958
Rpl17-ps4	45.09	73.27	0.70	0.0142007
Gm11868	7.87	11.09	0.50	0.0147684
Gm11703	17.52	32.72	0.90	0.0147684
Aldoa	229.57	269.49	0.23	0.0147744
Rpl21-ps10	0.90	4.73	2.39	0.014801
Ypel4	15.95	21.60	0.44	0.0150321
Hk2	3.06	7.63	1.32	0.0153053
BC025920	2.93	5.64	0.94	0.0153231
Npm1	313.36	394.71	0.33	0.0157166
Hmgb1	110.82	130.97	0.24	0.0158539
Gm14456	1088.03	1289.07	0.24	0.0158885
Gm4604	91.46	148.54	0.70	0.0160758
2700094K13Rik	78.59	94.97	0.27	0.0160822
Gm10155	14.48	27.68	0.94	0.0163392
Thra	554.98	626.79	0.18	0.0163426
Psma7	299.69	393.07	0.39	0.0164869
Cirbp	193.17	237.37	0.30	0.0166544
Gm9104	3.21	8.97	1.48	0.0167552
Lix1	8.59	12.79	0.57	0.0171775
Gm3511	123.25	203.15	0.72	0.0177427
Neurod6	145.42	211.46	0.54	0.0182244
Ranbp1	119.92	137.27	0.19	0.0183093
Cdkn1b	42.55	53.58	0.33	0.0183093
Sh3yl1	20.86	24.79	0.25	0.0184647
Ndufc2	156.62	195.16	0.32	0.0190638
Gng10	79.69	94.18	0.24	0.0193213
Psme1	187.18	225.60	0.27	0.0195751
Pqbp1	110.26	133.50	0.28	0.0203197
Rps16	292.13	372.75	0.35	0.0203197
Smug1	8.87	13.75	0.63	0.0203604
Hmgn2	162.15	183.47	0.18	0.02048

Prmt1	262.29	301.68	0.20	0.0213599
Rps23	275.57	389.50	0.50	0.0213599
0610010K14Rik	97.18	115.17	0.24	0.0215219
Gm15032	35.49	62.69	0.82	0.0215219
Hnrnpc	162.23	205.37	0.34	0.0229624
Uckl1	55.93	71.01	0.34	0.0231137
Safb2	109.89	131.67	0.26	0.0235131
Gm15454	59.41	79.88	0.43	0.023695
Pnrc1	39.47	52.73	0.42	0.0237081
Hoxb5	0.04	1.30	5.14	0.0237081
Gm10293	5.56	10.14	0.87	0.0237975
Rps21	624.97	890.43	0.51	0.0243461
Rpl26	392.95	520.40	0.41	0.0253879
Tmsb4x	1881.71	2220.34	0.24	0.0254308
Mex3d	35.26	40.80	0.21	0.0254377
Gm11826	138.42	176.75	0.35	0.0262862
Tpt1	1349.03	1750.47	0.38	0.0262862
Hoxb3os	0.17	1.05	2.59	0.0262862
Gm14648	5.20	11.75	1.18	0.0263753
Fus	772.31	899.99	0.22	0.027988
Fam118b	31.35	39.69	0.34	0.0281407
Map2k5	15.64	19.27	0.30	0.0282815
Zfp428	67.42	78.13	0.21	0.0285167
AI413582	13.78	19.91	0.53	0.0289112
Rps14	845.28	995.26	0.24	0.0289146
Gm10196	133.01	203.07	0.61	0.0289669
Phyhd1	18.94	28.26	0.58	0.0294189
2310014H01Rik	20.10	22.76	0.18	0.0297221
Rpl18a	125.18	176.73	0.50	0.0299066
Hoxa5	0.02	1.85	6.38	0.0300899
Rpl15	165.60	199.21	0.27	0.0302636
Insm1	21.24	30.87	0.54	0.0304425
C130071C03Rik	81.78	105.04	0.36	0.0306527
Rpl24	301.17	410.91	0.45	0.0309923
Lhx2	77.63	103.81	0.42	0.031897
Neb	3.18	5.30	0.74	0.0327809
Bud31	109.72	134.72	0.30	0.0331292
Rpl6	553.58	702.68	0.34	0.0332911
Rpl9	128.33	166.76	0.38	0.0333364
Erh	164.79	210.08	0.35	0.0335745
Med28	104.99	125.27	0.25	0.0336571
Rpl36-ps3	85.82	135.32	0.66	0.034438
Wnt7b	25.24	30.26	0.26	0.0349126
Rpl31	98.30	139.83	0.51	0.0349126
Gm17511	99.22	148.67	0.58	0.035
Ldhb	150.12	176.27	0.23	0.0353586

