

Supplemental Methods and Data

Androgen receptor polyglutamine expansion drives age-dependent quality control defects and muscle dysfunction

Samir R. Nath^{1,2,3}, Zhigang Yu¹, Theresa A. Gipson⁴, Gregory B. Marsh⁵,

Eriko Yoshidome¹, Diane M. Robins⁶, Sokol V. Todi⁵, David E. Housman⁴,

Andrew P. Lieberman¹

¹ Department of Pathology, University of Michigan Medical School, Ann Arbor, MI 48109

² Medical Scientist Training Program, University of Michigan Medical School, Ann Arbor,
MI 48109

³ Cellular and Molecular Biology Graduate Program, University of Michigan Medical
School, Ann Arbor, MI 48109

⁴ Koch Institute for Integrative Cancer Research, Massachusetts Institute of Technology,
Cambridge, MA 02139

⁵ Department of Pharmacology, Wayne State University School of Medicine, Detroit, MI
48201

⁶ Department of Human Genetics, University of Michigan Medical School, Ann Arbor, MI
48109

Supplemental Methods

qPCR

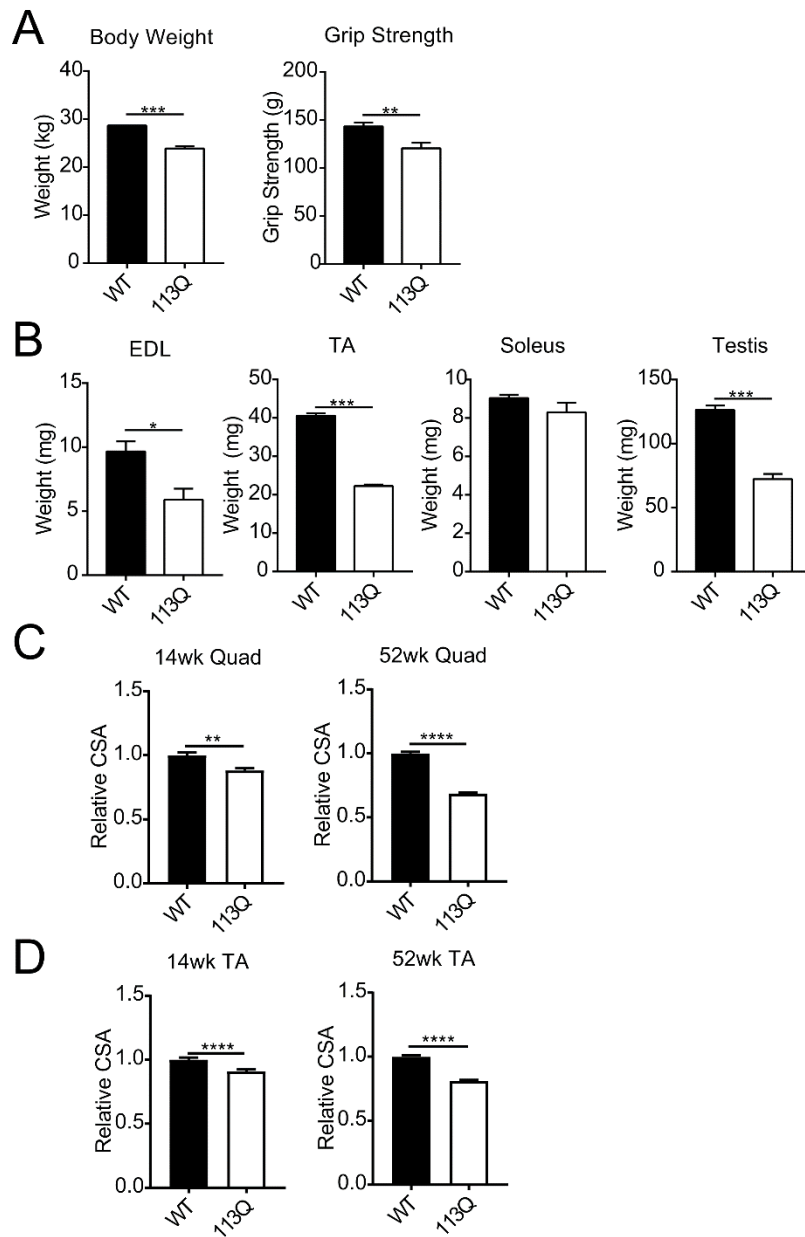
For *Drosophila* samples, total RNA was extracted from adult fly heads using TRIzol. Fifteen heads were used per sample. Extracted RNA was treated with TURBO DNase (Ambion) to eliminate contaminating DNA, and reverse transcription was carried out as indicated above. RNA levels were quantified using StepOnePlus Real-Time PCR System with Fast SYBR Green Master Mix (Applied Biosystems). rp49 was used as the internal control. Each round of qRT-PCR was conducted in technical triplicates. A total of three independent repeats was conducted.

Fly histology:

For histological preparation (75, 76), wings and proboscises of adult flies were removed and bodies were fixed overnight in 2% glutaraldehyde/2% paraformaldehyde in Tris-buffered saline with 0.1% Triton X-100, rotating at 4°C. Fixed bodies were subsequently dehydrated by using a series of 30%, 50%, 75%, and 100% ethanol/propylene oxide. Dehydrated flies were then embedded in Poly/Bed812 (Polysciences) and sectioned at 5 µm and stained with toluidine blue. The posterior portion of the fly eye was imaged, which was previously shown to be most impacted by the expression of polyQ AR (1, 2).

Supplemental References

1. Lloyd TE, and Taylor JP. Flightless flies: *Drosophila* models of neuromuscular disease. *Ann N Y Acad Sci.* 2010;1184:e1-20.
2. Pandey UB, Nie Z, Batlevi Y, McCray BA, Ritson GP, Nedelsky NB, et al. HDAC6 rescues neurodegeneration and provides an essential link between autophagy and the UPS. *Nature.* 2007;447(7146):859-63.



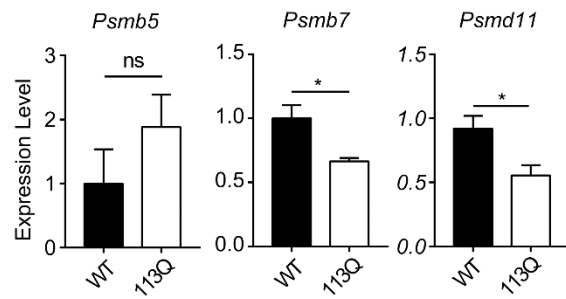
Supplemental Figure 1. AR113Q mice display a robust phenotype at 52 wks.

A. 52 wk AR113Q males show significant reduction in body weight (left, n=3/group) and grip strength (right, n=6/group). Data are mean $\pm$ S.E.M. **p<0.01, ***p<0.001 by t-test.

B. Weight of extensor digitorum longus (EDL), tibialis anterior (TA), soleus and testes in 52 wk AR113Q males and wild type littermates. Data are mean $\pm$ S.E.M. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ by t-test.

C. Cross sectional area of the quadriceps muscle fibers at 14 (left) and 52 (right) weeks of age. $n = 3$ mice per group, $n \geq 3$ images per mouse, $n \geq 150$ fibers/image. Data are mean $\pm$ S.E.M. ** $p < 0.01$, **** $p < .0001$ by t-test.

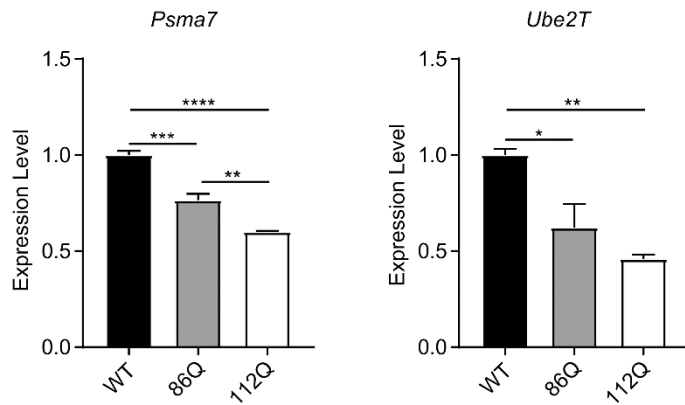
D. Cross sectional area of tibialis anterior muscle fibers at 14 (left) and 52 (right) weeks of age. $n = 3$ mice per group, $n \geq 3$ images per mouse, $n \geq 150$ fibers/image. Data are mean $\pm$ S.E.M. ** $p < 0.01$, **** $p < .0001$ by t-test.



Supplemental Figure 2. Proteasome gene expression in AR113Q LABC at 14 wk.

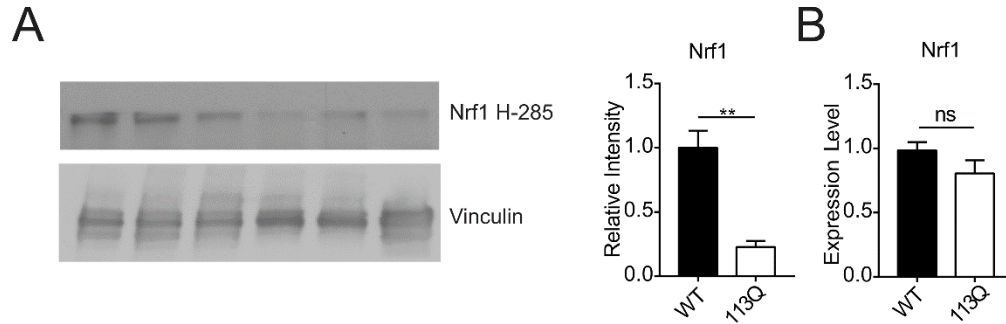
Relative expression of *Psmb5*, *Psmb7* and *Psmb11* was determined in LABC of wild type or AR113Q mice at 14 wk by qPCR. Data are mean $\pm$ S.E.M. n=3 mice/genotype.

*p<0.05 by t-test.



Supplemental Figure 3: Gene expression changes are polyglutamine tract length-dependent.

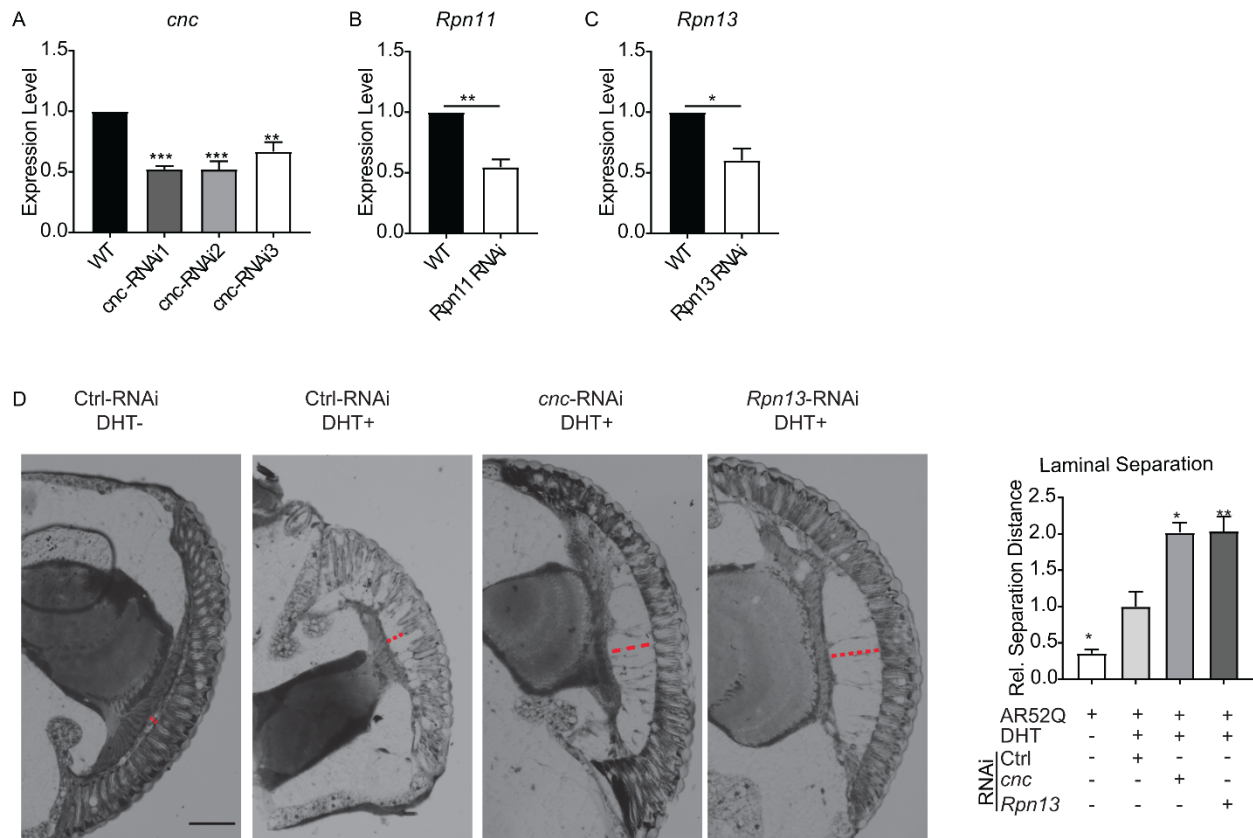
Relative expression of *Psm7* (left) and *Ube2T* (right) was measured by qPCR in the 26 week quadriceps of WT, 86Q and 112Q mice. Data are mean $\pm$ S.E.M. n=3 mice/genotype. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$, **** $p < 0.0001$ by one-way ANOVA with Tukey's post-hoc test.



Supplemental Figure 4. NRF1 is reduced in the 14 wk AR113Q LABC.

A. 14 wk LABC from wild type or AR113Q males was probed by western blot for Nrf1 using the H-285 antibody. Quantified at right. Data are mean $\pm$ S.E.M. $n=3$ mice/genotype. $*p<0.01$ by t-test.

B. Relative expression of *NRF1* (*NFE2L1*) was determined in LABC of WT or AR113Q mice at 14 wk by qPCR. Data are mean $\pm$ S.E.M. $n=3$ mice/genotype. Not significant (ns) by t-test.



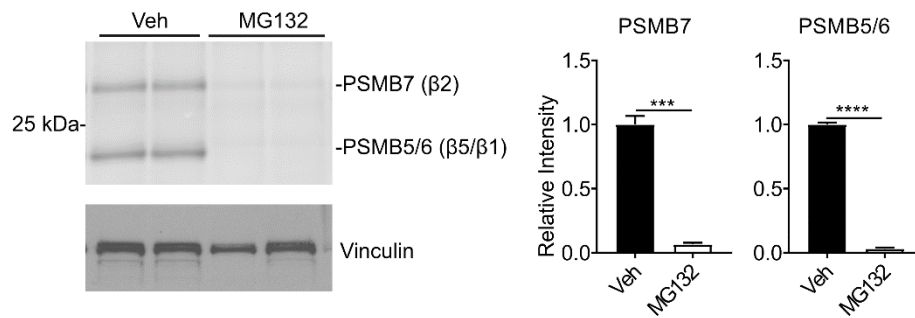
Supplemental Figure 5.

A. Relative *cnc* expression in WT and *cnc* RNAi *Drosophila* lines was measured by qPCR. Data are mean $\pm$ S.E.M. $n=3$ biological replicates/group. ** $p<0.01$, *** $p<0.001$ by one-way ANOVA with Tukey's post-hoc test.

B. Relative *Rpn11* expression in WT and *Rpn11* RNAi *Drosophila* lines was measured by qPCR. Data are mean $\pm$ S.E.M. $n=3$ biological replicates/group. ** $p<0.01$ by t-test.

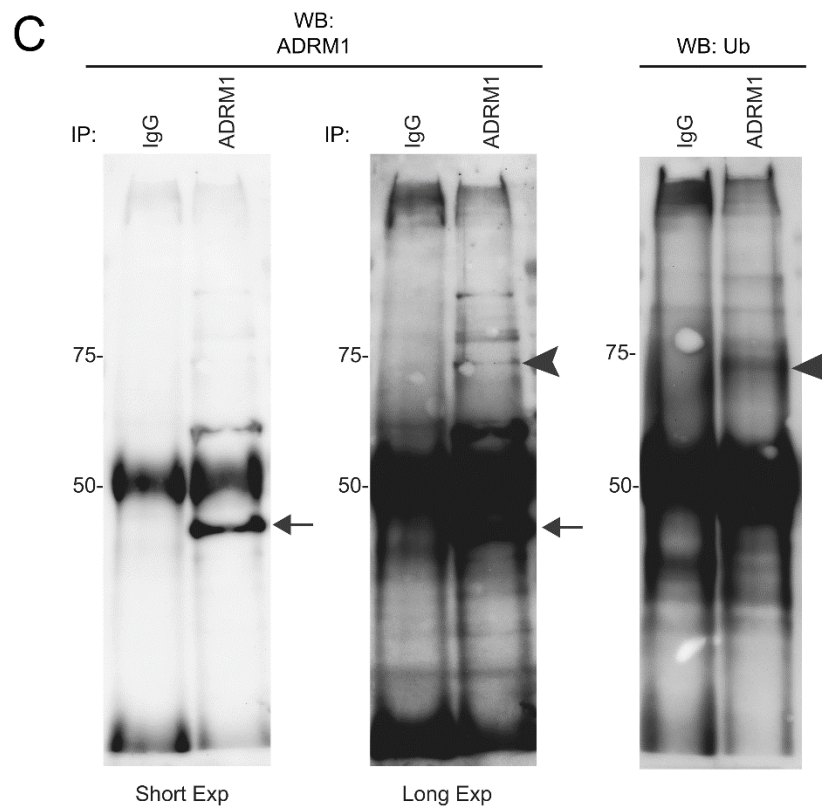
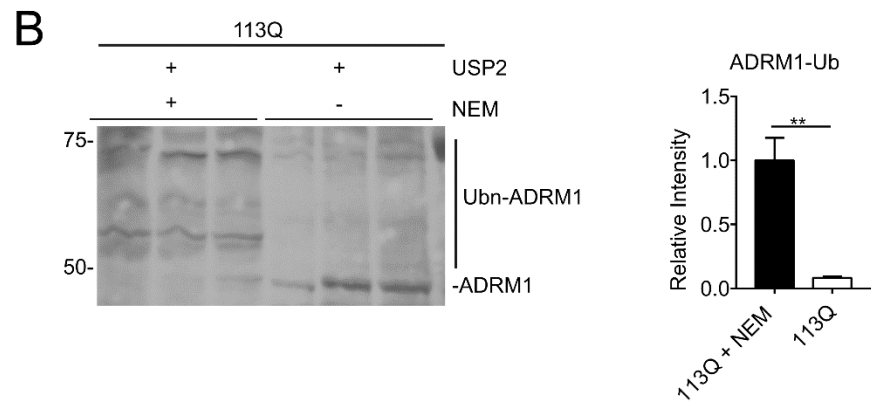
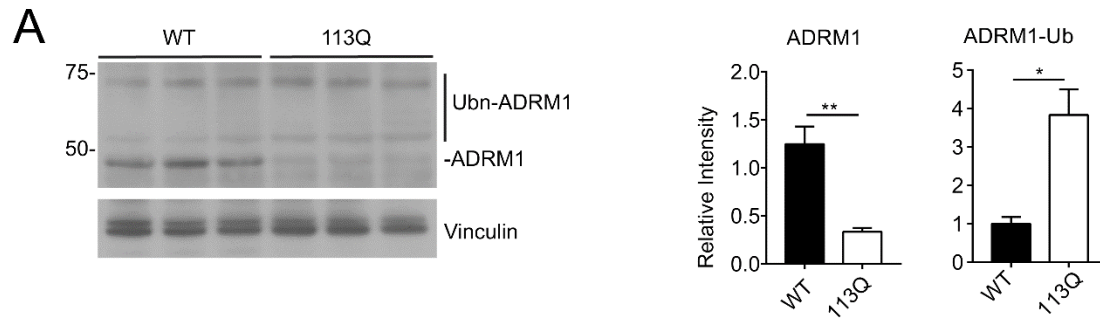
C. Relative *Rpn13* expression in WT and *Rpn13* RNAi *Drosophila* lines was measured by qPCR. Data are mean $\pm$ S.E.M. $n=3$ biological replicates/group. * $p<0.05$ by t-test.

D. Left: Representative histological sections of the posterior portion of 7 day old fly eyes expressing AR52Q, driven by GMR-Gal4 in the presence or absence of the indicated RNAi transgene. Ctrl: parental line for the RNAi transgenes. Where noted, flies were reared in cornmeal media containing 5 mM DHT during development and as adults, until processed for imaging. Dotted lines in photos represent distance measured between lamina and underlying structure, quantified at right. Data are mean $\pm$ S.E.M. $n \geq 9$ flies per genotype, 3 images/fly (calculations used average for each biological replicate). Asterisks indicates significance compared to Ctrl-RNAi + DHT. * <0.05 , ** $p < 0.005$ by one-way ANOVA with Tukey's post-hoc test. Scale bar = 50 μ M.



Supplemental Figure 6. Signal from activity based probe is inhibited by MG132.

14 wk quadriceps from wild type mice were lysed in HR buffer and incubated with a BODIPY-labeled activity based probe in the absence (Veh) or presence of 25 μ M MG132. Co-incubation with MG132 significantly reduced the level of active proteasomes. Data was normalized to vinculin and quantified at right. Data are mean $\pm$ S.E.M. n=3 mice/group. ***p<0.001, ****p<0.0001 by t-test.



Supplemental Figure 7. ADRM1 is ubiquitinated in AR113Q LABC

A. Lysates of 14 wk LABC were probed by western blot for ADRM1. Vinculin controls for loading; quantified at right. Data are mean $\pm$ S.E.M. n=3 mice/genotype. *p<0.05, **p<0.01 by t-test.