Rhebl1	21.13	28.68	0.44	0.0356761
Gm13882	12.64	20.27	0.68	0.0357428
Rps26	500.98	702.67	0.49	0.0359307
Gm7363	39.97	67.76	0.76	0.0359307
Gm16042	4.19	8.42	1.01	0.0359307
Snhg1	12.05	15.96	0.41	0.0368521
Gm3940	104.46	158.14	0.60	0.0370396
Rpl21-ps8	36.83	57.87	0.65	0.0370549
Gm8158	36.04	59.60	0.73	0.0376613
Rpl32	838.93	1162.41	0.47	0.0379544
Gm9294	111.51	159.43	0.52	0.0380319
Slc16a3	3.56	7.46	1.06	0.0380319
Ndufaf2	35.17	46.17	0.39	0.0381382
Zc4h2	31.52	36.28	0.20	0.038775
Gm13653	2.77	7.37	1.41	0.0388468
Hist3h2a	30.98	44.64	0.53	0.0389417
Krtap13	0.00	0.62	1,79E+308	0.0405467
Rps27a	218.89	290.15	0.41	0.0416236
Emg1	65.74	77.07	0.23	0.0420638
Rpl36	148.29	219.85	0.57	0.0420638
Gm10241	170.26	218.52	0.36	0.0430309
Gm16832	3.81	6.69	0.81	0.0430309
Uqcrq	184.88	239.40	0.37	0.0432907
Gm14633	46.30	73.98	0.68	0.0434498
Orc1	0.92	7.82	3.08	0.0436301
Rpl30-ps9	19.97	34.89	0.81	0.0440886
Miip	21.49	28.88	0.43	0.0450081
B230206F22Rik	5.22	6.97	0.42	0.0452812
Nap1l1	144.59	161.42	0.16	0.0456273
Usf1	157.80	201.83	0.36	0.0457732
Pisd-ps2	71.90	94.00	0.39	0.0475491
Gm12630	3.89	7.90	1.02	0.0487121
Hemk1	30.84	50.05	0.70	0.0490085
Gm5805	167.69	239.29	0.51	0.0490934
Efcab7	6.33	14.09	1.15	0.0490934
Os9	32.91	36.56	0.15	0.0493969
Acp1	16.89	19.73	0.22	0.0494874

Supplementary Table 6

Pcdhα		Total reads	Mapped reads (%)	Cis reads vs. Total (%)
Adult cortex	R1	2,952,186	96.04	47.73
	R2	3,429,152	95.02	66.26
Adult pancreas	R1	3,264,095	89,89	68,43
	R2	2,074,772	94,25	61,34
Wt E17.5 cortex	R1	4,278,504	93.00	70.00
	R2	2,971,200	94.00	70.21
SA1KO E17.5 cortex	R1	4,080,479	93.11	71.01
	R2	4,485,778	94.02	68.05
Pcdhγ				
Adult cortex	R1	3,779,805	95.75	71.29
	R2	3,081,272	96.02	68.83
Adult pancreas	R1	3,787,078	91.62	53.35
	R2	2,900,228	92.31	51.77
Wt E17.5 cortex	R1	3,999,340	94.00	60.1
	R2	2,441,921	96.2	59.3
SA1KO E17.5 cortex	R1	3,456,595	95.00	59.14
	R2	3,476,737	96.24	50.15