B. Lysates of 14 wk LABC were incubated with the catalytic domain of USP2 in the absence or presence of 10 μ M of the deubiquitinase inhibitor NEM, as indicated, and then analyzed by western blot. High molecular weight species were normalized to level of ADRM1 monomer. Quantified at right. n=3 mice/genotype. **p<0.01 by t-test.

C. Lysates of AR113Q 52 wk gastrocnemius muscle were immunoprecipitated with either ADRM1 antibody or control IgG. Arrow indicates endogenous, unmodified ADRM1; arrowhead indicates endogenous high molecular weight ADRM1 species identified by western blot for ADRM1 or ubiquitin. Dense ~50 KDa band represents immunoglobulin heavy chain.

Supplemental Table 1: Gene expression changes of AR 113Q vs WT LABC

gene	NCBI Gene	log2(fold_change)	test_stat	p_value	q_value	Diff Exp
1700108F19Rik	73272	inf	-nan	0.00005	0.000323529	YES
5430440P10Rik	71362	inf	-nan	0.00005	0.000323529	YES
Abpb	233099	inf	-nan	0.00005	0.000323529	YES
Barx1	12022	inf	-nan	0.00005	0.000323529	YES
Cstl1	228756	inf	-nan	0.00005	0.000323529	YES
1500016L03Rik	78365	inf	-nan	0.00005	0.000323529	YES
Gucy2c	14917	inf	-nan	0.00005	0.000323529	YES
Hoxc13	15422	inf	-nan	0.00005	0.000323529	YES
Krt17	16667	inf	-nan	0.00005	0.000323529	YES
Mup6	620807	inf	-nan	0.00005	0.000323529	YES
Otx1	18423	inf	-nan	0.00005	0.000323529	YES
Pax2	18504	inf	-nan	0.00005	0.000323529	YES
Sct	20287	inf	-nan	0.00005	0.000323529	YES
Zic2	22772	inf	-nan	0.00005	0.000323529	YES
Zic5	65100	inf	-nan	0.00005	0.000323529	YES
Ucma	68527	7.13538	8.38452	0.00005	0.000323529	YES
Gata4	14463	6.3789	5.09543	0.0135	0.0424795	YES
Bbox1	170442	5.95651	8.63426	0.00005	0.000323529	YES
Gm12519	102637828	5.92509	0.58426	0.00025	0.00138761	YES
Syt17	110058	5.74309	5.97904	0.00005	0.000323529	YES
Arhgap36	75404	5.70447	7.81252	0.00005	0.000323529	YES
Dmrta2	242620	5.38481	3.86584	0.00725	0.0252978	YES
Gm17495	100126778	5.05154	6.07759	0.00005	0.000323529	YES
Pax6	18508	4.8516	1.17621	0.00465	0.0173781	YES
Pcsk2	18549	4.72881	7.53846	0.00005	0.000323529	YES
Igsf1	209268	4.70447	11.0612	0.00005	0.000323529	YES
Pln	18821	4.53153	5.72838	0.00005	0.000323529	YES
Bglap-rs1	12095	4.46853	10.1512	0.00005	0.000323529	YES
En2	13799	4.41324	5.80068	0.00005	0.000323529	YES
4933416E03Rik	71081	4.36023	3.68002	0.00005	0.000323529	YES
Gm11681	100038732	4.3554	1.42849	0.0012	0.00544762	YES
Crisp1	11571	4.24819	3.01448	0.0084	0.0285321	YES
Shox2	20429	4.22612	4.94634	0.00005	0.000323529	YES
Cldn2	12738	4.19042	5.9021	0.00005	0.000323529	YES
Pip	18716	4.13402	10.8448	0.00005	0.000323529	YES
Chia	81600	4.12463	3.70808	0.00285	0.0114131	YES
Krt14	16664	4.07882	2.97046	0.00865	0.0291359	YES
Rab9b	319642	4.07267	4.86828	0.00005	0.000323529	YES
Bhlha15	17341	4.01033	6.07116	0.00005	0.000323529	YES
Gm7714	665615	4.00028	11.2303	0.00005	0.000323529	YES
Fam155a	270028	3.90818	3.95134	0.0002	0.0011411	YES
A4gnt	333424	3.8878	7.49003	0.00005	0.000323529	YES
Mia1	12587	3.87604	6.32884	0.00005	0.000323529	YES
Gpx2	14776	3.84412	2.90125	0.01165	0.0375907	YES
Pla2g4f	271844	3.83224	2.78472	0.00575	0.0207687	YES

Gm14635	100043946	3.83098	2.27596	0.00005	0.000323529	YES
RP23-302F9.1		3.82771	1.85572	0.012	0.0384753	YES
Cyp2b10	13088	3.80564	5.71316	0.00005	0.000323529	YES
2310057J18Rik	67719	3.78465	11.3296	0.00005	0.000323529	YES
Hpse2	545291	3.7697	3.18162	0.00215	0.00894696	YES
Odam	69592	3.72413	9.57367	0.00005	0.000323529	YES
Insl6	27356	3.71825	4.76654	0.00035	0.00186438	YES
1810041L15Rik	72301	3.6926	8.35299	0.00005	0.000323529	YES
Pigr	18703	3.62866	5.11755	0.00005	0.000323529	YES
Serpinb1a	66222	3.62382	12.6398	0.00005	0.000323529	YES
Derl3	70377	3.60494	6.71632	0.00005	0.000323529	YES
Dmp1	13406	3.59909	2.41529	0.00985	0.0326741	YES
Aqp5	11830	3.59681	5.8354	0.00005	0.000323529	YES
Rnf182	328234	3.59538	3.92295	0.00075	0.00362109	YES
Gm20703		3.58476	1.32835	0.01135	0.036766	YES
Agr2	23795	3.55095	8.14022	0.00005	0.000323529	YES
Foxf2	14238	3.52873	5.22162	0.00005	0.000323529	YES
5330417C22Rik	229722	3.48136	4.8101	0.00005	0.000323529	YES
Folr1	14275	3.45389	2.98847	0.00015	0.000880082	YES
Rab26	328778	3.40201	3.07131	0.002	0.00841627	YES
B4galnt2	14422	3.36777	6.60969	0.00005	0.000323529	YES
Gm14321	100048985	3.35135	3.56063	0.00005	0.000323529	YES
Ddc	13195	3.3486	6.85097	0.00005	0.000323529	YES
Ildr1	106347	3.3368	3.46902	0.0001	0.000610637	YES
Ect2l	100045792	3.33501	3.88053	0.00005	0.000323529	YES
P4ha3	320452	3.30571	3.92765	0.00005	0.000323529	YES
Plbd1	66857	3.30086	10.5239	0.00005	0.000323529	YES
Gprasp2	245607	3.28094	5.93077	0.00005	0.000323529	YES
Mup4	17843	3.2633	5.36137	0.00005	0.000323529	YES
Nipal4	214112	3.25515	3.69168	0.00005	0.000323529	YES
Ccl12	20293	3.25494	3.2265	0.01575	0.0481999	YES
Lrfrn1	80749	3.25359	2.81957	0.0006	0.0029726	YES
Sec14l4	103655	3.23615	3.68311	0.00005	0.000323529	YES
Sh2d4a	72281	3.23312	7.41074	0.00005	0.000323529	YES
Klhl13	67455	3.23237	11.4451	0.00005	0.000323529	YES
Odf3l1	382075	3.22422	4.40865	0.00005	0.000323529	YES
Vax2	24113	3.22383	1.89453	0.01095	0.035676	YES
D10Bwg1379e	215821	3.22052	3.1758	0.0002	0.0011411	YES
Gabra4	14397	3.1919	2.93807	0.0011	0.0050638	YES
Gjb2	14619	3.18148	3.08567	0.00145	0.0063961	YES
Slc5a8	216225	3.17108	3.12272	0.00025	0.00138761	YES
Foxd1	15229	3.16513	3.29452	0.00375	0.014433	YES
Gm765	330390	3.14302	2.99205	0.0059	0.0212324	YES
Smr2	20600	3.12463	7.31261	0.00005	0.000323529	YES
Prol1	17830	3.11454	10.9551	0.00005	0.000323529	YES
Abo	80908	3.1121	2.73096	0.0026	0.0105407	YES
E2f2	242705	3.09851	7.62044	0.00005	0.000323529	YES

1600029D21Rik	76509	3.09777	3.24587	0.00655	0.0231896	YES
Hoxa13	15398	3.0837	4.34257	0.00005	0.000323529	YES
Gm10863	100041655	3.08023	1.35701	0.00735	0.0255956	YES
Adra1b	11548	3.06503	5.23451	0.00005	0.000323529	YES
En1	13798	3.04961	5.06939	0.00005	0.000323529	YES
Bhlhe22	59058	3.0388	3.16443	0.0022	0.00912365	YES
Tceal5	331532	3.03689	8.30791	0.00005	0.000323529	YES
Rgs1	50778	3.01365	3.06548	0.00115	0.00525399	YES
Oit1	18300	3.00951	5.98649	0.00005	0.000323529	YES
Hap1	15114	3.00535	2.58503	0.00335	0.0131247	YES
Sbpl	638345	2.99969	4.74807	0.00005	0.000323529	YES
Slc34a2	20531	2.98844	2.3873	0.0054	0.0197081	YES
Aass	30956	2.98324	3.90853	0.00005	0.000323529	YES
A230057D06Rik	319893	2.95609	2.27932	0.00545	0.0198492	YES
Nap1l3	54561	2.95478	4.3757	0.00005	0.000323529	YES
Atp6v1b1	110935	2.93214	2.3205	0.01035	0.0341097	YES
Hnf1b	21410	2.93055	2.12895	0.0145	0.0451028	YES
A430010J10Rik	319665	2.9204	2.01357	0.00225	0.00928693	YES
D630039A03Rik	242484	2.91937	3.02897	0.00035	0.00186438	YES
Satb2	212712	2.90887	3.27814	0.00005	0.000323529	YES
P2rx1	18436	2.89956	6.59652	0.00005	0.000323529	YES
Cdh6	12563	2.88094	2.53164	0.0034	0.0132809	YES
Sp8	320145	2.87273	2.94789	0.00035	0.00186438	YES
Krt18	16668	2.86859	5.80475	0.00005	0.000323529	YES
Nptx2	53324	2.85549	4.87478	0.00005	0.000323529	YES
Gm12945	100048926	2.85056	1.75708	0.01305	0.0413031	YES
9330111N05Rik	319983	2.83764	1.72152	0.00185	0.00789701	YES
3110003A17Rik	73112	2.82783	9.02618	0.00005	0.000323529	YES
Bex1	19716	2.81258	6.83559	0.00005	0.000323529	YES
Diras2	68203	2.81143	6.2785	0.00005	0.000323529	YES
Tnni3k	435766	2.81086	3.00196	0.00045	0.00232845	YES
Slc5a1	20537	2.80064	3.01327	0.0002	0.0011411	YES
Frmpd1	666060	2.79377	6.76557	0.00005	0.000323529	YES
Kcnn4	16534	2.78927	5.7294	0.00005	0.000323529	YES
Igj	16069	2.78144	3.15945	0.00025	0.00138761	YES
Cyp1b1	13078	2.77968	4.0073	0.00005	0.000323529	YES
Azgp1	12007	2.7774	4.17394	0.00005	0.000323529	YES
Actg2	11468	2.77464	11.4459	0.00005	0.000323529	YES
Ptgds	19215	2.77411	6.09688	0.00005	0.000323529	YES
Hoxd11	15431	2.7616	3.8815	0.00055	0.00276141	YES
Proca1	216974	2.73476	4.60169	0.00005	0.000323529	YES
Dynlrb2	75465	2.73176	3.58559	0.00335	0.0131247	YES
Cldn10	58187	2.72794	5.04773	0.00005	0.000323529	YES
Tex15	104271	2.72532	3.12675	0.00005	0.000323529	YES
Hs6st2	50786	2.71407	8.27052	0.00005	0.000323529	YES
Gjb1	14618	2.69608	4.14204	0.00005	0.000323529	YES
Pcbd1	13180	2.69513	5.87417	0.00005	0.000323529	YES

Nckap5	210356	2.68921	2.91178	0.00005	0.000323529	YES
Pou4f1	18996	2.67547	5.49343	0.00005	0.000323529	YES
Ccdc159	67119	2.66642	1.92933	0.00525	0.0192545	YES
Expi	14038	2.65772	4.36703	0.0002	0.0011411	YES
Slco1a4	28250	2.65464	2.86635	0.0004	0.00210083	YES
Tfap2a	21418	2.65434	3.18543	0.0004	0.00210083	YES
Alpk2	225638	2.65153	4.63521	0.00005	0.000323529	YES
Slc25a48	328258	2.64421	2.46845	0.00475	0.0176888	YES
Hapln4	330790	2.64115	2.65868	0.0013	0.00582759	YES
Bspry	192120	2.64036	2.53212	0.00365	0.0141172	YES
A930003A15Rik	68162	2.63979	3.71492	0.00005	0.000323529	YES
Tmem90b	433485	2.62156	2.57769	0.0021	0.00876905	YES
Fam171b	241520	2.56381	4.35748	0.00005	0.000323529	YES
Capn11	268958	2.54934	2.72066	0.00055	0.00276141	YES
Gm106	226866	2.54531	5.01119	0.00005	0.000323529	YES
Prelid2	77619	2.53692	4.09937	0.00005	0.000323529	YES
Gm17102	102638296	2.53629	1.76163	0.00125	0.00562912	YES
Arc	11838	2.5292	2.77953	0.0001	0.000610637	YES
Tnfaip8l3	244882	2.52662	2.8828	0.0006	0.0029726	YES
Aldh1b1	72535	2.51245	3.93406	0.00005	0.000323529	YES
Rnft2	269695	2.51114	4.9159	0.00005	0.000323529	YES
Cldn3	12739	2.50455	2.91186	0.00615	0.0219763	YES
Grhl3	230824	2.49991	2.83147	0.0005	0.00254778	YES
B3gnt5	108105	2.4806	2.56885	0.00055	0.00276141	YES
Krt23	94179	2.47831	3.28151	0.0001	0.000610637	YES
Bdnf	12064	2.46599	2.44923	0.0006	0.0029726	YES
Olfm4	380924	2.4654	3.06497	0.00045	0.00232845	YES
Lrrc3b	218763	2.45375	5.80619	0.00005	0.000323529	YES
Plin5	66968	2.45215	7.9708	0.00005	0.000323529	YES
4930578M01Rik	75951	2.44963	1.92812	0.00695	0.0244189	YES
Sdf2l1	64136	2.44962	5.70229	0.00005	0.000323529	YES
Hcn4	330953	2.44222	2.65085	0.0005	0.00254778	YES
Slc25a34	384071	2.43472	7.3267	0.00005	0.000323529	YES
Slc6a13	14412	2.4295	4.79884	0.00005	0.000323529	YES
Vmn1r65	81013	2.40348	4.09584	0.00005	0.000323529	YES
Ttc39a	230603	2.40174	2.96109	0.00015	0.000880082	YES
Traf5	22033	2.3999	3.74612	0.00005	0.000323529	YES
Nupr1	56312	2.3955	10.9809	0.00005	0.000323529	YES
Fndc3c1	333564	2.39259	4.84538	0.00005	0.000323529	YES
Dner	227325	2.39057	2.56483	0.0009	0.00424116	YES
Fbxl22	74165	2.38538	3.26954	0.00005	0.000323529	YES
Lpo	76113	2.36923	2.41907	0.00215	0.00894696	YES
Myom3	242702	2.35162	10.1702	0.00005	0.000323529	YES
Col4a6	94216	2.34269	5.83428	0.00005	0.000323529	YES
Lgi3	213469	2.33947	3.8857	0.00005	0.000323529	YES
Mir143hg	328968	2.32921	1.77146	0.00665	0.0234855	YES
Acta2	11475	2.32748	10.4828	0.00005	0.000323529	YES

Dse	212898	2.32367	7.05206	0.00005	0.000323529	YES
Arhgap8	73167	2.32329	2.01117	0.0019	0.00807975	YES
B230312C02Rik	320485	2.32312	3.74014	0.00005	0.000323529	YES
Gm11627	100040792	2.3201	3.2274	0.0017	0.00733233	YES
Slc28a3	114304	2.31968	2.25141	0.00375	0.014433	YES
Dach1	13134	2.31109	7.45859	0.00005	0.000323529	YES
Ydjc	69101	2.30617	3.63632	0.0001	0.000610637	YES
Mpped2	77015	2.30256	3.36425	0.00005	0.000323529	YES
Irx2	16372	2.29361	2.9372	0.00055	0.00276141	YES
Gm16158	105242966	2.29027	1.24382	0.004	0.0152681	YES
Fendrr	68790	2.29018	2.31396	0.0006	0.0029726	YES
Myl4	17896	2.28971	6.81324	0.00005	0.000323529	YES
Igfbp2	16008	2.283	7.58356	0.00005	0.000323529	YES
Gm16731	105247126	2.27216	2.72391	0.00025	0.00138761	YES
Dlg2	23859	2.27191	5.57429	0.00005	0.000323529	YES
Iigp1	60440	2.25378	8.24403	0.00005	0.000323529	YES
Epcam	17075	2.24382	3.87043	0.00005	0.000323529	YES
Hoxd12	15432	2.23967	2.00438	0.00925	0.0309317	YES
Srd5a2	94224	2.23841	2.53294	0.0093	0.0310658	YES
Kcnk3	16527	2.23443	3.73519	0.00005	0.000323529	YES
Tm6sf1	107769	2.22779	7.5911	0.00005	0.000323529	YES
Slc7a4	224022	2.22772	4.55899	0.00005	0.000323529	YES
Hist3h2ba	78303	2.22232	2.83173	0.01225	0.0391095	YES
Kcnmb1	16533	2.22225	2.79863	0.003	0.0119378	YES
Nme5	75533	2.21326	3.03515	0.001	0.00465385	YES
Al646023	192734	2.21139	3.25991	0.00005	0.000323529	YES
Nkain2	432450	2.21048	4.07655	0.00005	0.000323529	YES
Cenpk	60411	2.20154	2.32852	0.0005	0.00254778	YES
Upb1	103149	2.20133	2.54339	0.00125	0.00562912	YES
Ryr2	20191	2.19602	3.18633	0.00005	0.000323529	YES
Nphp4	260305	2.19387	2.47377	0.0014	0.00620513	YES
Sdc2	15529	2.17102	9.08684	0.00005	0.000323529	YES
Nmt2	18108	2.16645	6.48316	0.00005	0.000323529	YES
Nipal2	223473	2.15972	3.60679	0.00005	0.000323529	YES
Kcnd3	56543	2.15281	2.74529	0.00005	0.000323529	YES
Wwc1	211652	2.14258	3.60157	0.00005	0.000323529	YES
Gm16197	100504267	2.14198	2.53376	0.0008	0.00383425	YES
Spdef	30051	2.13771	2.54872	0.0015	0.00658526	YES
Wscd2	320916	2.13042	3.28832	0.00005	0.000323529	YES
Reep2	225362	2.12984	3.82479	0.00005	0.000323529	YES
Sytl2	83671	2.11751	6.92028	0.00005	0.000323529	YES
F830016B08Rik	240328	2.11507	7.1473	0.00005	0.000323529	YES
Glr3	14658	2.11346	2.90774	0.00025	0.00138761	YES
Rbfox3	52897	2.10855	2.08929	0.002	0.00841627	YES
Slc7a5	20539	2.10675	5.81085	0.00005	0.000323529	YES
Ankrd1	107765	2.10442	5.1962	0.00005	0.000323529	YES
Myf5	17877	2.10406	5.63085	0.00005	0.000323529	YES

Slc5a9	230612	2.09659	2.27845	0.0019	0.00807975	YES
C530028O21Rik	319352	2.0915	2.59771	0.0004	0.00210083	YES
Apol9a	223672	2.08913	1.55866	0.01155	0.0373216	YES
Ggt7	207182	2.08793	4.25037	0.00005	0.000323529	YES
Stc2	20856	2.08789	3.93315	0.00005	0.000323529	YES
Gm27031		2.08627	2.64785	0.00085	0.00404799	YES
Krt8	16691	2.08006	4.55551	0.00005	0.000323529	YES
Chrna1	11435	2.07645	9.42571	0.00005	0.000323529	YES
Angpt1	11600	2.07364	5.64467	0.00005	0.000323529	YES
Trim46	360213	2.07362	2.72172	0.00005	0.000323529	YES
Zfr2	103406	2.06162	5.68591	0.00005	0.000323529	YES
Oasl1	231655	2.05796	2.03869	0.00255	0.0103674	YES
Ncam1	17967	2.05751	6.06945	0.00005	0.000323529	YES
Cbx4	12418	2.0519	5.27609	0.00005	0.000323529	YES
Tbx5	21388	2.03995	2.6816	0.00055	0.00276141	YES
B4galt6	56386	2.03747	5.73322	0.00005	0.000323529	YES
Runx1	12394	2.02251	4.67581	0.00005	0.000323529	YES
Figl1	60530	2.01808	2.38642	0.00045	0.00232845	YES
Katnal2	71206	2.01646	2.44415	0.00145	0.0063961	YES
Kcng1	241794	2.01599	2.41149	0.0021	0.00876905	YES
Accn1	11418	2.01326	2.61249	0.0005	0.00254778	YES
Myl9	98932	2.0111	10.103	0.00005	0.000323529	YES
Kcnab3	16499	2.01036	1.94305	0.0073	0.0254497	YES
Stom	13830	2.00979	9.9054	0.00005	0.000323529	YES
Myh11	17880	2.00532	7.1116	0.00005	0.000323529	YES
Hcn3	15168	2.00483	2.52338	0.00155	0.00678017	YES
Dync1i1	13426	2.00087	3.52438	0.00005	0.000323529	YES
Ptgr1	67103	1.99276	5.10733	0.00005	0.000323529	YES
Gprasp1	67298	1.99151	7.48938	0.00005	0.000323529	YES
Nucb2	53322	1.99137	5.88113	0.00005	0.000323529	YES
Foxf1a	15227	1.98887	3.25195	0.0003	0.00163174	YES
Bhlhb9	70237	1.98603	5.75905	0.00005	0.000323529	YES
Mt3	17751	1.98508	5.12454	0.00005	0.000323529	YES
Il17re	57890	1.98219	5.01876	0.00005	0.000323529	YES
Pcp4	18546	1.97938	5.39723	0.00005	0.000323529	YES
Adcy8	11514	1.97487	2.17028	0.0037	0.0142754	YES
Ptpre	19267	1.9738	5.84384	0.00005	0.000323529	YES
Gpr27	14761	1.97038	4.28558	0.00005	0.000323529	YES
Slc27a1	26457	1.96984	9.3304	0.00005	0.000323529	YES
MIph	171531	1.9674	3.54581	0.00005	0.000323529	YES
Kctd14	233529	1.96592	2.38876	0.0005	0.00254778	YES
Rasef	242505	1.9634	2.34578	0.00145	0.0063961	YES
Peg10	170676	1.96277	4.35454	0.00005	0.000323529	YES
Trpv6	64177	1.95996	1.93624	0.0059	0.0212324	YES
Stra6	20897	1.95664	2.29569	0.00035	0.00186438	YES
BC064078	408064	1.95136	3.00699	0.00095	0.00445144	YES
Me3	109264	1.94744	8.61274	0.00005	0.000323529	YES

Rasal1	19415	1.94615	2.98352	0.00005	0.000323529	YES
Aldh18a1	56454	1.94481	4.45423	0.00005	0.000323529	YES
Ccdc46	76380	1.94441	3.38122	0.00005	0.000323529	YES
Rgs12	71729	1.94053	5.49784	0.00005	0.000323529	YES
Entpd3	215446	1.93877	1.92734	0.00655	0.0231896	YES
Gsg1l	269994	1.93827	3.11062	0.0001	0.000610637	YES
Mylk	107589	1.93317	7.7033	0.00005	0.000323529	YES
Slitrk6	239250	1.93092	2.69194	0.00015	0.000880082	YES
Glis1	230587	1.93008	2.84475	0.00035	0.00186438	YES
Jph4	319984	1.92973	2.99227	0.0002	0.0011411	YES
Fam169b	434197	1.92326	4.03426	0.00005	0.000323529	YES
Abhd3	106861	1.91887	3.10043	0.00025	0.00138761	YES
D330028D13Rik	231946	1.91586	2.09158	0.00285	0.0114131	YES
Gstm2	14863	1.91324	8.98953	0.00005	0.000323529	YES
Lbx2	16815	1.90391	3.10264	0.0014	0.00620513	YES
Skap2	54353	1.89828	5.62057	0.00005	0.000323529	YES
Pak6	214230	1.89363	2.16072	0.00095	0.00445144	YES
Csrp1	13007	1.89291	9.22465	0.00005	0.000323529	YES
Slc4a3	20536	1.88523	7.33738	0.00005	0.000323529	YES
Klhl32	212390	1.87284	1.58109	0.0142	0.044345	YES
Ltbp2	16997	1.8701	2.97408	0.00005	0.000323529	YES
Rtkn2	170799	1.86544	6.44018	0.00005	0.000323529	YES
9230111E07Rik	77748	1.86388	1.72494	0.00905	0.0303726	YES
Adamts20	223838	1.85474	4.0643	0.00005	0.000323529	YES
Cacnb2	12296	1.85076	2.28607	0.0009	0.00424116	YES
Cidea	12683	1.84942	3.47358	0.00005	0.000323529	YES
Ntrk3	18213	1.84834	4.29519	0.00005	0.000323529	YES
Foxl2	26927	1.84403	2.96485	0.0003	0.00163174	YES
Tonsl	72749	1.84345	2.73922	0.00005	0.000323529	YES
1700003E16Rik	71837	1.8383	2.30972	0.0027	0.0108761	YES
Hspa4l	18415	1.83828	4.88422	0.00005	0.000323529	YES
Plce1	74055	1.83646	5.15266	0.00005	0.000323529	YES
Cpeb1	12877	1.83407	6.84627	0.00005	0.000323529	YES
Galnt5	241391	1.83346	2.49247	0.00045	0.00232845	YES
Lingo3	237403	1.83036	5.85869	0.00005	0.000323529	YES
St14	19143	1.82974	2.57595	0.0005	0.00254778	YES
Snx24	69226	1.82701	5.79138	0.00005	0.000323529	YES
Gm4841	225594	1.8191	7.18593	0.00005	0.000323529	YES
Mosc1	66112	1.81908	2.32563	0.00195	0.00825222	YES
Pgpep1l	78444	1.81818	6.83341	0.00005	0.000323529	YES
Mme	17380	1.81272	3.71954	0.00005	0.000323529	YES
Cep72	74470	1.8116	2.42002	0.00075	0.00362109	YES
Fam46c	74645	1.80291	2.57078	0.0008	0.00383425	YES
Traf3ip3	215243	1.79764	3.97115	0.00005	0.000323529	YES
Tppp3	67971	1.79293	9.59736	0.00005	0.000323529	YES
Enkur	71233	1.79147	3.41583	0.00005	0.000323529	YES
Decr2	26378	1.79038	5.0703	0.00005	0.000323529	YES

Htati2	53415	1.78638	4.5537	0.00005	0.000323529	YES
Fgfr2	14183	1.78448	3.51392	0.00005	0.000323529	YES
Zfpm2	22762	1.78314	3.71013	0.00005	0.000323529	YES
Slc22a18	18400	1.78191	2.4174	0.00055	0.00276141	YES
Rnf208	68846	1.78139	3.7061	0.00005	0.000323529	YES
C030037D09Rik	193280	1.77791	1.86903	0.00485	0.0180185	YES
Arfgap3	66251	1.77297	6.12668	0.00005	0.000323529	YES
Gm13010	105247191	1.77283	1.56393	0.0123	0.0392532	YES
Foxd2	17301	1.76709	2.91043	0.00055	0.00276141	YES
Faah	14073	1.76642	2.26427	0.00195	0.00825222	YES
Fbxo47	72973	1.76561	2.11138	0.00625	0.0222779	YES
Cend1	57754	1.76033	2.24312	0.0018	0.00770449	YES
Itga8	241226	1.75982	4.41654	0.00005	0.000323529	YES
Trnp1	69539	1.75889	3.91728	0.00005	0.000323529	YES
Gstm7	68312	1.75149	5.64629	0.00005	0.000323529	YES
Isl2	104360	1.74833	2.142	0.00615	0.0219763	YES
Capn6	12338	1.74795	4.80271	0.00005	0.000323529	YES
Hk1	15275	1.74731	6.43461	0.00005	0.000323529	YES
Tekt2	24084	1.74678	2.1873	0.0016	0.00697368	YES
Kcnh2	16511	1.74649	4.14587	0.00005	0.000323529	YES
Sap30	60406	1.741	5.1674	0.00005	0.000323529	YES
Ncald	52589	1.73953	5.05936	0.00005	0.000323529	YES
Magee1	107528	1.73544	4.32836	0.00005	0.000323529	YES
1700019G06Rik		1.7283	2.93956	0.00005	0.000323529	YES
Dkk3	50781	1.72532	4.21434	0.00005	0.000323529	YES
Slc38a1	105727	1.72302	3.14502	0.00005	0.000323529	YES
Asl	109900	1.7229	6.60031	0.00005	0.000323529	YES
Slc37a2	56857	1.72184	2.82444	0.00005	0.000323529	YES
Alx3	11694	1.70568	2.63369	0.00065	0.00319117	YES
Sh3rf3	237353	1.70311	2.82299	0.00005	0.000323529	YES
Tmem14a	75712	1.70158	4.59352	0.00005	0.000323529	YES
Crocc	230872	1.69061	4.72276	0.00005	0.000323529	YES
Etv1	14009	1.68505	3.3726	0.00005	0.000323529	YES
Nme4	56520	1.68471	3.80465	0.00005	0.000323529	YES
Ascl1	17172	1.68467	1.91994	0.0112	0.0363699	YES
Uchl1	22223	1.68289	4.81727	0.00005	0.000323529	YES
Slc22a17	59049	1.68205	5.67698	0.00005	0.000323529	YES
Prrx2	20204	1.68203	4.15465	0.00005	0.000323529	YES
Trip13	69716	1.67893	1.75736	0.01355	0.0425942	YES
Gm20632		1.67757	3.5552	0.00005	0.000323529	YES
Adcy5	224129	1.67671	4.9712	0.00005	0.000323529	YES
Sp6	83395	1.67608	2.29618	0.00195	0.00825222	YES
Chn1	108699	1.67574	2.33928	0.00175	0.00752117	YES
Igsf11	207683	1.67262	2.05374	0.00285	0.0114131	YES
Rnf128	66889	1.67218	5.55428	0.00005	0.000323529	YES
Aptd1	69928	1.66954	2.60911	0.0008	0.00383425	YES
Nt5c	50773	1.65852	4.30163	0.00005	0.000323529	YES

Nqo1	18104	1.65639	7.28722	0.00005	0.000323529	YES
Tagln	21345	1.65526	4.52003	0.00005	0.000323529	YES
Dact3	629378	1.65211	5.578	0.00005	0.000323529	YES
B930041F14Rik	230991	1.64386	4.47971	0.00005	0.000323529	YES
Prmt2	15468	1.643	5.73595	0.00005	0.000323529	YES
Itm2c	64294	1.63626	7.99405	0.00005	0.000323529	YES
Hdgfrp3	29877	1.63376	4.31506	0.00005	0.000323529	YES
Lgr6	329252	1.6337	2.09429	0.0049	0.0181743	YES
Efcab4b	381812	1.62861	1.76913	0.0106	0.0347733	YES
6230409E13Rik	76132	1.62524	2.75963	0.00005	0.000323529	YES
Peg3as	100169889	1.62381	2.25769	0.00055	0.00276141	YES
Slc25a24	229731	1.62267	5.74563	0.00005	0.000323529	YES
Rab13	68328	1.62147	6.63418	0.00005	0.000323529	YES
Ankrd42	73845	1.61812	1.96611	0.0036	0.0139684	YES
Cdca8	52276	1.61145	1.99244	0.00485	0.0180185	YES
Hsf2bp	74377	1.61087	1.92209	0.00705	0.0246931	YES
Gdf11	14561	1.61045	3.19358	0.00005	0.000323529	YES
Slc25a14	20523	1.60995	2.99071	0.00005	0.000323529	YES
Iqgap2	544963	1.6088	3.88739	0.00005	0.000323529	YES
AW551984	244810	1.60781	2.88422	0.00005	0.000323529	YES
Mmp17	23948	1.60755	2.73189	0.00025	0.00138761	YES
Pde5a	242202	1.60742	4.57217	0.00005	0.000323529	YES
Cxcr7	12778	1.60702	7.55428	0.00005	0.000323529	YES
Ckb	12709	1.60635	6.8212	0.00005	0.000323529	YES
2810032G03Rik	72669	1.60159	3.08265	0.00005	0.000323529	YES
Tspan1	66805	1.59236	2.70546	0.0002	0.0011411	YES
Tmigd1	66601	1.59149	2.24302	0.00305	0.0121092	YES
Pcdh7	54216	1.58782	4.06697	0.00005	0.000323529	YES
Rab3d	19340	1.58667	5.91087	0.00005	0.000323529	YES
Pnma1	70481	1.58287	1.70474	0.01375	0.0431712	YES
Flna	192176	1.58173	6.46051	0.00005	0.000323529	YES
Pik3ap1	83490	1.58092	2.54246	0.0004	0.00210083	YES
Ehf	13661	1.58037	3.44983	0.00005	0.000323529	YES
Foxc1	17300	1.57884	3.46472	0.00005	0.000323529	YES
Ctxn1	330695	1.57812	3.37805	0.00005	0.000323529	YES
Grb10	14783	1.57808	6.66668	0.00005	0.000323529	YES
Shd	20420	1.57747	1.65771	0.00715	0.0249988	YES
Maged1	94275	1.57581	7.26561	0.00005	0.000323529	YES
Armcx1	78248	1.57382	3.82057	0.00005	0.000323529	YES
Susd5	382111	1.57358	2.61749	0.00025	0.00138761	YES
Car11	12348	1.57189	5.06064	0.00005	0.000323529	YES
Tmco4	77056	1.57058	4.5729	0.00005	0.000323529	YES
Lrrn3	16981	1.57016	2.11031	0.00175	0.00752117	YES
BC018242	235044	1.56468	3.46184	0.00005	0.000323529	YES
4933432I09Rik	66779	1.56466	1.75478	0.00695	0.0244189	YES
Mtap9	213582	1.55999	2.98873	0.00005	0.000323529	YES
Zdbf2	73884	1.55768	3.87487	0.00005	0.000323529	YES

Rab15	104886	1.55509	3.31329	0.00005	0.000323529	YES
2010204K13Rik	68355	1.55424	2.14613	0.0021	0.00876905	YES
Rgs11	50782	1.55267	2.59416	0.00035	0.00186438	YES
Pnck	93843	1.55214	6.18217	0.00005	0.000323529	YES
Camsap3	69697	1.55209	2.67673	0.00005	0.000323529	YES
Fam65b	193385	1.54966	2.36347	0.00015	0.000880082	YES
Mrvi1	17540	1.5461	5.29296	0.00005	0.000323529	YES
Tnfrsf11a	21934	1.54549	2.63163	0.0003	0.00163174	YES
Ptms	69202	1.54405	8.05044	0.00005	0.000323529	YES
Fblim1	74202	1.54342	3.95257	0.00005	0.000323529	YES
Gnaz	14687	1.54078	1.78098	0.0052	0.0191112	YES
Tnfrsf19	29820	1.53894	5.63535	0.00005	0.000323529	YES
1110059M19Rik	68800	1.53574	2.69733	0.0005	0.00254778	YES
Hist3h2bb-ps	382522	1.53378	2.64255	0.01455	0.0451958	YES
Uap1l1	227620	1.53133	5.12418	0.00005	0.000323529	YES
1700012D01Rik	72243	1.53089	2.40318	0.00765	0.0264646	YES
Gm26775		1.53069	1.42965	0.015	0.0463192	YES
Eid1	58521	1.53043	6.35677	0.00005	0.000323529	YES
Chrdl1	83453	1.52601	3.95124	0.00005	0.000323529	YES
4832428D23Rik	403183	1.52579	2.22719	0.00175	0.00752117	YES
Intu	380614	1.52509	3.29269	0.00005	0.000323529	YES
Actn1	109711	1.52439	5.81216	0.00005	0.000323529	YES
Stk36	269209	1.52321	2.09002	0.00195	0.00825222	YES
Hivep3	16656	1.52079	2.20218	0.0005	0.00254778	YES
Igsf9	93842	1.51611	1.66298	0.011	0.0358166	YES
Sema3a	20346	1.51328	2.55645	0.00005	0.000323529	YES
Smad9	55994	1.51295	2.09609	0.00185	0.00789701	YES
Trpv2	22368	1.51268	3.50378	0.00005	0.000323529	YES
Arhgdig	14570	1.51225	2.69925	0.0006	0.0029726	YES
Cmpk2	22169	1.50987	4.50504	0.00005	0.000323529	YES
Ttc9	69480	1.50978	5.6108	0.00005	0.000323529	YES
H2-Q7,H2-Q9	15018	1.5067	2.90376	0.00005	0.000323529	YES
Fat1	14107	1.49811	5.2722	0.00005	0.000323529	YES
Asns	27053	1.49752	3.76268	0.00005	0.000323529	YES
Cpt1a	12894	1.49091	5.64558	0.00005	0.000323529	YES
Cbx2	12416	1.49004	2.64635	0.0001	0.000610637	YES
Nsl1	381318	1.48926	2.00575	0.00355	0.0138017	YES
Dsc2	13506	1.48776	1.75681	0.0099	0.0328054	YES
Tmem53	68777	1.48701	3.80481	0.00005	0.000323529	YES
Fam26e	103511	1.48413	2.88329	0.00005	0.000323529	YES
Ucp2	22228	1.48106	5.67668	0.00005	0.000323529	YES
Galk1	14635	1.47974	2.41486	0.0007	0.00340476	YES
Serf1	20365	1.47713	5.15866	0.00005	0.000323529	YES
Hmgcs2	15360	1.47691	3.75329	0.00005	0.000323529	YES
1190005I06Rik	68918	1.47498	3.05854	0.00065	0.00319117	YES
Bbc3	170770	1.47303	3.37477	0.00005	0.000323529	YES
Nhs1	215819	1.473	4.26008	0.00005	0.000323529	YES

Dsp	109620	1.47132	2.61829	0.0001	0.000610637	YES
Hdhd3	72748	1.47066	2.57849	0.00165	0.00715394	YES
Pir	69656	1.47012	4.23926	0.00005	0.000323529	YES
Dpp6	13483	1.46924	5.35171	0.00005	0.000323529	YES
Acot1	26897	1.46728	2.06866	0.0051	0.0188096	YES
6330439K17Rik	241688	1.46655	2.45744	0.0002	0.0011411	YES
Maob	109731	1.46629	6.61106	0.00005	0.000323529	YES
Gm17396	100502649	1.46622	3.8241	0.00005	0.000323529	YES
Slc12a8	171286	1.46441	1.6502	0.00915	0.0306624	YES
Pnmal2	434128	1.46159	3.17172	0.00005	0.000323529	YES
C230035I16Rik	320842	1.45641	1.67178	0.0072	0.0251512	YES
Adamts17	233332	1.45603	1.84982	0.00475	0.0176888	YES
Moxd1	59012	1.45064	2.48633	0.00035	0.00186438	YES
2410066E13Rik	68235	1.4503	4.12753	0.00005	0.000323529	YES
Lix1l	280411	1.4485	5.65987	0.00005	0.000323529	YES
Tnnt1	21955	1.44602	2.95949	0.00005	0.000323529	YES
A930004D18Rik	77940	1.43889	2.44092	0.00065	0.00319117	YES
Usp11	236733	1.43847	5.21969	0.00005	0.000323529	YES
Atf5	107503	1.43782	4.53705	0.00005	0.000323529	YES
Nlgn2	216856	1.4377	5.55756	0.00005	0.000323529	YES
Basp1	70350	1.4365	2.70147	0.00045	0.00232845	YES
Prr7	432763	1.4347	2.04594	0.0122	0.0389974	YES
Mkx	210719	1.4342	2.56431	0.0002	0.0011411	YES
9330104G04Rik	320950	1.43402	3.22112	0.00005	0.000323529	YES
Gm19522	100503040	1.43118	3.38536	0.00005	0.000323529	YES
Ddx11	320209	1.43064	2.70761	0.00005	0.000323529	YES
Ogn	18295	1.42616	4.63701	0.00005	0.000323529	YES
Zfp459	328274	1.4232	2.10011	0.0026	0.0105407	YES
Ankrd35	213121	1.42245	2.47756	0.0001	0.000610637	YES
Ocln	18260	1.42159	1.67779	0.01385	0.0434418	YES
Irf6	54139	1.42146	2.30069	0.00075	0.00362109	YES
Mms22l	212377	1.42085	1.90776	0.0049	0.0181743	YES
Itm2a	16431	1.42072	7.3687	0.00005	0.000323529	YES
Rbpms2	71973	1.42043	3.77425	0.00005	0.000323529	YES
Dsn1	66934	1.41722	2.78721	0.0001	0.000610637	YES
Gstm1	14862	1.41715	7.45358	0.00005	0.000323529	YES
Nppc	18159	1.41659	1.97903	0.0121	0.0387328	YES
Gpr161	240888	1.41573	1.97177	0.0059	0.0212324	YES
Ngef	53972	1.41569	2.69924	0.00005	0.000323529	YES
Rab36	76877	1.41523	2.08284	0.0027	0.0108761	YES
Dmrt2	226049	1.41498	5.04602	0.00005	0.000323529	YES
Creld2	76737	1.41028	4.7241	0.00005	0.000323529	YES
Ppp1r9a	243725	1.40896	3.81285	0.00005	0.000323529	YES
Adap1	231821	1.40669	2.65202	0.00005	0.000323529	YES
Bai2	230775	1.40541	1.72259	0.0083	0.0282595	YES
Ccdc104	216618	1.40536	5.23747	0.00005	0.000323529	YES
Camkk1	55984	1.40459	2.9101	0.00005	0.000323529	YES