Supplementary Table 7

P5 Illumina	AATGATACGGCGACCACCGAACACTCTTTCCCTACACGACGCTCTTCCGATCT
P7 Illumina	CAAGCAGAAGACGGCATACGA

Viewpoint	Primer 1st cutter (5'-3')
Pcdh alpha	AATGATACGGCGACCACCGAACACTCTTTCCCTACACGACGCTCTTCCGATCT**CATTAAATTTCTATTAAAGCTT**
Pcdh gamma	AATGATACGGCGACCACCGAACACTCTTTCCCTACACGACGCTCTTCCGATCT**GGTTTACTTCTGTAATAAGCTT**
REG cluster VP1	AATGATACGGCGACCACCGAACACTCTTTCCCTACACGACGCTCTTCCGATCT**GGAACCACACAATGAAGCTT**
REG cluster VP2	AATGATACGGCGACCACCGAACACTCTTTCCCTACACGACGCTCTTCCGATCT**CCAGAGAAAACAGGGGGATC**
REG cluster VP3	AATGATACGGCGACCACCGAACACTCTTTCCCTACACGACGCTCTTCCGATCT**CCTGACAAACCATCTCAGATC**
	Primer 2nd cutter (5'-3')
Pcdh alpha	CAAGCAGAAGACGGCATACGA**GATTTAAAGCTGTCAAAG**
Pcdh gamma	CAAGCAGAAGACGGCATACGA**TACTTAGGGTGCTTCTGTT**
REG cluster VP1	CAAGCAGAAGACGGCATACGA**TCTATTGAGCGTTCCTATGATC**
REG cluster VP2	CAAGCAGAAGACGGCATACGA**TGTGTAAAACCAAGAATGCGTC**
REG cluster VP3	CAAGCAGAAGACGGCATACGA**AGCCATCTTTCTTTGCCTC**

Supplementary Table 8

RT-qPCR primers	sequence (5'-3')
SA1 Fw	AGGCTTTCATGCTGCTCTGT
SA1 Rev	TCCATGCTTTGGTTTTCCTC
Myc Fw	TCGCCTCACTCAGCTCCCCT
Myc Rev	ACCGTCCGCTCACTCCCTCT
Reg2 Fw	TTTTGCCAGAACATGAATGC
Reg2 Rev	GTGCCAACGACGGTTACTTT
Reg3a Fw	GGTGGATGGGAGTGGAGTAA
Reg3a Rev	TAAATGCTGGATGCTGCTTG
Reg3b Fw	GGCTTCATTCTTGTCCTCCA
Reg3b Rev	AGATGGGTTCCTCTCCCAGT
GAPDH Fw	TGCACCACCAACTGCTTAGC
GAPDH Rev	GAGGGGCCATCCACAGTCTTC
ChIP-seq primers	**sequence (5'-3')**
Reg locus 1 Fw	CTCAGGCACTGAGAACCACA
Reg locus 1 Rev	CACAAGGGAAATCCAGGTTG
Reg locus 2 Fw	AACTGGGCACTTGTTTGCTT
Reg locus 2 Rev	CCCTGGGAACAGTCACAGAT
Reg locus 3 Fw	GCCACACATGTTCCTTTCCT
Reg locus 3 Rev	AGCAGGAGACTGCCTGTGAT
Pcdha4 Fw	TTTGCAAAACGGGAAACCTA
Pcdha4 Rev	CAGCTTTCCGAGAAGAGTGG
Pcdha6 Fw	CCGAGTTCCATCTACCACCA
Pcdha6 Rev	GTCGGCCTTCAGTGGTAAAA