Whrn	73750	1.40438	2.18123	0.0007	0.00340476	YES
Car12	76459	1.39845	2.56799	0.00015	0.000880082	YES
Cdcp1	109332	1.39826	1.58848	0.01635	0.0496497	YES
Gjd4	225152	1.39575	2.11171	0.0018	0.00770449	YES
Aldh2	11669	1.39514	7.29709	0.00005	0.000323529	YES
Ppp1r14a	68458	1.39467	4.57208	0.00005	0.000323529	YES
Gm4951	240327	1.39418	1.62623	0.01425	0.0444747	YES
Nek8	140859	1.39412	3.28003	0.00005	0.000323529	YES
Peg3	18616	1.39181	4.44646	0.00005	0.000323529	YES
Tgfb1i1	21804	1.38871	5.53691	0.00005	0.000323529	YES
Foxl2os	768252	1.38856	2.59268	0.00025	0.00138761	YES
Pthr1	329384	1.3862	2.46649	0.00295	0.0117537	YES
Scamp5	56807	1.38483	4.38661	0.00005	0.000323529	YES
Flywch2	76917	1.38336	1.81403	0.00525	0.0192545	YES
Arhgap28	268970	1.3827	3.37214	0.00005	0.000323529	YES
Nipsnap3b	66536	1.3827	4.31815	0.00005	0.000323529	YES
Ndr4	234593	1.38135	3.50381	0.00005	0.000323529	YES
Gpc4	14735	1.37973	5.80581	0.00005	0.000323529	YES
Sntg2	268534	1.37748	1.77506	0.00865	0.0291359	YES
Crif1	12931	1.3756	4.45222	0.00005	0.000323529	YES
Sidt1	320007	1.37325	1.84935	0.006	0.0215283	YES
Frk	14302	1.37252	2.67097	0.00005	0.000323529	YES
Arsb	11881	1.37127	4.17648	0.00005	0.000323529	YES
Thsd4	207596	1.36684	2.96468	0.00005	0.000323529	YES
B4galnt1	14421	1.36319	2.33035	0.00055	0.00276141	YES
Gm13375	433408	1.36278	3.63967	0.00005	0.000323529	YES
Pappa2	23850	1.36201	2.25285	0.0003	0.00163174	YES
Slc25a13	50799	1.35639	1.66824	0.0095	0.0316331	YES
Gm9054	668224	1.35569	2.39961	0.0066	0.0233404	YES
Ptgfrn	19221	1.3536	5.4616	0.00005	0.000323529	YES
Dstn	56431	1.35198	6.67618	0.00005	0.000323529	YES
Laptm4b	114128	1.35148	6.74038	0.00005	0.000323529	YES
Ephx1	13849	1.3511	6.74577	0.00005	0.000323529	YES
Col7a1	12836	1.35102	5.76229	0.00005	0.000323529	YES
Cnga3	12790	1.34998	1.88451	0.0051	0.0188096	YES
Rwdd2a	69519	1.34922	1.41511	0.0143	0.0446131	YES
2610002J02Rik	67513	1.34795	4.20868	0.00005	0.000323529	YES
Fibin	67606	1.34647	4.43303	0.00005	0.000323529	YES
Rab27b	80718	1.34646	2.02041	0.00225	0.00928693	YES
Cbr3	109857	1.34479	2.99971	0.0002	0.0011411	YES
Cpxm2	55987	1.34369	4.02734	0.00005	0.000323529	YES
Bmpr1b	12167	1.34238	4.2768	0.00005	0.000323529	YES
Prox1	19130	1.34094	2.00592	0.0033	0.0129643	YES
Gm962	381201	1.34028	2.90369	0.00005	0.000323529	YES
Rgl3	71746	1.3395	3.77998	0.00005	0.000323529	YES
Fsd1l	319636	1.33622	5.1292	0.00005	0.000323529	YES
Slco4a1	108115	1.33566	1.95908	0.0059	0.0212324	YES

Foxq1	15220	1.33528	1.83827	0.0095	0.0316331	YES
Rhpn2	52428	1.33387	2.24543	0.00215	0.00894696	YES
Sort1	20661	1.33172	6.01215	0.00005	0.000323529	YES
A830010M20Rik	231570	1.33148	3.87843	0.00005	0.000323529	YES
Wdr67	210544	1.33117	2.92931	0.00005	0.000323529	YES
Igf2bp3	140488	1.33106	2.42821	0.00035	0.00186438	YES
Gm7538	665194	1.32972	1.85844	0.01535	0.0472608	YES
Casp12	12364	1.32967	3.56067	0.00005	0.000323529	YES
Pdk3	236900	1.32936	3.30104	0.00005	0.000323529	YES
Tspo	12257	1.32893	8.28531	0.00005	0.000323529	YES
Isl1	16392	1.32571	3.9838	0.00005	0.000323529	YES
Zfp286	192651	1.32481	2.58918	0.00005	0.000323529	YES
Wisp1	22402	1.32435	1.79299	0.00695	0.0244189	YES
Aldh3b2	621603	1.3231	1.92748	0.005	0.0184972	YES
Slc24a3	94249	1.32088	3.13353	0.00005	0.000323529	YES
Snx32	225861	1.32061	5.3253	0.00005	0.000323529	YES
Pkp3	56460	1.31994	1.53697	0.011	0.0358166	YES
Myog	17928	1.31922	5.05726	0.00005	0.000323529	YES
Rcn1	19672	1.31577	5.19922	0.00005	0.000323529	YES
P2ry1	18441	1.31544	3.67133	0.00005	0.000323529	YES
1500017E21Rik	668215	1.31399	2.37229	0.0008	0.00383425	YES
Cbx8	30951	1.3129	3.13044	0.00005	0.000323529	YES
Serinc2	230779	1.31192	5.72331	0.00005	0.000323529	YES
Sema3d	108151	1.30927	2.29045	0.0007	0.00340476	YES
Prss23	76453	1.30824	3.54748	0.00005	0.000323529	YES
Foxc2	14234	1.30738	1.93215	0.0131	0.0414364	YES
Prkra	23992	1.30696	4.58341	0.00005	0.000323529	YES
Ahi1	52906	1.30626	2.14627	0.00095	0.00445144	YES
Arhgef19	213649	1.30236	1.90937	0.00545	0.0198492	YES
Acss3	380660	1.30187	3.45207	0.00005	0.000323529	YES
Wasf3	245880	1.3011	1.74797	0.01045	0.0343672	YES
Ckap4	216197	1.30066	4.60967	0.00005	0.000323529	YES
Mrgpre	244238	1.29816	2.71482	0.00005	0.000323529	YES
Wbscr27	79565	1.29811	2.98428	0.00005	0.000323529	YES
Tlr6	21899	1.2958	1.77622	0.00905	0.0303726	YES
Snx10	71982	1.29246	4.4506	0.00005	0.000323529	YES
P4ha1	18451	1.29202	4.99146	0.00005	0.000323529	YES
Ero1lb	67475	1.2918	3.29663	0.00005	0.000323529	YES
Ptgis	19223	1.2914	4.37996	0.00005	0.000323529	YES
Fam55c	385658	1.29122	2.10941	0.0011	0.0050638	YES
Tmem191c	224019	1.29092	3.00365	0.0001	0.000610637	YES
Arx	11878	1.28872	2.51364	0.0009	0.00424116	YES
Lmcd1	30937	1.28529	5.60994	0.00005	0.000323529	YES
Hoxd13	15433	1.28505	2.18371	0.00185	0.00789701	YES
Mdk	17242	1.28461	1.75272	0.0025	0.0101825	YES
Spats2l	67198	1.28429	3.81926	0.00005	0.000323529	YES
Spock2	94214	1.2822	3.75014	0.00005	0.000323529	YES

Col4a5	12830	1.28218	4.07399	0.00005	0.000323529	YES
Wasf1	83767	1.28184	1.85635	0.00825	0.0281502	YES
C1rl	232371	1.28109	2.07641	0.0024	0.00982613	YES
Nav3	260315	1.27691	2.39623	0.0001	0.000610637	YES
Fgd4	224014	1.2761	2.64967	0.00005	0.000323529	YES
Emb	13723	1.27559	3.68614	0.00005	0.000323529	YES
Bub1b	12236	1.27419	2.08684	0.00055	0.00276141	YES
Grb14	50915	1.27217	6.13099	0.00005	0.000323529	YES
Nov	18133	1.26812	4.42749	0.00005	0.000323529	YES
Nceh1	320024	1.26788	3.18808	0.00005	0.000323529	YES
Pkdrej	18766	1.26742	2.19524	0.00125	0.00562912	YES
Mfap4	76293	1.26678	4.26102	0.00005	0.000323529	YES
Fkbp7	14231	1.264	4.38758	0.00005	0.000323529	YES
Dock5	68813	1.26358	2.5958	0.0001	0.000610637	YES
Arpp21	74100	1.26196	4.24233	0.00005	0.000323529	YES
Lrrc8b	433926	1.26179	2.348	0.0009	0.00424116	YES
Best3	382427	1.25932	2.63601	0.0003	0.00163174	YES
Mamdc2	71738	1.25811	2.82949	0.00005	0.000323529	YES
Cblc	80794	1.25704	1.49958	0.012	0.0384753	YES
Shroom3	27428	1.25697	3.19206	0.00005	0.000323529	YES
Pitx2	18741	1.25536	3.07409	0.00005	0.000323529	YES
Cat	12359	1.25351	6.12942	0.00005	0.000323529	YES
Dtx1	14357	1.2534	1.93559	0.0042	0.0159426	YES
4930526I15Rik	75135	1.25036	2.61338	0.0005	0.00254778	YES
Al414108	102623	1.24979	2.1571	0.0018	0.00770449	YES
Rgs6	50779	1.24903	1.41556	0.01465	0.0454346	YES
Rapgef1l	268480	1.24808	1.87533	0.004	0.0152681	YES
Usp20	74270	1.24624	5.45591	0.00005	0.000323529	YES
Cd44	12505	1.24562	4.14813	0.00005	0.000323529	YES
Gas1	14451	1.24128	6.5158	0.00005	0.000323529	YES
Tbc1d30	74694	1.24084	1.59387	0.01225	0.0391095	YES
Larp6	67557	1.24038	2.8082	0.00005	0.000323529	YES
C630004H02Rik	217310	1.23691	3.39009	0.00005	0.000323529	YES
Manf	74840	1.23609	4.68414	0.00005	0.000323529	YES
Cp	12870	1.23213	3.08945	0.00005	0.000323529	YES
Ncapg2	76044	1.23061	2.24142	0.0005	0.00254778	YES
Btbd8	100503185	1.22967	1.87554	0.01115	0.0362151	YES
Dzip1l	72507	1.22907	2.71384	0.00005	0.000323529	YES
Tbx4	21387	1.22865	2.67461	0.0001	0.000610637	YES
2810055F11Rik	67217	1.22821	2.66901	0.00025	0.00138761	YES
Oscp1	230751	1.22783	2.61083	0.00015	0.000880082	YES
Cyp46a1	13116	1.22499	1.71204	0.01305	0.0413031	YES
Mx2	17858	1.22309	1.68164	0.0031	0.0122829	YES
Espn	56226	1.22266	1.4663	0.01005	0.0332254	YES
Fgf11	14166	1.22058	3.2775	0.0005	0.00254778	YES
Vps37d	194309	1.21904	1.7927	0.00565	0.0204591	YES
Sod3	20657	1.21883	4.80166	0.00005	0.000323529	YES

Sh3bp1	20401	1.21799	2.11987	0.0017	0.00733233	YES
Apbb1	11785	1.21793	4.48269	0.00005	0.000323529	YES
Acpl2	235534	1.21759	2.62067	0.0001	0.000610637	YES
Trem2	83433	1.21587	1.98011	0.00675	0.023812	YES
Lekr1	624866	1.21564	1.69441	0.007	0.0245617	YES
Plag1	56711	1.21482	1.79684	0.0071	0.0248461	YES
Atp1a1	11928	1.21398	5.8023	0.00005	0.000323529	YES
Dennd2d	72121	1.21315	1.61996	0.0083	0.0282595	YES
Fras1	231470	1.21183	4.04488	0.00005	0.000323529	YES
Crtap	56693	1.21137	3.72883	0.00005	0.000323529	YES
Lrrc16a	68732	1.20885	2.09379	0.001	0.00465385	YES
Galk2	69976	1.20796	2.85744	0.0001	0.000610637	YES
Ankrd50	99696	1.20629	4.11422	0.00005	0.000323529	YES
Meis2	17536	1.20518	2.97103	0.00005	0.000323529	YES
Lgmn	19141	1.20199	5.9361	0.00005	0.000323529	YES
Plxna3	18846	1.19935	2.73945	0.00015	0.000880082	YES
Kif11	16551	1.19916	1.8063	0.0034	0.0132809	YES
Pqlc3	217430	1.19879	2.53832	0.00005	0.000323529	YES
Pfkl	18641	1.19752	4.69176	0.00005	0.000323529	YES
B4galt2	53418	1.19732	3.32691	0.00005	0.000323529	YES
Chpf	74241	1.1965	4.28207	0.00005	0.000323529	YES
Pygb	110078	1.19524	4.67162	0.00005	0.000323529	YES
Bcar3	29815	1.19485	3.95499	0.00005	0.000323529	YES
Marcks1	17357	1.19293	2.38515	0.00055	0.00276141	YES
Fam83h	105732	1.19071	2.0909	0.0009	0.00424116	YES
Tmcc2	68875	1.18959	5.55396	0.00005	0.000323529	YES
Rap1gap	110351	1.18873	3.49345	0.00005	0.000323529	YES
Dok5	76829	1.18814	2.76699	0.0001	0.000610637	YES
Klhl36	234796	1.18776	2.84687	0.00005	0.000323529	YES
Gm7694	665574	1.18287	2.08899	0.00135	0.00601572	YES
Rab3a	19339	1.18238	4.98762	0.00005	0.000323529	YES
Slc9a2	226999	1.18193	4.86534	0.00005	0.000323529	YES
Eml2	72205	1.17848	4.91192	0.00005	0.000323529	YES
Lix1	66643	1.17696	2.44865	0.0003	0.00163174	YES
Nkd1	93960	1.17552	2.54508	0.0002	0.0011411	YES
Pld3	18807	1.17514	5.19644	0.00005	0.000323529	YES
Gpr162	14788	1.17483	1.86983	0.0063	0.0224307	YES
Gstt3	103140	1.17326	4.71979	0.00005	0.000323529	YES
Stk32a	269019	1.17282	1.77005	0.0045	0.0168978	YES
Hps1	192236	1.17171	2.51468	0.00025	0.00138761	YES
Tmem144	70652	1.17133	2.39092	0.00125	0.00562912	YES
Npdc1	18146	1.1681	5.48984	0.00005	0.000323529	YES
E2f1	13555	1.16771	1.76665	0.00785	0.0270376	YES
Clstn1	65945	1.16418	4.89117	0.00005	0.000323529	YES
Kazald1	107250	1.16329	3.11439	0.00015	0.000880082	YES
Hacl1	56794	1.16301	4.33013	0.00005	0.000323529	YES
4930579G24Rik	75939	1.16175	2.45823	0.00085	0.00404799	YES

Aig1	66253	1.16122	3.86431	0.00005	0.000323529	YES
Meis1	17268	1.15952	3.23119	0.00005	0.000323529	YES
Orai2	269717	1.15941	2.38282	0.0004	0.00210083	YES
Hsph1	15505	1.15868	5.15011	0.00005	0.000323529	YES
Dpysl5	65254	1.15745	1.93119	0.00335	0.0131247	YES
Sox10	20665	1.15719	2.74147	0.00005	0.000323529	YES
Tmc6	217353	1.1547	3.77997	0.00005	0.000323529	YES
Arhgef2	16800	1.15397	4.89589	0.00005	0.000323529	YES
Dusp18	75219	1.15349	3.26168	0.00005	0.000323529	YES
Wif1	24117	1.15324	2.27383	0.00105	0.00485494	YES
Robo1	19876	1.15263	1.94097	0.00235	0.00963898	YES
Tspsyl5	239364	1.15224	2.00763	0.00225	0.00928693	YES
Cyp2f2	13107	1.1521	3.5119	0.00005	0.000323529	YES
Maged2	80884	1.15186	4.795	0.00005	0.000323529	YES
Slc46a1	52466	1.15113	2.33612	0.00125	0.00562912	YES
Atp2a2	11938	1.14926	5.18518	0.00005	0.000323529	YES
D630045J12Rik	330286	1.14884	1.85113	0.00245	0.0100126	YES
Gmds	218138	1.14876	2.84248	0.0001	0.000610637	YES
Oxct1	67041	1.1485	5.26779	0.00005	0.000323529	YES
Mansc1	67729	1.14776	2.43926	0.00015	0.000880082	YES
Sec1	56546	1.14683	1.77655	0.01405	0.0439639	YES
Cpeb2	231207	1.14674	3.3299	0.00005	0.000323529	YES
Zfp365	216049	1.14329	1.83371	0.00425	0.0161129	YES
Tnfrsf22	79202	1.14324	1.94225	0.00535	0.0195574	YES
Nacad	192950	1.14278	2.07014	0.0012	0.00544762	YES
Mid1	17318	1.14183	2.47421	0.0006	0.0029726	YES
Tmem9	66241	1.14111	3.42394	0.00005	0.000323529	YES
Shf	435684	1.14024	2.26863	0.00115	0.00525399	YES
Gm17501	100216343	1.13741	1.57643	0.0127	0.0403333	YES
Pgcp	54381	1.13456	4.74137	0.00005	0.000323529	YES
Wdpcp	216560	1.13303	2.51297	0.0002	0.0011411	YES
Erbp3	13867	1.1327	2.41154	0.0004	0.00210083	YES
Polr2a	20020	1.13265	5.08396	0.00005	0.000323529	YES
Kif7	16576	1.12656	2.1573	0.00075	0.00362109	YES
Csdc2	105859	1.1257	3.18277	0.00005	0.000323529	YES
Tsc22d1	21807	1.12548	4.49462	0.00005	0.000323529	YES
Sdc4	20971	1.12542	4.82161	0.00005	0.000323529	YES
Tpmt	22017	1.12349	2.85689	0.0001	0.000610637	YES
Atp8a2	50769	1.12331	2.29098	0.00055	0.00276141	YES
Gng7	14708	1.12175	2.93146	0.00005	0.000323529	YES
Lpin3	64899	1.12171	1.48512	0.01145	0.037067	YES
Tmc7	209760	1.12111	4.05947	0.00005	0.000323529	YES
Upk1a	109637	1.12085	2.8508	0.00025	0.00138761	YES
Sema3c	20348	1.12072	5.04552	0.00005	0.000323529	YES
Tctn2	67978	1.1205	2.54714	0.0002	0.0011411	YES
4931428F04Rik	74356	1.12036	2.31777	0.00035	0.00186438	YES
Odz3	23965	1.11967	3.98598	0.00005	0.000323529	YES

Lrrc1	214345	1.11889	2.22873	0.00045	0.00232845	YES
Haghl	68977	1.11826	2.36548	0.0002	0.0011411	YES
Igtp	16145	1.11769	4.40758	0.00005	0.000323529	YES
Phgdh	236539	1.11751	3.2	0.00005	0.000323529	YES
Gatm	67092	1.11702	4.09222	0.00005	0.000323529	YES
Rbp4	19662	1.11562	2.84075	0.00005	0.000323529	YES
Fam71e1	75538	1.11554	2.27556	0.00775	0.02674	YES
Fbxw17	109082	1.11482	3.80394	0.00005	0.000323529	YES
Zswim6	67263	1.11459	2.52092	0.0002	0.0011411	YES
Ift57	73916	1.11458	2.5344	0.00015	0.000880082	YES
Id4	15904	1.11404	2.33611	0.0005	0.00254778	YES
Nkd2	72293	1.1134	1.82875	0.0043	0.016275	YES
Cxx1c	72865	1.11307	3.08533	0.0001	0.000610637	YES
Sesn3	75747	1.11219	2.64388	0.00025	0.00138761	YES
Gyk	14933	1.10959	2.09551	0.00255	0.0103674	YES
Lca5	75782	1.10948	1.94819	0.00105	0.00485494	YES
Six2	20472	1.10903	3.27784	0.00005	0.000323529	YES
Chst14	72136	1.10894	3.05833	0.00005	0.000323529	YES
Fgl2	14190	1.10805	2.61345	0.00015	0.000880082	YES
Lgals1	16852	1.10747	6.24174	0.00005	0.000323529	YES
Chrnbl	11443	1.10742	5.70505	0.00005	0.000323529	YES
Bace2	56175	1.10683	3.38945	0.00005	0.000323529	YES
Ror2	26564	1.10221	1.96856	0.0034	0.0132809	YES
Casr	12374	1.10217	1.52979	0.01615	0.0492039	YES
Plod2	26432	1.09961	3.21049	0.00005	0.000323529	YES
Sardh	192166	1.0996	1.93214	0.0028	0.0112271	YES
Grhl1	195733	1.09867	1.83345	0.00365	0.0141172	YES
Def6	23853	1.09775	2.20134	0.0009	0.00424116	YES
Pigz	239827	1.0972	2.13691	0.00265	0.0107213	YES
Pacrgl	66768	1.09695	2.52652	0.00075	0.00362109	YES
1810055G02Rik	72056	1.09671	2.82438	0.00005	0.000323529	YES
Fam110b	242297	1.09586	2.655	0.0003	0.00163174	YES
Spnb3	20743	1.09535	1.71826	0.00555	0.0201574	YES
Camk2n2	73047	1.09458	2.43259	0.0077	0.0265966	YES
Cib1	23991	1.09425	4.29691	0.00005	0.000323529	YES
E230016M11Rik	320172	1.09414	1.9739	0.00125	0.00562912	YES
Ndn	17984	1.09365	4.21554	0.00005	0.000323529	YES
Cnrip1	380686	1.09357	2.57688	0.00045	0.00232845	YES
Hmgn5	50887	1.09294	3.41673	0.00005	0.000323529	YES
Cchcr1	240084	1.09267	2.65187	0.0001	0.000610637	YES
Erbb2	13866	1.09156	1.83766	0.00635	0.0225934	YES
Gm26540		1.089	1.66657	0.00925	0.0309317	YES
Sall1	58198	1.08874	2.12412	0.0014	0.00620513	YES
Gale	74246	1.08819	1.98522	0.00375	0.014433	YES
Vwa5a	67776	1.08704	4.86199	0.00005	0.000323529	YES
Mcm5	17218	1.08664	2.02896	0.00125	0.00562912	YES
Osbp15	79196	1.0856	4.51606	0.00005	0.000323529	YES

Cdon	57810	1.08556	4.55788	0.00005	0.000323529	YES
Fam174b	100038347	1.08389	4.88022	0.00005	0.000323529	YES
Hoxa11	15396	1.08373	1.94403	0.0058	0.0209252	YES
Vgll3	73569	1.08189	3.46694	0.00005	0.000323529	YES
Car6	12353	1.08119	2.4483	0.001	0.00465385	YES
Armcx2	67416	1.08018	3.0115	0.00005	0.000323529	YES
BC017158	233913	1.07989	2.62146	0.00005	0.000323529	YES
Gadd45a	13197	1.07831	4.383	0.00005	0.000323529	YES
Afmid	71562	1.07683	3.26481	0.00005	0.000323529	YES
Dnaja4	58233	1.07504	5.11757	0.00005	0.000323529	YES
Slc7a1	11987	1.07328	2.77273	0.00005	0.000323529	YES
Dhx58	80861	1.07194	1.5495	0.008	0.027458	YES
Fbxl8	50788	1.07167	2.39139	0.00145	0.0063961	YES
Mapre3	100732	1.07149	5.25987	0.00005	0.000323529	YES
Hspb11	72938	1.0709	3.65617	0.0002	0.0011411	YES
Scn3b	235281	1.06988	2.47996	0.00015	0.000880082	YES
Als2cr4	381259	1.0694	2.97319	0.00005	0.000323529	YES
Slc25a5	11740	1.06922	5.8486	0.00005	0.000323529	YES
Abcc8	20927	1.06918	1.83111	0.00545	0.0198492	YES
Tuba1b	22143	1.06765	5.1326	0.00005	0.000323529	YES
Chrdl2	69121	1.06704	2.35246	0.0008	0.00383425	YES
Eme2	193838	1.06644	2.69575	0.00015	0.000880082	YES
Arhgef25	52666	1.06604	4.22489	0.00005	0.000323529	YES
Selm	114679	1.06593	4.78992	0.00005	0.000323529	YES
Ccdc92	215707	1.06307	1.57711	0.01415	0.0442416	YES
Dzip1	66573	1.06302	2.28173	0.00085	0.00404799	YES
Adra1a	11549	1.06173	1.71557	0.00745	0.0258923	YES
Arl6	56297	1.0616	2.68098	0.0003	0.00163174	YES
Hoxa11os	15397	1.06129	1.94704	0.0031	0.0122829	YES
Hspa1b	15511	1.05971	2.64223	0.00015	0.000880082	YES
Noxo1	71893	1.05968	1.89457	0.0044	0.0165857	YES
Gm15337	100503620	1.05956	1.81596	0.00225	0.00928693	YES
Pgm5	226041	1.05919	4.66541	0.00005	0.000323529	YES
Zcchc3	67917	1.05797	2.36685	0.0013	0.00582759	YES
2010107G23Rik	69894	1.05746	2.37449	0.00065	0.00319117	YES
Enpp1	18605	1.05725	2.1227	0.00145	0.0063961	YES
Dgkg	110197	1.05631	1.70465	0.0064	0.0227559	YES
Tceal7	100040972	1.05525	3.31896	0.00005	0.000323529	YES
Tmem117	320709	1.05476	4.35569	0.00005	0.000323529	YES
Tspan17	74257	1.05439	4.83763	0.00005	0.000323529	YES
Psat1	107272	1.05434	2.54075	0.00005	0.000323529	YES
Pkhd1l1	192190	1.05421	1.58368	0.0085	0.0287538	YES
Morc4	75746	1.05156	3.45208	0.00005	0.000323529	YES
Nfkbie	18037	1.05052	1.85779	0.0049	0.0181743	YES
D17H6S56E-3	27762	1.04988	4.29718	0.00005	0.000323529	YES
Tst	22117	1.04982	4.69544	0.00005	0.000323529	YES
5530601H04Rik	71445	1.04875	1.96974	0.0135	0.0424795	YES

Tmem47	192216	1.04821	3.88533	0.00005	0.000323529	YES
Sipa1l1	217692	1.04813	3.7057	0.00005	0.000323529	YES
Sec23b	27054	1.04809	4.09033	0.00005	0.000323529	YES
Tyro3	22174	1.0471	2.12574	0.00085	0.00404799	YES
Al428936	233066	1.04585	1.85992	0.0075	0.0260201	YES
Ttc39c	72747	1.04558	2.21767	0.00015	0.000880082	YES
Zfp612	234725	1.04422	3.45005	0.00005	0.000323529	YES
Ppp2r3d	19054	1.04404	2.6093	0.00035	0.00186438	YES
Spsb1	74646	1.04349	3.05626	0.00005	0.000323529	YES
Slc41a1	98396	1.04289	5.08887	0.00005	0.000323529	YES
Wisp2	22403	1.04286	1.77883	0.0099	0.0328053	YES
Ttc26	264134	1.04285	1.91044	0.00305	0.0121092	YES
Dbnl	13169	1.04218	3.85742	0.00005	0.000323529	YES
Alg14	66789	1.04212	3.61969	0.00005	0.000323529	YES
Marveld1	277010	1.04123	4.66226	0.00005	0.000323529	YES
Foxp1	108655	1.04073	3.62864	0.00005	0.000323529	YES
Sema3f	20350	1.04072	3.61267	0.00005	0.000323529	YES
Cyp7b1	13123	1.04062	1.60411	0.01485	0.0459191	YES
Osgin1	71839	1.04039	4.03715	0.00005	0.000323529	YES
Rfx5	53970	1.03957	2.10545	0.00135	0.00601572	YES
Rsad2	58185	1.03943	2.65727	0.00005	0.000323529	YES
Tagap1	380608	1.03812	2.9983	0.00005	0.000323529	YES
Ifi27l2a	76933	1.03573	5.38419	0.00005	0.000323529	YES
Gm8619		1.03503	1.49849	0.01255	0.0399053	YES
Gm26827		1.03462	1.92851	0.0057	0.0206165	YES
Gm684	100502940	1.03402	1.91443	0.0109	0.0355794	YES
Gltp	56356	1.03345	4.46928	0.00005	0.000323529	YES
Tnfrsf23	79201	1.03306	2.6238	0.00015	0.000880082	YES
Frem2	242022	1.03253	1.60049	0.0084	0.0285321	YES
Slc9a3r1	26941	1.03023	2.91167	0.00005	0.000323529	YES
2210013O21Rik	70123	1.02995	3.47437	0.00005	0.000323529	YES
Fam59a	381126	1.02918	1.72842	0.00745	0.0258923	YES
Osr2	107587	1.02825	3.09434	0.00005	0.000323529	YES
Ift80	68259	1.02717	2.65857	0.00005	0.000323529	YES
Mfsd6	98682	1.02627	3.6396	0.00005	0.000323529	YES
Cep290	216274	1.02568	2.00562	0.0006	0.0029726	YES
Dfna5	54722	1.02512	1.8291	0.00485	0.0180185	YES
2010002N04Rik	106878	1.02497	2.34349	0.0015	0.00658526	YES
Spint2	20733	1.0236	3.64836	0.00005	0.000323529	YES
2410075B13Rik	223648	1.02321	1.60019	0.01125	0.0365172	YES
Cald1	109624	1.02271	4.01546	0.00005	0.000323529	YES
Leprel4	66180	1.02138	3.06129	0.00005	0.000323529	YES
Smc2	14211	1.02103	1.98671	0.00095	0.00445144	YES
Mamld1	333639	1.02096	2.22171	0.00035	0.00186438	YES
Fgfr4	14186	1.02094	3.37841	0.00005	0.000323529	YES
Qsox1	104009	1.02012	3.92437	0.00005	0.000323529	YES
Pgpep1	66522	1.01726	4.48735	0.00005	0.000323529	YES

2310047B19Rik	66962	1.01696	2.99321	0.00005	0.000323529	YES
Zc4h2	245522	1.01559	2.30532	0.001	0.00465385	YES
Wdyhv1	76773	1.01376	3.13868	0.0001	0.000610637	YES
Pdia4	12304	1.01291	3.93203	0.00005	0.000323529	YES
Mtap1a	17754	1.01237	1.70934	0.00615	0.0219763	YES
Trim37	68729	1.01118	2.97812	0.00005	0.000323529	YES
Mamstr	74490	1.01043	5.0876	0.00005	0.000323529	YES
Tceal8	66684	1.00796	3.40525	0.00005	0.000323529	YES
2610002I17Rik	72341	1.00629	2.1817	0.0008	0.00383425	YES
Col8a2	329941	1.00591	1.81863	0.0047	0.0175317	YES
Wdr13	73447	1.00439	4.39504	0.00005	0.000323529	YES
Racgap1	26934	1.00109	1.71	0.00355	0.0138017	YES
1700025K23Rik	66337	1.00105	2.35964	0.0042	0.0159426	YES
Zfp40	22700	1.00047	2.33739	0.00035	0.00186438	YES
Msc	17681	1.00027	2.21352	0.0019	0.00807975	YES
Rabl2	68708	0.998967	2.35716	0.0008	0.00383425	YES
Cyp2e1	13106	0.998329	3.92106	0.00005	0.000323529	YES
Zfp521	225207	0.998091	3.80031	0.00005	0.000323529	YES
Ctsb	13030	0.996143	3.9827	0.00005	0.000323529	YES
Klhdc8b	78267	0.995913	2.19018	0.00225	0.00928693	YES
Sdk1	330222	0.993634	2.34251	0.0003	0.00163174	YES
Izumo4	71564	0.993189	2.68539	0.00045	0.00232845	YES
Cd82	12521	0.992712	4.75006	0.00005	0.000323529	YES
Epha3	13837	0.992656	1.67317	0.008	0.027458	YES
Dnase2a	13423	0.991922	2.55528	0.0005	0.00254778	YES
Myl6b	216459	0.991331	3.38011	0.00005	0.000323529	YES
Fbxo27	233040	0.988651	1.54216	0.01525	0.0469989	YES
Hspa1a	193740	0.986423	2.21637	0.0012	0.00544762	YES
Os9	216440	0.985045	3.80341	0.00005	0.000323529	YES
Tm7sf2	73166	0.983131	2.21777	0.0049	0.0181743	YES
Rassf5	54354	0.981135	2.02106	0.00245	0.0100126	YES
Lgr5	14160	0.980412	1.55012	0.01195	0.0383933	YES
Parva	57342	0.979628	3.97013	0.00005	0.000323529	YES
Hnmt	140483	0.977777	1.81388	0.00965	0.0320783	YES
Shq1	72171	0.97727	1.98676	0.0026	0.0105407	YES
Tlr3	142980	0.976846	2.56218	0.00005	0.000323529	YES
Ak4	11639	0.975868	1.82602	0.00415	0.0157832	YES
Osbp2	74309	0.974848	1.89245	0.00255	0.0103674	YES
Cox8a	12868	0.973743	7.12452	0.00005	0.000323529	YES
Ccdc141	545428	0.97255	2.94988	0.00005	0.000323529	YES
Gpx8	69590	0.967131	3.43767	0.00005	0.000323529	YES
Slc39a6	106957	0.965928	2.45179	0.0002	0.0011411	YES
Ddah2	51793	0.96581	3.76051	0.00005	0.000323529	YES
Dbn1	56320	0.965348	2.86314	0.00005	0.000323529	YES
Plekha3	83435	0.964238	3.80551	0.00005	0.000323529	YES
Cpne2	234577	0.96244	3.05907	0.00005	0.000323529	YES
Kcne4	57814	0.962395	2.4551	0.00045	0.00232845	YES

Fbxl19	233902	0.960888	2.53605	0.0002	0.0011411	YES
Fam115a	77574	0.960048	2.64079	0.00005	0.000323529	YES
Pyroxd2	74580	0.959616	1.93051	0.0023	0.00946104	YES
Rcan3	53902	0.958996	3.33827	0.00005	0.000323529	YES
Gm2415		0.958818	1.37816	0.0093	0.0310658	YES
Al413582	106672	0.958172	2.61018	0.00335	0.0131247	YES
Itgb3	16416	0.957522	1.9772	0.0023	0.00946104	YES
Irf7	54123	0.956465	2.37048	0.0001	0.000610637	YES
Pja1	18744	0.95602	3.70572	0.00005	0.000323529	YES
Fnbp1	14269	0.955945	3.38517	0.00005	0.000323529	YES
Rnf43	207742	0.955536	1.92071	0.00245	0.0100126	YES
Calcr	12311	0.952272	1.60512	0.00985	0.0326741	YES
Atp2a3	53313	0.952191	3.38093	0.00005	0.000323529	YES
Golim4	73124	0.951935	3.33099	0.00005	0.000323529	YES
Klf8	245671	0.951568	1.67572	0.0121	0.0387328	YES
Stim2	116873	0.94923	3.88974	0.00005	0.000323529	YES
Cyb5r3	109754	0.948362	4.37934	0.00005	0.000323529	YES
Tspan5	56224	0.947727	3.15435	0.00005	0.000323529	YES
Gm12942	100039968	0.94735	2.24355	0.004	0.0152681	YES
Arhgap11a	228482	0.946225	1.56632	0.01005	0.0332254	YES
Man2b2	17160	0.945627	3.11936	0.00005	0.000323529	YES
Postn	50706	0.944809	3.40098	0.00005	0.000323529	YES
Ppp1r13l	333654	0.943745	2.29188	0.00085	0.00404799	YES
Napb	17957	0.943527	4.01571	0.00005	0.000323529	YES
Foxred2	239554	0.942894	1.90794	0.0022	0.00912365	YES
Nnt	18115	0.94037	4.17875	0.00005	0.000323529	YES
Fam151b	73942	0.940153	2.37013	0.0017	0.00733233	YES
Arid5a	214855	0.938928	2.62864	0.00005	0.000323529	YES
Znrf3	407821	0.937915	2.84576	0.00005	0.000323529	YES
Fzd2	57265	0.937776	2.99498	0.00005	0.000323529	YES
Aph1b	208117	0.937771	2.53223	0.00025	0.00138761	YES
Fchsd1	319262	0.936521	1.89928	0.00155	0.00678017	YES
Serp1	28146	0.93633	1.81989	0.0138	0.0433022	YES
Wls	68151	0.935855	4.20513	0.00005	0.000323529	YES
BC037034	231807	0.934646	2.98273	0.00005	0.000323529	YES
Hspb1	15507	0.932806	5.71727	0.00005	0.000323529	YES
Stx1a	20907	0.932017	1.77495	0.0077	0.0265966	YES
Rnd3	74194	0.931798	3.42879	0.00005	0.000323529	YES
L3mbtl3	237339	0.929691	2.6309	0.0001	0.000610637	YES
Cenpc1	12617	0.929475	2.74992	0.00005	0.000323529	YES
Acsl3	74205	0.929374	2.97464	0.00005	0.000323529	YES
Ift27	67042	0.929241	3.72797	0.00005	0.000323529	YES
Arnt2	11864	0.92764	1.96674	0.00235	0.00963898	YES
Cacna1h	58226	0.927479	2.38007	0.00015	0.000880082	YES
Tmem98	103743	0.927433	2.10437	0.00315	0.0124684	YES
Slc39a11	69806	0.92558	2.19697	0.0002	0.0011411	YES
Lgr4	107515	0.923504	4.24869	0.00005	0.000323529	YES

Tmem107	66910	0.922929	1.84497	0.00415	0.0157832	YES
Lrp2bp	67620	0.922505	2.34853	0.0004	0.00210083	YES
Ttc38	239570	0.920614	3.20779	0.00005	0.000323529	YES
Cpe	12876	0.918572	4.65855	0.00005	0.000323529	YES
Slc25a22	68267	0.91836	3.31346	0.00005	0.000323529	YES
Kcnb1	16500	0.917827	3.40913	0.00005	0.000323529	YES
Tle6	114606	0.917111	3.25404	0.00005	0.000323529	YES
Abcd4	19300	0.916911	3.38921	0.00005	0.000323529	YES
Megf10	70417	0.916505	2.03922	0.00165	0.00715394	YES
Inadl	12695	0.916346	1.83429	0.00165	0.00715394	YES
Dmxl2	235380	0.915879	2.94021	0.00005	0.000323529	YES
Ppfia4	68507	0.913305	2.69472	0.00005	0.000323529	YES
2210016F16Rik	70153	0.912781	3.66168	0.00005	0.000323529	YES
Pycr1	209027	0.912634	1.98543	0.0029	0.0115956	YES
Slc38a10	72055	0.910442	4.04997	0.00005	0.000323529	YES
Dpf1	29861	0.910102	1.75976	0.00865	0.0291359	YES
Notch2	18129	0.909718	3.72111	0.00005	0.000323529	YES
Hfe	15216	0.909061	3.64454	0.00005	0.000323529	YES
Ache	11423	0.908417	4.35811	0.00005	0.000323529	YES
Spg20	229285	0.907704	3.88995	0.00005	0.000323529	YES
Tspsyl4	72480	0.90765	1.65451	0.0068	0.0239668	YES
March9	216438	0.907239	3.05593	0.0001	0.000610637	YES
Glb1	12091	0.907026	2.11514	0.00095	0.00445144	YES
Rras	20130	0.907016	4.98182	0.00005	0.000323529	YES
Lphn2	99633	0.903696	3.32811	0.00005	0.000323529	YES
Ttc8	76260	0.903443	2.45391	0.00005	0.000323529	YES
Panx1	55991	0.902849	3.36979	0.00005	0.000323529	YES
Oraov1	72284	0.900799	3.66422	0.00005	0.000323529	YES
Hyou1	12282	0.89912	3.78188	0.00005	0.000323529	YES
AA388235	433100	0.898721	1.5853	0.0145	0.0451028	YES
Dlg4	13385	0.898574	2.3108	0.0002	0.0011411	YES
Fkbp9	27055	0.898144	4.31281	0.00005	0.000323529	YES
Tuba1c	22146	0.897996	1.97433	0.00405	0.0154515	YES
Zfp688	69234	0.897661	2.02255	0.00695	0.0244189	YES
Zfp13	22654	0.89659	2.14411	0.00135	0.00601572	YES
Pvrl3	58998	0.89562	2.14128	0.00045	0.00232845	YES
Tusc3	80286	0.89494	3.08642	0.00005	0.000323529	YES
Grik5	14809	0.894577	3.48363	0.00005	0.000323529	YES
B3galt6	117592	0.894273	2.28751	0.0009	0.00424116	YES
Dpy19l1	244745	0.894111	1.67403	0.012	0.0384753	YES
Armc9	78795	0.893354	2.03199	0.0022	0.00912365	YES
Ppapdc1b	71910	0.893094	3.01764	0.00005	0.000323529	YES
Slc31a2	20530	0.892698	3.38793	0.00005	0.000323529	YES
Wbp5	22381	0.892686	3.68538	0.00005	0.000323529	YES
Fxyd6	59095	0.891138	3.91064	0.00005	0.000323529	YES
Ggh	14590	0.890694	3.23512	0.00005	0.000323529	YES
Mex3a	72640	0.889941	1.47011	0.01625	0.0494128	YES

Casq2	12373	0.889843	3.96576	0.00005	0.000323529	YES
Ikkip	67454	0.888877	2.26446	0.0002	0.0011411	YES
Syt3	20981	0.88827	2.4378	0.0002	0.0011411	YES
Tmem30b	238257	0.887198	2.20165	0.00165	0.00715394	YES
Maoa	17161	0.887121	3.37795	0.00005	0.000323529	YES
Jazf1	231986	0.886863	1.6316	0.00755	0.0261704	YES
Nol3	78688	0.882507	3.48785	0.00005	0.000323529	YES
Dap	223453	0.88222	3.58839	0.00005	0.000323529	YES
Sat2	69215	0.881798	2.83445	0.00025	0.00138761	YES
Snhg11	319317	0.881242	1.92102	0.0039	0.0149481	YES
Smo	319757	0.880359	3.46059	0.00005	0.000323529	YES
Hspa5	14828	0.880171	3.73225	0.00005	0.000323529	YES
Csrp2	13008	0.878123	2.77244	0.00055	0.00276141	YES
Ngfrap1	12070	0.877529	1.76708	0.0024	0.00982613	YES
Ubxn2b	68053	0.877005	1.71935	0.00595	0.021383	YES
Sept10	103080	0.876496	2.89601	0.00005	0.000323529	YES
Acsl4	50790	0.874713	3.75973	0.00005	0.000323529	YES
Gng10	14700	0.874506	3.25716	0.00005	0.000323529	YES
Pafah1b3	18476	0.872897	1.82409	0.016	0.0488415	YES
Dennd5b	320560	0.871539	2.34696	0.00015	0.000880082	YES
Atp2b4	381290	0.871189	3.48682	0.00005	0.000323529	YES
Hipk4	233020	0.870956	1.95472	0.00365	0.0141172	YES
4831426I19Rik	212073	0.870748	2.40999	0.0001	0.000610637	YES
Tanc2	77097	0.870725	2.98597	0.00005	0.000323529	YES
Snapc3	77634	0.869369	2.98441	0.00005	0.000323529	YES
Chd3	216848	0.869264	2.6867	0.00005	0.000323529	YES
Lamb2	16779	0.868905	4.21423	0.00005	0.000323529	YES
Hspa13	110920	0.867611	2.87345	0.00005	0.000323529	YES
Dixdc1	330938	0.867209	2.5419	0.0001	0.000610637	YES
Flrt2	399558	0.867101	3.12485	0.00005	0.000323529	YES
Arl2bp	107566	0.866561	3.06351	0.00005	0.000323529	YES
Mpv17l	93734	0.866301	1.6321	0.01475	0.0456727	YES
Stk39	53416	0.865364	2.2293	0.0009	0.00424116	YES
Cnnm2	94219	0.864896	1.91925	0.00195	0.00825222	YES
5430407P10Rik	227545	0.863875	2.26172	0.0005	0.00254778	YES
Srgap3	259302	0.863561	1.48407	0.0157	0.0480843	YES
Bnc2	242509	0.862843	1.51973	0.01155	0.0373216	YES
Car2	12349	0.86281	2.40625	0.0005	0.00254778	YES
Spry2	24064	0.862568	3.00934	0.0001	0.000610637	YES
Plekha5	109135	0.861705	2.82218	0.00005	0.000323529	YES
Pamr1	210622	0.861668	2.90339	0.00005	0.000323529	YES
Igsf3	78908	0.860872	2.42541	0.00015	0.000880082	YES
6330403A02Rik	381310	0.860546	3.83419	0.00005	0.000323529	YES
Ppap2c	50784	0.860132	1.92676	0.0075	0.0260201	YES
Abhd2	54608	0.858566	1.97294	0.00305	0.0121092	YES
Mup20	381530	0.858532	2.72285	0.00055	0.00276141	YES
Tbc1d19	67249	0.857729	3.19904	0.00005	0.000323529	YES

Scnn1a	20276	0.857514	1.57044	0.0125	0.0397946	YES
Mgp	17313	0.856756	4.78441	0.00005	0.000323529	YES
Mapk8ip1	19099	0.856155	2.46321	0.00005	0.000323529	YES
Rad51l3	19364	0.855482	2.82182	0.00005	0.000323529	YES
Dpy19l3	233115	0.854877	2.41084	0.00015	0.000880082	YES
Abi2	329165	0.854809	2.72551	0.00005	0.000323529	YES
Kcnc3	16504	0.853327	2.74855	0.0001	0.000610637	YES
Zbtb42	382639	0.852566	2.23118	0.0006	0.0029726	YES
Stmn1	16765	0.851528	2.04888	0.0045	0.0168978	YES
Tradd	71609	0.851264	2.57274	0.0007	0.00340476	YES
Nipal3	74552	0.851128	3.2678	0.00005	0.000323529	YES
Lonp2	66887	0.849386	3.47396	0.00005	0.000323529	YES
Lrp12	239393	0.847932	2.585	0.00005	0.000323529	YES
Zcchc5	213436	0.847416	2.09333	0.00095	0.00445144	YES
Epb4.1l1	13821	0.84596	2.66912	0.00005	0.000323529	YES
Tubb4b	227613	0.845218	3.79182	0.00005	0.000323529	YES
Pon2	330260	0.845185	4.15847	0.00005	0.000323529	YES
Tmem200b	623230	0.844415	1.94641	0.0086	0.0290234	YES
Fam122b	78755	0.843199	1.77852	0.0073	0.0254497	YES
Tnik	665113	0.842644	3.39234	0.00005	0.000323529	YES
Rcn3	52377	0.841272	3.40515	0.00005	0.000323529	YES
Acss2	60525	0.840777	3.3592	0.00005	0.000323529	YES
Numbl	18223	0.840167	2.63903	0.00015	0.000880082	YES
Matn2	17181	0.840122	3.21473	0.00005	0.000323529	YES
Mmgt2	216829	0.839614	2.34405	0.00075	0.00362109	YES
Nbea	26422	0.838899	2.52716	0.00005	0.000323529	YES
Thrsp	21835	0.838259	3.72592	0.00005	0.000323529	YES
lqsec2	245666	0.836062	2.63346	0.00005	0.000323529	YES
Creb3l2	208647	0.836029	2.63949	0.00005	0.000323529	YES
Cep164	214552	0.834254	2.40408	0.00015	0.000880082	YES
Stk3	56274	0.834165	2.23965	0.00025	0.00138761	YES
Mpp1	17524	0.833982	1.85131	0.0036	0.0139684	YES
Cenpt	320394	0.833789	1.87348	0.0052	0.0191112	YES
Sik1	17691	0.832954	2.91781	0.00005	0.000323529	YES
1700037C18Rik	73261	0.831911	1.70055	0.0133	0.0419509	YES
Actc1	11464	0.831827	2.47608	0.0003	0.00163174	YES
Gpnmb	93695	0.831605	2.3234	0.00035	0.00186438	YES
Megf8	269878	0.829147	4.01997	0.00005	0.000323529	YES
Il17d	239114	0.829102	2.10631	0.00995	0.0329363	YES
B230398E01Rik	109334	0.828012	2.20971	0.0002	0.0011411	YES
Lamc2	16782	0.826406	1.52273	0.0119	0.0382795	YES
Pax7	18509	0.826092	2.28894	0.0004	0.00210083	YES
Hmgn3	94353	0.825823	1.80156	0.0015	0.00658526	YES
Wdr19	213081	0.825371	1.73258	0.006	0.0215283	YES
Mlec	109154	0.82424	3.88378	0.00005	0.000323529	YES
1110012J17Rik	68617	0.823936	2.0159	0.00095	0.00445144	YES
Peg13	353342	0.823676	2.28955	0.0005	0.00254778	YES

Magi3	99470	0.823152	2.14292	0.0001	0.000610637	YES
Zfp354c	30944	0.822898	2.31666	0.00015	0.000880082	YES
A430107O13Rik	214642	0.822087	2.75336	0.00005	0.000323529	YES
Bcar1	12927	0.822058	3.12545	0.00005	0.000323529	YES
Gramd4	223752	0.821304	3.2391	0.00005	0.000323529	YES
Ppp1r3b	244416	0.821242	1.52419	0.0151	0.0465914	YES
Bag2	213539	0.820883	3.70154	0.00005	0.000323529	YES
Lrrc8d	231549	0.819978	2.21774	0.0006	0.0029726	YES
Pgap3	320655	0.819329	2.0146	0.0045	0.0168978	YES
Prkaa1	105787	0.817252	2.12828	0.00185	0.00789701	YES
Cys1	12879	0.817169	1.89561	0.0032	0.0126314	YES
Agphd1	235386	0.817044	1.78215	0.00825	0.0281502	YES
Strada	72149	0.816611	3.22663	0.00005	0.000323529	YES
Tlr4	21898	0.814472	1.85449	0.0047	0.0175317	YES
Arhgap32	330914	0.813921	2.35503	0.00005	0.000323529	YES
Gpr124	78560	0.813734	2.93762	0.00005	0.000323529	YES
Sfxn3	94280	0.81297	3.44007	0.00005	0.000323529	YES
Pygl	110095	0.812727	2.10742	0.0007	0.00340476	YES
Morn4	226123	0.812285	3.17148	0.00005	0.000323529	YES
Dpp3	75221	0.812184	3.76213	0.00005	0.000323529	YES
Musk	18198	0.812159	3.17269	0.00005	0.000323529	YES
Mafa	378435	0.812043	4.26556	0.00005	0.000323529	YES
Slit1	20562	0.810405	2.04791	0.00115	0.00525399	YES
Chst12	59031	0.810359	2.43367	0.0008	0.00383425	YES
Ccnd2	12444	0.809669	3.14236	0.00005	0.000323529	YES
S100a10	20194	0.809085	4.75748	0.00005	0.000323529	YES
Me2	107029	0.809053	2.43281	0.00035	0.00186438	YES
Vangl1	229658	0.806638	1.9222	0.0031	0.0122829	YES
Rgmb	68799	0.806224	3.88129	0.00005	0.000323529	YES
4930444A02Rik	74653	0.806209	2.70198	0.00005	0.000323529	YES
Rnd1	223881	0.806059	1.6132	0.01365	0.0428743	YES
Scpep1	74617	0.80578	2.28394	0.0004	0.00210083	YES
Grn	14824	0.805465	3.82667	0.00005	0.000323529	YES
Cachd1	320508	0.805405	2.02115	0.00145	0.0063961	YES
Heph11	244698	0.805378	1.55196	0.0109	0.0355794	YES
Mapk7	23939	0.804589	2.75204	0.00005	0.000323529	YES
Akr1b8	14187	0.804382	2.0679	0.0018	0.00770449	YES
Fam73a	215708	0.804343	3.02455	0.00005	0.000323529	YES
Atp8a1	11980	0.803796	3.18671	0.00005	0.000323529	YES
Acot2	171210	0.802748	3.29183	0.00005	0.000323529	YES
Samd14	217125	0.802696	1.98201	0.0024	0.00982613	YES
Uxs1	67883	0.80251	3.06351	0.00005	0.000323529	YES
Rab31	106572	0.802395	2.74261	0.00005	0.000323529	YES
Spon2	100689	0.801963	1.93055	0.0027	0.0108761	YES
Sema4a	20351	0.801935	1.98773	0.00145	0.0063961	YES
Epb4.1l4b	54357	0.801798	2.13955	0.0008	0.00383425	YES
Gab2	14389	0.801455	2.56577	0.00005	0.000323529	YES

BC057079	230393	0.801376	3.41617	0.00005	0.000323529	YES
Gdi1	14567	0.800837	3.93888	0.00005	0.000323529	YES
F2r	14062	0.80046	2.54886	0.0001	0.000610637	YES
Fbxo44	230903	0.799482	2.33821	0.0003	0.00163174	YES
Tmem129	68366	0.799246	3.18708	0.00005	0.000323529	YES
Cdkl2	53886	0.797797	2.76941	0.00005	0.000323529	YES
Nmi	64685	0.79736	2.33752	0.00005	0.000323529	YES
Arl15	218639	0.797052	2.25334	0.0015	0.00658526	YES
Lama2	16773	0.79682	3.31651	0.00005	0.000323529	YES
Ttll1	319953	0.79498	2.52159	0.00015	0.000880082	YES
Plekhh2	213556	0.794582	1.61866	0.00795	0.0273162	YES
Spryd3	223918	0.793896	3.1743	0.00005	0.000323529	YES
Ampd3	11717	0.793702	2.80938	0.00005	0.000323529	YES
Ppp1r3e	105651	0.792001	1.99471	0.00565	0.0204591	YES
Pip4k2a	18718	0.790983	2.43819	0.0002	0.0011411	YES
Fam171a2	217219	0.790572	2.0995	0.00375	0.014433	YES
Lysmd2	70082	0.790282	2.73584	0.0005	0.00254778	YES
lqsec3	243621	0.789649	1.59827	0.01055	0.0346309	YES
Tbcel	272589	0.788984	3.47753	0.00005	0.000323529	YES
Tacc3	21335	0.788639	1.89775	0.00295	0.0117537	YES
Zfp641	239652	0.788089	2.90699	0.00005	0.000323529	YES
Tmem20	240660	0.786672	1.93122	0.00535	0.0195574	YES
Gpr137	107173	0.785677	2.50111	0.00125	0.00562912	YES
Crif2	57914	0.785169	2.33599	0.0007	0.00340476	YES
Shkbp1	192192	0.78505	3.04398	0.00005	0.000323529	YES
Id2	15902	0.785023	2.7052	0.0002	0.0011411	YES
Pias3	229615	0.784666	2.9217	0.00005	0.000323529	YES
Pla2g7	27226	0.784306	2.20582	0.00115	0.00525399	YES
Src	20779	0.783444	1.97521	0.002	0.00841627	YES
Cfl1	12631	0.782843	4.1542	0.00005	0.000323529	YES
Zfp938	237411	0.782717	2.59531	0.00025	0.00138761	YES
Snap47	67826	0.782665	3.54218	0.00005	0.000323529	YES
Dsel	319901	0.781813	2.02138	0.0015	0.00658526	YES
Dync2li1	213575	0.781306	2.08067	0.0023	0.00946104	YES
Rpl3	27367	0.780951	3.38056	0.00005	0.000323529	YES
Prkag2	108099	0.779835	3.52904	0.00005	0.000323529	YES
Snx7	76561	0.779169	2.12664	0.0008	0.00383425	YES
A530058N18Rik	320846	0.778836	2.56133	0.00005	0.000323529	YES
Zfp827	622675	0.778767	2.23943	0.0003	0.00163174	YES
Snhg5	72655	0.777961	2.3365	0.0001	0.000610637	YES
Auts2	319974	0.777924	1.73257	0.004	0.0152681	YES
Bbx	70508	0.777251	2.85146	0.00005	0.000323529	YES
Armc5	233912	0.776756	2.7647	0.00005	0.000323529	YES
Hsp90aa1	15519	0.776359	3.37397	0.00005	0.000323529	YES
Creld1	171508	0.776218	3.90985	0.00005	0.000323529	YES
Mblac2	72852	0.775951	1.80441	0.0058	0.0209252	YES
Ssbp4	76900	0.775702	3.56071	0.00005	0.000323529	YES

Setd4	224440	0.7753	1.77568	0.00925	0.0309317	YES
P2rx4	18438	0.774314	2.68181	0.0003	0.00163174	YES
Pik3r2	18709	0.774265	3.47125	0.00005	0.000323529	YES
Inpp4a	269180	0.773936	2.6846	0.00005	0.000323529	YES
Nagk	56174	0.77366	2.59247	0.00005	0.000323529	YES
Cpt1c	78070	0.773333	1.8001	0.0046	0.0172322	YES
Gtpbp6	107999	0.772849	2.85067	0.00005	0.000323529	YES
Slc39a7	14977	0.768545	2.06038	0.00055	0.00276141	YES
Zfp61	22719	0.768386	1.79628	0.004	0.0152681	YES
Atrx	22589	0.767242	3.09777	0.00005	0.000323529	YES
Mfsd10	68294	0.765982	2.5707	0.00075	0.00362109	YES
Eef1a1	13627	0.765195	3.31714	0.00005	0.000323529	YES
Tmem62	96957	0.763795	2.04522	0.00175	0.00752117	YES
Sgce	20392	0.763677	2.59491	0.00005	0.000323529	YES
Erich1	234086	0.76318	1.67144	0.01095	0.035676	YES
Cfh	12628	0.763098	2.5785	0.00005	0.000323529	YES
Rabgap1l	29809	0.761119	2.34053	0.00025	0.00138761	YES
Usp35	244144	0.760708	1.72128	0.0062	0.0221348	YES
Bend5	67621	0.760643	1.57934	0.0052	0.0191112	YES
Zmat3	22401	0.760359	2.71192	0.00005	0.000323529	YES
Hist2h2be	319190	0.759682	2.60574	0.00025	0.00138761	YES
Ttll12	223723	0.759527	2.90398	0.00005	0.000323529	YES
Ttf2	74044	0.758844	2.26364	0.00015	0.000880082	YES
Angel1	68737	0.758639	2.4183	0.00005	0.000323529	YES
Arap1	69710	0.75662	2.84545	0.00005	0.000323529	YES
Zcchc24	71918	0.755815	3.66097	0.00005	0.000323529	YES
Plcd1	18799	0.755661	2.99218	0.00005	0.000323529	YES
Tmed3	66111	0.755647	3.36406	0.00005	0.000323529	YES
Zyx	22793	0.75537	3.557	0.00005	0.000323529	YES
Igf1r	16001	0.754808	3.22218	0.00005	0.000323529	YES
Amotl2	56332	0.754141	3.1601	0.00005	0.000323529	YES
Psip1	101739	0.753608	2.60949	0.00005	0.000323529	YES
Pcp4l1	66425	0.752068	3.06609	0.00005	0.000323529	YES
Kank1	107351	0.751202	3.15125	0.00005	0.000323529	YES
Crim1	50766	0.750221	2.9653	0.00005	0.000323529	YES
Fabp3	14077	0.748542	4.29963	0.00005	0.000323529	YES
Mustn1	66175	0.748332	3.896	0.00005	0.000323529	YES
Galnt11	231050	0.747386	3.10994	0.00005	0.000323529	YES
Alg9	102580	0.746196	2.66385	0.00005	0.000323529	YES
Ctsh	13036	0.746161	2.53987	0.0002	0.0011411	YES
2410022L05Rik	66423	0.745326	2.98164	0.00015	0.000880082	YES
Ctnn	13043	0.745286	3.27017	0.00005	0.000323529	YES
Myo1e	71602	0.74357	2.60896	0.00005	0.000323529	YES
Mtap	66902	0.743553	2.53922	0.00015	0.000880082	YES
Lman2l	214895	0.743379	3.19841	0.00005	0.000323529	YES
Insig1	231070	0.742798	3.03518	0.00005	0.000323529	YES
B3gnt2	53625	0.738703	2.61293	0.0001	0.000610637	YES

Dgka	13139	0.737626	2.8217	0.00005	0.000323529	YES
Plin3	66905	0.737177	3.19302	0.00005	0.000323529	YES
Rbms3	207181	0.736144	1.60587	0.01065	0.0349009	YES
Ezr	22350	0.735083	2.92278	0.00005	0.000323529	YES
Rab4b	19342	0.734916	2.4475	0.0001	0.000610637	YES
Pip5k1c	18717	0.734374	3.10803	0.00005	0.000323529	YES
Reep1	52250	0.732373	3.48838	0.00005	0.000323529	YES
Qpctl	67369	0.732312	1.91592	0.0047	0.0175317	YES
Fam120c	207375	0.732202	3.09106	0.00005	0.000323529	YES
Athl1	212974	0.731686	2.32458	0.0006	0.0029726	YES
Ptger1	19216	0.730946	1.86541	0.01065	0.0349009	YES
Spg21	27965	0.73085	3.04817	0.00005	0.000323529	YES
Atxn10	54138	0.730297	3.51182	0.00005	0.000323529	YES
Lrrk1	233328	0.730112	2.23481	0.0004	0.00210083	YES
Tep1	21745	0.729751	2.8535	0.00005	0.000323529	YES
Fbxo10	269529	0.729146	2.19749	0.00085	0.00404799	YES
Wdr47	99512	0.728469	2.53139	0.0002	0.0011411	YES
Mpp2	50997	0.728425	1.96927	0.0022	0.00912365	YES
Pop7	74097	0.727022	2.63972	0.00085	0.00404799	YES
Man2c1	73744	0.726512	2.31758	0.00015	0.000880082	YES
Poli	26447	0.726157	1.48181	0.01075	0.0351847	YES
Hsd17b7	15490	0.724867	1.90614	0.00465	0.0173781	YES
Accs	329470	0.724338	1.95599	0.00345	0.0134594	YES
Cds2	110911	0.723765	3.52427	0.00005	0.000323529	YES
Tfpi	21788	0.723161	1.69953	0.0027	0.0108761	YES
Rbpms	19663	0.722287	2.71488	0.00015	0.000880082	YES
Fam115c	232748	0.722139	1.64453	0.00875	0.0294475	YES
Foxo3	56484	0.721512	2.38824	0.0005	0.00254778	YES
Malt1	240354	0.72126	2.10458	0.001	0.00465385	YES
Mical2	320878	0.721244	1.95028	0.0011	0.0050638	YES
Chpf2	100910	0.720748	2.83811	0.00005	0.000323529	YES
Hsd17b12	56348	0.720357	2.61256	0.00015	0.000880082	YES
Rian	75745	0.718072	1.50093	0.0115	0.0372059	YES
Tns1	21961	0.716752	3.28586	0.00005	0.000323529	YES
Fcgrt	14132	0.716258	3.60747	0.00005	0.000323529	YES
Ninj1	18081	0.71598	3.22127	0.00005	0.000323529	YES
Pgd	110208	0.715738	3.19425	0.00005	0.000323529	YES
Adamts15	235130	0.715734	1.91167	0.002	0.00841627	YES
Pvr	52118	0.715733	2.58995	0.00005	0.000323529	YES
Papss1	23971	0.71542	2.73031	0.00005	0.000323529	YES
Trim16	94092	0.714602	3.29774	0.00005	0.000323529	YES
Jund	16478	0.714441	3.52933	0.00005	0.000323529	YES
Clip3	76686	0.714261	1.76481	0.0043	0.016275	YES
Acot9	56360	0.713849	3.23674	0.00005	0.000323529	YES
Fn1	14268	0.712685	3.13687	0.00005	0.000323529	YES
Trmt2b	215201	0.712238	2.69039	0.00005	0.000323529	YES
Tmem180	75146	0.711522	1.8545	0.00995	0.0329363	YES

Nudt16	75686	0.711327	2.71115	0.0001	0.000610637	YES
Cgref1	68567	0.71106	1.33533	0.0127	0.0403333	YES
Inha	16322	0.710855	2.13477	0.0033	0.0129643	YES
Ano8	382014	0.709791	2.13691	0.00065	0.00319117	YES
Dusp3	72349	0.70915	3.26307	0.00005	0.000323529	YES
Cyb561d2	56368	0.708281	1.75308	0.01085	0.0354456	YES
Elovl1	54325	0.70705	2.65914	0.00025	0.00138761	YES
Lrrc14	223664	0.706583	2.77824	0.00005	0.000323529	YES
Gusb	110006	0.706203	2.53426	0.00005	0.000323529	YES
Tle3	21887	0.706078	2.4285	0.00005	0.000323529	YES
Dnmbp	71972	0.705484	2.70402	0.00005	0.000323529	YES
Hsf4	26386	0.705248	2.40394	0.0001	0.000610637	YES
Perp	64058	0.70463	1.95865	0.0048	0.0178539	YES
Armcx4	100503043	0.704441	2.36506	0.00005	0.000323529	YES
Loxl1	16949	0.704337	2.83318	0.00005	0.000323529	YES
Ppp1r12a	17931	0.703741	2.88738	0.00005	0.000323529	YES
Mt2	17750	0.703324	4.72865	0.00005	0.000323529	YES
Sumf1	58911	0.703183	2.79694	0.00005	0.000323529	YES
Casp9	12371	0.702645	2.32793	0.0002	0.0011411	YES
Pisd-ps2	328734	0.70194	1.74778	0.0115	0.0372059	YES
Col12a1	12816	0.700958	1.84477	0.00165	0.00715394	YES
Dhrs7	66375	0.70055	2.97905	0.0001	0.000610637	YES
Larp7	28036	0.700042	2.39994	0.00005	0.000323529	YES
Gadd45g	23882	0.699723	3.64305	0.00005	0.000323529	YES
Agtrap	11610	0.69915	2.85442	0.00005	0.000323529	YES
Nhej1	75570	0.699075	2.23808	0.0023	0.00946104	YES
Asb15	78910	0.69878	3.26316	0.00005	0.000323529	YES
Tspan15	70423	0.69815	3.04979	0.00005	0.000323529	YES
Mum1l1	245631	0.697403	2.26294	0.0003	0.00163174	YES
Fas	14102	0.696974	1.49768	0.007	0.0245617	YES
Meis3	17537	0.696351	1.56265	0.01455	0.0451958	YES
Cryl1	68631	0.69592	2.07523	0.0028	0.0112271	YES
Serpib9	20723	0.694868	2.35097	0.0002	0.0011411	YES
Eif2ak2	19106	0.69465	2.23262	0.00015	0.000880082	YES
Mthfd2	17768	0.694446	1.66454	0.012	0.0384753	YES
Trp53bp1	27223	0.694356	2.64939	0.00005	0.000323529	YES
Edem2	108687	0.692743	2.55881	0.0004	0.00210083	YES
Ccbl2	229905	0.692644	2.27005	0.00065	0.00319117	YES
Kptn	70394	0.692248	2.97218	0.00005	0.000323529	YES
Ccnd1	12443	0.692072	2.58022	0.00005	0.000323529	YES
Crip2	68337	0.691559	3.76229	0.00005	0.000323529	YES
Rpp40	208366	0.689652	1.96388	0.00275	0.0110605	YES
Ppp1r15a	17872	0.689581	2.56189	0.00005	0.000323529	YES
Sgsm2	97761	0.687908	2.50268	0.00005	0.000323529	YES
Eya4	14051	0.686918	2.9029	0.00005	0.000323529	YES
Gfra1	14585	0.686621	1.59937	0.01135	0.036766	YES
Mpdz	17475	0.685998	3.03425	0.00005	0.000323529	YES

Tcn2	21452	0.685893	2.83669	0.00005	0.000323529	YES
Ppp1r3d	228966	0.685515	1.84908	0.0072	0.0251512	YES
Pdpm	14726	0.684329	2.14618	0.00115	0.00525399	YES
Tet2	214133	0.684072	2.8441	0.00005	0.000323529	YES
Irgm2	54396	0.683914	2.83004	0.00005	0.000323529	YES
Crtc1	382056	0.683905	2.9416	0.00005	0.000323529	YES
Fndc3b	72007	0.682655	2.50132	0.00005	0.000323529	YES
Vasp	22323	0.681846	2.98968	0.00005	0.000323529	YES
Tet1	52463	0.680868	1.97479	0.00155	0.00678017	YES
Ift81	12589	0.680513	1.58548	0.00755	0.0261704	YES
Paqr7	71904	0.680072	2.67127	0.00025	0.00138761	YES
Slc27a4	26569	0.679628	2.76774	0.00005	0.000323529	YES
Scarf2	224024	0.679372	2.71847	0.00025	0.00138761	YES
Cdkn1a	12575	0.679237	2.65174	0.00005	0.000323529	YES
Rdh11	17252	0.678512	1.7818	0.00845	0.0286339	YES
Myl6	17904	0.678437	4.22644	0.00005	0.000323529	YES
Nme1	18102	0.677696	3.0852	0.00005	0.000323529	YES
Pbxip1	229534	0.676809	2.90305	0.00005	0.000323529	YES
Selenbp1	20341	0.676754	2.76623	0.00005	0.000323529	YES
Ispd	75847	0.676707	1.91387	0.00435	0.0164445	YES
Gnai1	14677	0.676151	1.98542	0.00195	0.00825222	YES
Gm6548	625054	0.676133	2.06124	0.0012	0.00544762	YES
Cyp26b1	232174	0.675719	1.76244	0.00465	0.0173781	YES
Zfhx3	11906	0.675518	1.65692	0.0076	0.026309	YES
Sec22b	20333	0.675063	3.06151	0.00005	0.000323529	YES
Antxr2	71914	0.674652	2.50691	0.00005	0.000323529	YES
Hdac6	15185	0.674635	2.53946	0.00005	0.000323529	YES
Slco2a1	24059	0.674621	1.81203	0.00535	0.0195574	YES
Tnrc6c	217351	0.674382	2.90809	0.00005	0.000323529	YES
Ifnar2	15976	0.674175	1.87997	0.00135	0.00601572	YES
Dnmt1	13433	0.673777	2.40064	0.00005	0.000323529	YES
Mast3	546071	0.67366	2.1204	0.0011	0.0050638	YES
Fam173a	214917	0.672805	2.86045	0.00005	0.000323529	YES
Sestd1	228071	0.672131	2.42654	0.00015	0.000880082	YES
Cmtm7	102545	0.671786	2.44164	0.00255	0.0103674	YES
Plekha1	27276	0.67157	3.15227	0.00005	0.000323529	YES
Ddhd1	114874	0.670121	2.10312	0.0006	0.0029726	YES
Brd9	105246	0.670094	2.65575	0.00005	0.000323529	YES
Srp2	68792	0.668145	1.44811	0.01305	0.0413031	YES
Dip2c	208440	0.667878	2.66538	0.00005	0.000323529	YES
Ppp1r26	241289	0.667126	1.64674	0.0043	0.016275	YES
C330006A16Rik	109299	0.664917	2.08574	0.00395	0.0151103	YES
Hltf	20585	0.66453	1.9581	0.001	0.00465385	YES
Tmx4	52837	0.664477	2.55759	0.0001	0.000610637	YES
Stambp	70527	0.664358	2.50233	0.0002	0.0011411	YES
Prkcs	19089	0.664179	2.72474	0.00005	0.000323529	YES
Gfpt1	14583	0.664171	2.92516	0.00005	0.000323529	YES

Supt3h	109115	0.663507	1.82862	0.00095	0.00445144	YES
Ankmy2	217473	0.662914	2.37851	0.00005	0.000323529	YES
F420014N23Rik	100038591	0.662899	1.68572	0.00545	0.0198492	YES
Eif2ak3	13666	0.662477	2.10891	0.00055	0.00276141	YES
Sepn1	74777	0.661732	2.29443	0.0005	0.00254778	YES
Gga2	74105	0.661124	2.73733	0.00005	0.000323529	YES
St8sia5	225742	0.660489	1.58838	0.00945	0.03152	YES
Ocel1	77090	0.660472	1.74941	0.0101	0.0333697	YES
Rab23	19335	0.660045	2.13464	0.0005	0.00254778	YES
Twist1	22160	0.659621	1.72788	0.01595	0.0487456	YES
Fbln1	14114	0.659209	2.32717	0.0008	0.00383425	YES
Prosapip1	241638	0.658726	1.88841	0.00325	0.012803	YES
Ttl	69737	0.658173	2.75865	0.00005	0.000323529	YES
Plod3	26433	0.65806	1.72108	0.00735	0.0255956	YES
Rassf3	192678	0.657939	3.20858	0.00005	0.000323529	YES
Jkamp	104771	0.657799	2.72252	0.0001	0.000610637	YES
B2m	12010	0.657314	2.95761	0.00005	0.000323529	YES
Cmas	12764	0.657156	3.05382	0.00005	0.000323529	YES
Cxx1b	553127	0.656365	2.81641	0.00025	0.00138761	YES
Aldh7a1	110695	0.656244	2.40413	0.0002	0.0011411	YES
Mapt	17762	0.656127	2.84196	0.00005	0.000323529	YES
Cdh1	12550	0.654605	1.57029	0.01075	0.0351847	YES
Hace1	209462	0.653801	1.96984	0.00205	0.00859219	YES
Mthfsd	234814	0.653598	2.00301	0.00065	0.00319117	YES
Ppp1r12c	232807	0.652862	2.96455	0.00005	0.000323529	YES
Creb3l1	26427	0.652814	1.57648	0.012	0.0384753	YES
Fam20c	80752	0.652777	2.42189	0.00035	0.00186438	YES
Fam134a	227298	0.652105	2.80699	0.00005	0.000323529	YES
Lysmd4	75099	0.65037	2.53244	0.00005	0.000323529	YES
Ifi30	65972	0.650057	2.60337	0.0004	0.00210083	YES
Dhps	330817	0.649949	2.26843	0.0013	0.00582759	YES
Nptn	20320	0.649356	3.34081	0.00005	0.000323529	YES
Mdp1	67881	0.649124	2.55764	0.00005	0.000323529	YES
Cdc42ep4	56699	0.649007	2.23983	0.0001	0.000610637	YES
Eda2r	245527	0.648229	2.60697	0.00005	0.000323529	YES
Cdkn2c	12580	0.648027	2.80968	0.00015	0.000880082	YES
Nsf	18195	0.647565	2.61132	0.00005	0.000323529	YES
Tcta	102791	0.647226	3.36933	0.00005	0.000323529	YES
Kif3a	16568	0.646981	2.22838	0.00025	0.00138761	YES
Tsen34	66078	0.646508	2.86541	0.00005	0.000323529	YES
Fam114a1	68303	0.646323	2.01065	0.0003	0.00163174	YES
Pth1r	19228	0.646203	1.96139	0.0014	0.00620513	YES
Tmem205	235043	0.645294	3.01866	0.00015	0.000880082	YES
Mical3	194401	0.645132	2.47126	0.0001	0.000610637	YES
1810048J11Rik	67708	0.644021	2.34005	0.00055	0.00276141	YES
Ptpdc1	218232	0.643391	2.17199	0.0005	0.00254778	YES
Cyr61	16007	0.643042	2.51975	0.00005	0.000323529	YES

Pisd-ps1	236604	0.642614	2.40771	0.00025	0.00138761	YES
Srxn1	76650	0.64157	2.83786	0.00005	0.000323529	YES
Cenpb	12616	0.64033	1.9314	0.0006	0.0029726	YES
Tmem164	209497	0.640136	1.90794	0.00195	0.00825222	YES
Plekhn3	241075	0.640115	2.0947	0.00115	0.00525399	YES
Dcxr	67880	0.639937	2.13177	0.0045	0.0168978	YES
Bmpr2	12168	0.639755	2.12381	0.00025	0.00138761	YES
B3galtl	381694	0.639265	1.72935	0.0069	0.0242812	YES
BC005537	79555	0.638149	3.32041	0.00005	0.000323529	YES
Rhoj	80837	0.638148	2.64624	0.00005	0.000323529	YES
Fst	14313	0.636974	2.09249	0.00135	0.00601572	YES
Rundc1	217201	0.636928	1.6315	0.0067	0.0236462	YES
Smpd2	20598	0.636471	2.5951	0.0002	0.0011411	YES
Pdia3	14827	0.636026	2.9935	0.00005	0.000323529	YES
Glg1	20340	0.63593	2.60071	0.00005	0.000323529	YES
BC088983	382010	0.635855	2.22784	0.00085	0.00404799	YES
Lpp	210126	0.634555	2.47158	0.0001	0.000610637	YES
Rps6ka4	56613	0.633544	2.59488	0.00005	0.000323529	YES
Susd2	71733	0.633526	1.65892	0.00545	0.0198492	YES
Spats2	72572	0.632665	1.75206	0.00595	0.021383	YES
Sec61a1	53421	0.632353	2.94839	0.00005	0.000323529	YES
Cdc42bpg	240505	0.631967	2.72144	0.00005	0.000323529	YES
Atp6v1g1	66290	0.631693	3.54682	0.00005	0.000323529	YES
Pmm1	29858	0.629602	2.92668	0.00005	0.000323529	YES
Slc9a1	20544	0.629542	2.64591	0.00005	0.000323529	YES
Acot11	329910	0.629489	2.11834	0.0003	0.00163174	YES
Casd1	213819	0.628935	3.02917	0.00005	0.000323529	YES
Col1a1	12842	0.628863	3.03758	0.00005	0.000323529	YES
Atf6	226641	0.627869	2.83111	0.00005	0.000323529	YES
Fzd1	14362	0.627738	1.9092	0.005	0.0184972	YES
As3mt	57344	0.627648	2.91824	0.00005	0.000323529	YES
Copg	54161	0.627195	2.30949	0.0002	0.0011411	YES
Sft2d1	106489	0.627192	2.60559	0.00135	0.00601572	YES
Bche	12038	0.627156	2.37774	0.00015	0.000880082	YES
A230005M16Rik	654807	0.627047	1.60767	0.0161	0.0490705	YES
Cdh15	12555	0.626763	2.68556	0.00005	0.000323529	YES
Mpnd	68047	0.625853	2.59913	0.00005	0.000323529	YES
4930402H24Rik	228602	0.625582	1.87512	0.00245	0.0100126	YES
Scamp1	107767	0.625425	2.98933	0.00005	0.000323529	YES
Rusc2	100213	0.62505	2.85454	0.00005	0.000323529	YES
Ostm1	14628	0.624594	2.71695	0.00005	0.000323529	YES
Mmp11	17385	0.624126	1.84249	0.0052	0.0191112	YES
Sh3pxd2b	268396	0.623779	1.78947	0.00325	0.012803	YES
Mageh1	75625	0.62365	1.84898	0.00805	0.0275875	YES
Nckap5l	380969	0.622599	1.5466	0.01185	0.0381499	YES
Wdr6	83669	0.622545	2.09269	0.00065	0.00319117	YES
Tbc1d8b	245638	0.622033	1.9458	0.0013	0.00582759	YES

Ilvbl	216136	0.621626	2.48204	0.0002	0.0011411	YES
Ablim2	231148	0.620601	2.87339	0.00005	0.000323529	YES
Bloc1s3	232946	0.619093	2.30422	0.003	0.0119378	YES
2310047M10Rik	71923	0.618953	2.99238	0.00005	0.000323529	YES
Ras12	70784	0.618471	2.1107	0.00045	0.00232845	YES
Ccnd3	12445	0.618282	2.11598	0.0029	0.0115956	YES
Tmed8	382620	0.618213	1.68164	0.0084	0.0285321	YES
Sh3d19	27059	0.618157	2.04917	0.0006	0.0029726	YES
Atg16l2	73683	0.615998	2.22253	0.0006	0.0029726	YES
8430419L09Rik	74525	0.615759	1.80705	0.00485	0.0180185	YES
Impdh1	23917	0.615666	2.61458	0.00005	0.000323529	YES
Yipf1	230584	0.615113	2.48003	0.0006	0.0029726	YES
Nubp1	26425	0.614461	1.77337	0.006	0.0215283	YES
Ipo8	320727	0.614031	2.68823	0.00005	0.000323529	YES
0610007N19Rik	100616095	0.613933	1.48329	0.01115	0.0362151	YES
C230096C10Rik	230866	0.613249	2.67049	0.00005	0.000323529	YES
Acox3	80911	0.612927	2.44979	0.0001	0.000610637	YES
Mpeg1	17476	0.612796	1.45774	0.01605	0.0489466	YES
Wsb1	78889	0.612707	2.48849	0.00005	0.000323529	YES
Leprot	230514	0.612558	2.81741	0.00005	0.000323529	YES
Slc24a6	170756	0.611655	2.08916	0.00115	0.00525399	YES
Rpgrip1l	244585	0.611337	1.50067	0.0109	0.0355794	YES
Nbl1	17965	0.611024	2.71781	0.00005	0.000323529	YES
Tmem209	72649	0.610124	2.33253	0.00055	0.00276141	YES
Csad	246277	0.610038	2.35604	0.0005	0.00254778	YES
Fam108c	70178	0.609581	1.94651	0.0078	0.0268948	YES
Leprel2	14789	0.609275	1.95949	0.0022	0.00912365	YES
Nucb1	18220	0.609261	2.63768	0.00005	0.000323529	YES
Wwc2	52357	0.609255	2.50458	0.00005	0.000323529	YES
Mboat7	77582	0.608135	2.58131	0.00025	0.00138761	YES
Nt5e	23959	0.607779	1.92865	0.0017	0.00733233	YES
Ddr1	12305	0.607574	2.68645	0.00005	0.000323529	YES
Klhl18	270201	0.607415	2.44689	0.0002	0.0011411	YES
Bbs2	67378	0.606856	2.02258	0.0016	0.00697368	YES
1500010J02Rik	68964	0.606014	2.33936	0.00015	0.000880082	YES
Uvrag	78610	0.605781	2.25544	0.0001	0.000610637	YES
Foxp4	74123	0.605505	2.03352	0.00075	0.00362109	YES
Gramd1b	235283	0.605497	1.59984	0.0097	0.0322173	YES
2310022B05Rik	69551	0.605262	2.77531	0.00005	0.000323529	YES
Cno	117197	0.605144	2.52708	0.00095	0.00445144	YES
Slc33a1	11416	0.605049	1.93882	0.0043	0.016275	YES
Ogdhl	239017	0.604871	1.84132	0.00415	0.0157832	YES
Zfp324	243834	0.604687	1.54912	0.011	0.0358166	YES
Nfatc4	73181	0.604318	1.81093	0.00325	0.012803	YES
Gabbr1	54393	0.603907	2.32731	0.0003	0.00163174	YES
1190002N15Rik	68861	0.603629	2.26554	0.00085	0.00404799	YES
Bpnt1	23827	0.60245	2.5579	0.00005	0.000323529	YES

Tmem119	231633	0.602274	1.65227	0.01315	0.0415444	YES
Nudt1	17766	0.602272	1.76927	0.0153	0.0471438	YES
Galnt1	108760	0.601595	2.02753	0.00135	0.00601572	YES
Tomm40l	641376	0.601569	2.67067	0.00005	0.000323529	YES
Ap3m2	64933	0.600995	1.83932	0.00195	0.00825222	YES
Srebf2	20788	0.600924	2.50335	0.0001	0.000610637	YES
Taok3	330177	0.600583	1.4792	0.00845	0.0286339	YES
Fbxo25	66822	0.60032	2.4871	0.00015	0.000880082	YES
Gtf3c5	70239	0.600279	1.35955	0.01635	0.0496497	YES
Siae	22619	0.600165	1.99612	0.0017	0.00733233	YES
Ring1	19763	0.600156	2.61061	0.00005	0.000323529	YES
Atpif1	11983	0.600026	3.28905	0.00015	0.000880082	YES
Clic4	29876	0.599958	2.78639	0.00005	0.000323529	YES
Stxbp2	20911	0.598095	2.05709	0.00095	0.00445144	YES
Klf2	16598	0.597921	3.03452	0.00005	0.000323529	YES
Disp1	68897	0.597444	1.92817	0.0027	0.0108761	YES
Bbs1	52028	0.596337	1.69836	0.00565	0.0204591	YES
4930430F08Rik	68281	0.59592	1.73005	0.00415	0.0157832	YES
Mtss1	211401	0.595349	2.48629	0.00005	0.000323529	YES
Rock1	19877	0.595249	2.32902	0.00005	0.000323529	YES
Thnsl2	232078	0.59519	2.01797	0.00045	0.00232845	YES
Haus8	76478	0.594848	1.32903	0.014	0.0438511	YES
Rhob	11852	0.594707	3.0441	0.00005	0.000323529	YES
Stx7	53331	0.594321	2.79724	0.00005	0.000323529	YES
Hs1bp3	58240	0.59369	1.94182	0.00195	0.00825222	YES
Tspan33	232670	0.593414	1.66608	0.0146	0.0453064	YES
Fuca2	66848	0.593147	2.19825	0.00035	0.00186438	YES
Tgfb2	21808	0.592724	2.41253	0.0002	0.0011411	YES
Cd99l2	171486	0.592045	2.7506	0.00005	0.000323529	YES
Sfxn1	14057	0.591775	1.55796	0.01475	0.0456727	YES
Slc37a3	72144	0.590016	2.29221	0.0005	0.00254778	YES
Jdp2	81703	0.589555	1.58844	0.0054	0.0197081	YES
Fbxo18	50755	0.58944	2.59227	0.00005	0.000323529	YES
Rogdi	66049	0.587303	2.29351	0.0009	0.00424116	YES
Scamp4	56214	0.587165	2.23071	0.00035	0.00186438	YES
Pik3r3	18710	0.586751	2.08877	0.00045	0.00232845	YES
Slc35e3	215436	0.586609	2.02252	0.0036	0.0139684	YES
Asb1	65247	0.585938	2.5375	0.00005	0.000323529	YES
Mta3	116871	0.585883	1.69209	0.0037	0.0142754	YES
Efr3a	76740	0.585748	2.78372	0.00005	0.000323529	YES
Flot2	14252	0.585276	2.69814	0.00005	0.000323529	YES
Map2k3	26397	-0.585042	-2.90984	0.00005	0.000323529	YES
Hoxc9	15427	-0.585046	-2.56845	0.00045	0.00232845	YES
Mrpl9	78523	-0.585248	-2.91714	0.00005	0.000323529	YES
Rai2	24004	-0.585662	-2.31891	0.0001	0.000610637	YES
Ablim1	226251	-0.586443	-2.52754	0.00005	0.000323529	YES
Chac2	68044	-0.586483	-1.69706	0.00385	0.0147745	YES

Adck1	72113	-0.587037	-2.72014	0.00005	0.000323529	YES
Zfp1	22640	-0.587503	-1.91154	0.00105	0.00485494	YES
Psm3	26446	-0.587525	-3.74076	0.00005	0.000323529	YES
Smek2	104570	-0.58818	-2.21963	0.00005	0.000323529	YES
Mcat	223722	-0.588846	-2.7041	0.00005	0.000323529	YES
Rap2c	72065	-0.58892	-2.66619	0.0001	0.000610637	YES
Zfp160	224585	-0.588969	-1.94497	0.0014	0.00620513	YES
Cebpg	12611	-0.589024	-2.69672	0.00005	0.000323529	YES
F11r	16456	-0.58947	-2.22684	0.0006	0.0029726	YES
Adcy9	11515	-0.589507	-2.34585	0.0003	0.00163174	YES
BC020535	228788	-0.589531	-2.11369	0.0032	0.0126314	YES
Nle1	217011	-0.589618	-2.1484	0.0013	0.00582759	YES
Dcun1d5	76863	-0.589993	-3.10656	0.0001	0.000610637	YES
Itgb5	16419	-0.590507	-2.68644	0.00005	0.000323529	YES
Vwf	22371	-0.590659	-2.58239	0.00005	0.000323529	YES
Lnp	69605	-0.590738	-2.81576	0.00005	0.000323529	YES
Clybl	69634	-0.590797	-2.53749	0.00005	0.000323529	YES
Dcaf11	28199	-0.591677	-2.03126	0.0014	0.00620513	YES
Gm26582		-0.591679	-2.06815	0.0007	0.00340476	YES
Plin4	57435	-0.591799	-2.29292	0.00005	0.000323529	YES
Xk	22439	-0.592477	-1.83713	0.00505	0.0186646	YES
Ifngr2	15980	-0.592709	-2.98855	0.00005	0.000323529	YES
Zfp955a	77652	-0.592798	-1.86746	0.0022	0.00912365	YES
Gpr56	14766	-0.592955	-2.30314	0.00025	0.00138761	YES
Triobp	110253	-0.593463	-2.76006	0.00005	0.000323529	YES
Zfp955b	100043468	-0.594244	-1.66965	0.00575	0.0207687	YES
G3bp2	23881	-0.595054	-1.46915	0.01395	0.0437031	YES
Myst1	67773	-0.595395	-2.33013	0.00075	0.00362109	YES
Prkag3	241113	-0.595711	-2.77495	0.00005	0.000323529	YES
Mybph	53311	-0.596134	-1.62206	0.01055	0.0346309	YES
Zfp715	69930	-0.596192	-2.46862	0.00005	0.000323529	YES
A930005H10Rik	68161	-0.596252	-1.58377	0.0067	0.0236462	YES
Impa2	114663	-0.596341	-1.93858	0.00535	0.0195574	YES
Kctd9	105440	-0.596533	-2.52095	0.00005	0.000323529	YES
Smc6	67241	-0.59661	-2.57096	0.00005	0.000323529	YES
Tpra1	24100	-0.596624	-2.84605	0.00005	0.000323529	YES
Sla2	77799	-0.596644	-1.69234	0.0032	0.0126314	YES
Smad6	17130	-0.596762	-1.96089	0.0106	0.0347733	YES
Ndufa7	66416	-0.596914	-4.69344	0.00005	0.000323529	YES
Wdr33	74320	-0.596931	-1.95059	0.0034	0.0132809	YES
Ash2l	23808	-0.597112	-2.53328	0.00005	0.000323529	YES
Sox18	20672	-0.597463	-2.68057	0.00125	0.00562912	YES
Heat3	234549	-0.597555	-2.85716	0.00005	0.000323529	YES
Hivep2	15273	-0.597578	-2.68891	0.00005	0.000323529	YES
Zfp652	268469	-0.597743	-2.2224	0.00035	0.00186438	YES
Fbxo45	268882	-0.597822	-2.38175	0.00025	0.00138761	YES
Fn3k	63828	-0.598469	-1.94568	0.00105	0.00485494	YES

Rps24	20088	-0.598562	-2.54515	0.00005	0.000323529	YES
Tbc1d20	67231	-0.598739	-2.85967	0.00005	0.000323529	YES
Ccdc21	70012	-0.598785	-2.77382	0.00005	0.000323529	YES
Ptpn14	19250	-0.598867	-2.55829	0.00005	0.000323529	YES
Gin1	252876	-0.598897	-1.79521	0.0057	0.0206165	YES
Gm10033	378466	-0.598897	-1.60893	0.00525	0.0192545	YES
Dusp23	68440	-0.599132	-2.18921	0.00145	0.0063961	YES
Rpap3	71919	-0.59937	-2.26635	0.0002	0.0011411	YES
Srgn	19073	-0.599835	-2.06262	0.00945	0.03152	YES
Card14	170720	-0.599873	-1.83061	0.00265	0.0107213	YES
1300001I01Rik	74148	-0.599944	-2.79763	0.00005	0.000323529	YES
Snrnp35	76167	-0.599968	-2.0836	0.00235	0.00963898	YES
Fam98c	73833	-0.600043	-2.43478	0.00135	0.00601572	YES
H2-Ke2	14976	-0.600727	-2.1937	0.00005	0.000323529	YES
Psmc1	70247	-0.600844	-2.79796	0.00005	0.000323529	YES
Cldn12	64945	-0.601533	-2.36618	0.00005	0.000323529	YES
Mrpl21	353242	-0.602425	-2.90466	0.00005	0.000323529	YES
Macrocl1	107227	-0.602689	-3.2587	0.00005	0.000323529	YES
Rbm24	666794	-0.602906	-3.17923	0.00005	0.000323529	YES
Timm8b	30057	-0.603085	-3.69134	0.00005	0.000323529	YES
Hipk3	15259	-0.603442	-2.78947	0.00005	0.000323529	YES
Gyg	27357	-0.603473	-3.11467	0.00005	0.000323529	YES
Cdc73	214498	-0.603477	-2.09191	0.0007	0.00340476	YES
Zfp706	68036	-0.60357	-3.03031	0.00005	0.000323529	YES
Polm	54125	-0.603578	-1.77842	0.0054	0.0197081	YES
Rnmt	67897	-0.603925	-2.4158	0.00005	0.000323529	YES
Ttc7b	104718	-0.604141	-2.70299	0.00005	0.000323529	YES
Nck2	17974	-0.604156	-2.75264	0.00005	0.000323529	YES
Ctdnep1	67181	-0.604338	-2.48567	0.00005	0.000323529	YES
Tmem173	72512	-0.605069	-1.61161	0.0135	0.0424795	YES
Esrrg	26381	-0.605734	-1.79947	0.00295	0.0117537	YES
Rhoq	104215	-0.605951	-2.9066	0.00005	0.000323529	YES
Slc35e4	103710	-0.606239	-2.7473	0.00015	0.000880082	YES
Pcmt1	18537	-0.606306	-3.17275	0.00005	0.000323529	YES
Pibf1	52023	-0.606318	-1.59603	0.00415	0.0157832	YES
Jam2	67374	-0.606377	-2.72919	0.00005	0.000323529	YES
Lym7	75530	-0.606695	-2.28817	0.00045	0.00232845	YES
Sec24d	69608	-0.606794	-2.51872	0.00025	0.00138761	YES
Pds5b	100710	-0.607106	-2.56649	0.00005	0.000323529	YES
Mtftp1	67900	-0.607309	-3.12784	0.00005	0.000323529	YES
Psma1	26440	-0.607419	-3.2692	0.00005	0.000323529	YES
G0s2	14373	-0.60751	-3.20077	0.00005	0.000323529	YES
Gm26693		-0.607645	-1.85772	0.00145	0.0063961	YES
Ghitm	66092	-0.607955	-2.67636	0.00005	0.000323529	YES
Tigd2	68140	-0.608049	-2.45168	0.0001	0.000610637	YES
Ndufv1	17995	-0.608089	-2.99543	0.00005	0.000323529	YES
Tmcc1	330401	-0.608402	-2.68343	0.00005	0.000323529	YES

Aurka	20878	-0.608682	-1.58886	0.01155	0.0373216	YES
Ube2k	53323	-0.60946	-2.97812	0.00005	0.000323529	YES
Snx5	69178	-0.609486	-2.95216	0.00005	0.000323529	YES
Trmu	72026	-0.609667	-2.29642	0.0005	0.00254778	YES
1110058L19Rik	68002	-0.609696	-3.48704	0.00005	0.000323529	YES
Psm2	21762	-0.610167	-2.66158	0.00005	0.000323529	YES
Plcl1	227120	-0.610321	-2.58623	0.00005	0.000323529	YES
Papss2	23972	-0.61047	-1.85272	0.0014	0.00620513	YES
Chchd1	66121	-0.610539	-1.45499	0.00745	0.0258923	YES
Vkorc1l1	69568	-0.61062	-1.73692	0.0053	0.0194107	YES
Cebpz	12607	-0.611185	-1.87279	0.00055	0.00276141	YES
Zfp608	269023	-0.611411	-2.06176	0.00045	0.00232845	YES
Psenen	66340	-0.612063	-3.94171	0.00005	0.000323529	YES
Prdm15	114604	-0.612374	-1.80555	0.0016	0.00697368	YES
Rpl12	269261	-0.612868	-3.79447	0.00005	0.000323529	YES
Rpl35	66489	-0.612965	-2.7068	0.00005	0.000323529	YES
Unc45b	217012	-0.613006	-2.55759	0.00005	0.000323529	YES
Tesk1	21754	-0.613539	-2.99187	0.00005	0.000323529	YES
Cav3	12391	-0.613591	-3.35616	0.00005	0.000323529	YES
Fdx1	14148	-0.613611	-3.30966	0.00005	0.000323529	YES
Slc25a3	18674	-0.613837	-2.98201	0.00005	0.000323529	YES
Sepsecs	211006	-0.613935	-1.65778	0.0104	0.0342386	YES
Snrpe	20643	-0.614182	-4.12098	0.0001	0.000610637	YES
Plec	18810	-0.614365	-2.5468	0.00005	0.000323529	YES
Kdm5a	214899	-0.614697	-2.34737	0.0001	0.000610637	YES
2700078E11Rik	78832	-0.615173	-2.74443	0.00005	0.000323529	YES
Zfp874a	238692	-0.615241	-1.75816	0.0054	0.0197081	YES
Tnnt2	21956	-0.615297	-1.41732	0.00315	0.0124684	YES
Samm50	68653	-0.616163	-3.14406	0.00005	0.000323529	YES
Nfic	18029	-0.616311	-2.96866	0.00005	0.000323529	YES
Calr3	73316	-0.616396	-1.35874	0.01595	0.0487456	YES
Lyrn1	73919	-0.616396	-1.70862	0.01205	0.0386199	YES
Opa1	74143	-0.616428	-2.78489	0.00005	0.000323529	YES
Fam53a	74504	-0.616471	-3.0158	0.00005	0.000323529	YES
Ippk	75678	-0.616853	-2.1609	0.00085	0.00404799	YES
Rplp2	67186	-0.616949	-5.1258	0.00005	0.000323529	YES
Sec24a	77371	-0.617343	-2.5501	0.0001	0.000610637	YES
Fam126b	213056	-0.617568	-1.74036	0.0042	0.0159426	YES
B3gnt3	72297	-0.617586	-1.67751	0.0152	0.046854	YES
Etfa	110842	-0.617615	-3.15685	0.00005	0.000323529	YES
Maml2	270118	-0.617652	-1.95851	0.0008	0.00383425	YES
Ppp1ca	19045	-0.617821	-3.16665	0.00005	0.000323529	YES
Casp8	12370	-0.617843	-1.53294	0.00525	0.0192545	YES
Lonrf1	244421	-0.618271	-2.58223	0.0001	0.000610637	YES
Mrps35	232536	-0.618278	-3.09536	0.00005	0.000323529	YES
Dnajb6	23950	-0.618935	-2.7108	0.00005	0.000323529	YES
Gpatch4	66614	-0.619563	-1.89916	0.00015	0.000880082	YES

Eif5a	276770	-0.61959	-2.85683	0.00005	0.000323529	YES
Eif2b2	217715	-0.619837	-3.06518	0.00005	0.000323529	YES
Pld2	18806	-0.619876	-2.6518	0.00005	0.000323529	YES
Klf13	50794	-0.620142	-2.86357	0.00005	0.000323529	YES
Fam135a	68187	-0.6209	-2.6684	0.00005	0.000323529	YES
Csnk1e	27373	-0.623046	-2.91996	0.00005	0.000323529	YES
Dusp8	18218	-0.623145	-2.80421	0.00005	0.000323529	YES
Apbb2	11787	-0.623184	-2.45702	0.00005	0.000323529	YES
Strbp	20744	-0.623955	-2.42415	0.0002	0.0011411	YES
Prmt7	214572	-0.623967	-2.27323	0.0004	0.00210083	YES
Zcrb1	67197	-0.623989	-3.41959	0.00005	0.000323529	YES
Acad12	338350	-0.624346	-2.56055	0.00005	0.000323529	YES
Abcb7	11306	-0.624962	-2.91164	0.00005	0.000323529	YES
Mmaa	109136	-0.625103	-2.39887	0.00005	0.000323529	YES
Tarsl2	272396	-0.62514	-2.88408	0.00005	0.000323529	YES
Slc25a11	67863	-0.625183	-3.13553	0.00005	0.000323529	YES
2700089E24Rik	381820	-0.625258	-3.13765	0.00005	0.000323529	YES
Gpihbp1	68453	-0.625431	-3.0128	0.0001	0.000610637	YES
Adrb2	11555	-0.625633	-2.94166	0.00005	0.000323529	YES
Uchl5	56207	-0.625945	-2.36607	0.00005	0.000323529	YES
Rell1	100532	-0.626344	-2.33739	0.0003	0.00163174	YES
Gtf2a2	235459	-0.626352	-3.27405	0.00005	0.000323529	YES
Zfp280b	64453	-0.626561	-2.32834	0.0003	0.00163174	YES
Zfp354a	21408	-0.626694	-1.60651	0.00805	0.0275875	YES
Uba2	50995	-0.626832	-2.871	0.00005	0.000323529	YES
Spata24	71242	-0.626838	-1.53644	0.0047	0.0175317	YES
Mrpl45	67036	-0.626876	-2.99116	0.00005	0.000323529	YES
Gm10336	328186	-0.62695	-2.67656	0.00005	0.000323529	YES
Slc6a8	102857	-0.627392	-3.10505	0.00005	0.000323529	YES
Chchd2	14004	-0.6278	-3.86763	0.00005	0.000323529	YES
Tfg	21787	-0.627888	-2.78562	0.00005	0.000323529	YES
Smcr7l	239555	-0.628122	-2.59898	0.00005	0.000323529	YES
Mrpl14	68463	-0.628291	-3.89205	0.00005	0.000323529	YES
Mtcp1	105886298	-0.62882	-1.76087	0.004	0.0152681	YES
Mrpl55	67212	-0.628958	-3.42748	0.00005	0.000323529	YES
Eif2d	16865	-0.628974	-2.54694	0.00005	0.000323529	YES
Chrd	12667	-0.629025	-1.55015	0.01	0.033081	YES
Cox5a	12858	-0.629161	-3.6262	0.00005	0.000323529	YES
Iars	105148	-0.629354	-2.92302	0.00005	0.000323529	YES
Smarca2	67155	-0.629415	-2.29275	0.00005	0.000323529	YES
Usp28	235323	-0.630527	-2.95355	0.00005	0.000323529	YES
Rnf166	68718	-0.630587	-3.1368	0.00005	0.000323529	YES
Nup153	218210	-0.630616	-2.86169	0.00005	0.000323529	YES
Ipmk	69718	-0.630621	-2.58891	0.00005	0.000323529	YES
Secisbp2l	70354	-0.630686	-2.84913	0.00005	0.000323529	YES
1810030N24Rik	66291	-0.630709	-2.88735	0.0001	0.000610637	YES
Cbr4	234309	-0.630999	-2.97205	0.0001	0.000610637	YES

Fastkd2	75619	-0.631716	-2.60888	0.00005	0.000323529	YES
Gm5918	546143	-0.632535	-2.09391	0.0104	0.0342386	YES
Timm9	30056	-0.632548	-2.16555	0.00005	0.000323529	YES
Dnajc2	22791	-0.632663	-2.55002	0.00005	0.000323529	YES
Osmr	18414	-0.633037	-2.0307	0.00095	0.00445144	YES
Slc25a28	246696	-0.633076	-2.99713	0.00005	0.000323529	YES
Atmin	234776	-0.633473	-2.75146	0.00005	0.000323529	YES
Atpaf2	246782	-0.633829	-2.83468	0.00005	0.000323529	YES
Kcnn2	140492	-0.633971	-1.66542	0.0108	0.0353263	YES
Mrpl50	28028	-0.634751	-2.95011	0.00005	0.000323529	YES
Plekkg1	213783	-0.635101	-1.51911	0.0095	0.0316331	YES
Gm12224	100503752	-0.63516	-1.54573	0.00915	0.0306624	YES
Nfyb	18045	-0.635201	-2.91604	0.00005	0.000323529	YES
Chchd10	103172	-0.635268	-3.92499	0.00005	0.000323529	YES
Vps36	70160	-0.635351	-2.90817	0.00005	0.000323529	YES
Wipi1	52639	-0.635738	-3.10514	0.00005	0.000323529	YES
Cacna1a	12286	-0.635779	-2.59451	0.00005	0.000323529	YES
Yars2	70120	-0.63599	-2.35261	0.00015	0.000880082	YES
Enoph1	67870	-0.636141	-2.01524	0.0011	0.0050638	YES
Mcf2l	17207	-0.63626	-2.21926	0.0001	0.000610637	YES
Fam96a	68250	-0.636299	-3.16161	0.00005	0.000323529	YES
Acad9	229211	-0.636357	-2.96283	0.00005	0.000323529	YES
Psma6	26443	-0.63682	-2.74148	0.00005	0.000323529	YES
Srp68	217337	-0.637402	-3.08948	0.00005	0.000323529	YES
Ipo7	233726	-0.639174	-2.97924	0.00005	0.000323529	YES
Napepld	242864	-0.64008	-2.09227	0.0009	0.00424116	YES
Mkl1	223701	-0.640303	-2.33176	0.00005	0.000323529	YES
Ndufa8	68375	-0.640423	-3.91617	0.00005	0.000323529	YES
Abcb6	74104	-0.640653	-2.78925	0.00005	0.000323529	YES
Six4	20474	-0.640953	-2.68199	0.00005	0.000323529	YES
Bdp1	544971	-0.640972	-2.25684	0.00015	0.000880082	YES
Pnpt1	71701	-0.641315	-2.77156	0.00005	0.000323529	YES
Zfp639	67778	-0.641861	-2.58852	0.00005	0.000323529	YES
Eif4g2	13690	-0.641927	-2.56254	0.00005	0.000323529	YES
Mbnl1	56758	-0.642294	-3.04675	0.00005	0.000323529	YES
Rad23a	19358	-0.642327	-2.4155	0.00005	0.000323529	YES
Gm15491		-0.642595	-1.87054	0.00595	0.021383	YES
Trdn	76757	-0.642866	-2.3761	0.00005	0.000323529	YES
Pecr	111175	-0.643763	-2.32673	0.0013	0.00582759	YES
Sept4	18952	-0.643829	-2.2347	0.00055	0.00276141	YES
Syng2	20973	-0.643835	-3.62444	0.00005	0.000323529	YES
Ccdc43	52715	-0.643905	-3.08959	0.00005	0.000323529	YES
Bend7	209645	-0.644415	-1.51157	0.00925	0.0309317	YES
Tbc1d24	224617	-0.644576	-2.48972	0.00005	0.000323529	YES
Pex12	103737	-0.644762	-2.05116	0.00045	0.00232845	YES
Tob2	57259	-0.644868	-3.12764	0.00005	0.000323529	YES
Cs	12974	-0.645096	-2.77279	0.00005	0.000323529	YES

Hdgf	15191	-0.645506	-3.06573	0.00005	0.000323529	YES
Rg9mtd1	52575	-0.645687	-2.49084	0.0001	0.000610637	YES
Rnf114	81018	-0.645792	-2.26106	0.0003	0.00163174	YES
Ttll4	67534	-0.646341	-1.98507	0.001	0.00465385	YES
Myadml2	68515	-0.647048	-3.23192	0.00005	0.000323529	YES
Zfp775	243372	-0.647155	-2.3839	0.00035	0.00186438	YES
Zdhhc5	228136	-0.647396	-2.77563	0.00005	0.000323529	YES
Supv3l1	338359	-0.647424	-2.68438	0.00005	0.000323529	YES
Ptpmt1	66461	-0.647571	-1.85315	0.0015	0.00658526	YES
Efna1	13636	-0.647815	-2.19294	0.00035	0.00186438	YES
Mcart1	230125	-0.648365	-3.17448	0.00005	0.000323529	YES
Gpi1	14751	-0.648762	-2.6168	0.00005	0.000323529	YES
ORF63	224419	-0.649816	-2.58767	0.00005	0.000323529	YES
Qk	19317	-0.650252	-3.09337	0.00005	0.000323529	YES
Fam174a	67698	-0.650395	-3.36223	0.00005	0.000323529	YES
Rasgrf2	19418	-0.650419	-2.02205	0.0012	0.00544762	YES
Foxj3	230700	-0.650462	-3.01223	0.00005	0.000323529	YES
Tigd4	403175	-0.650496	-2.26572	0.00015	0.000880082	YES
Cisd2	67006	-0.651309	-3.051	0.00005	0.000323529	YES
Emcn	59308	-0.651341	-2.34961	0.00005	0.000323529	YES
Hmgb1	15289	-0.652211	-3.12926	0.00005	0.000323529	YES
Tle1	21885	-0.652702	-2.93139	0.00005	0.000323529	YES
Pkia	18767	-0.652929	-3.04069	0.00005	0.000323529	YES
Rhbdd3	279766	-0.652929	-3.07897	0.00005	0.000323529	YES
Stoml2	66592	-0.653394	-2.41763	0.0003	0.00163174	YES
Sh2d3c	27387	-0.65395	-2.36553	0.0003	0.00163174	YES
Irx5	54352	-0.654329	-2.82984	0.0001	0.000610637	YES
Enho	69638	-0.654781	-2.39034	0.00095	0.00445144	YES
Chmp4c	66371	-0.655214	-1.5996	0.0111	0.036075	YES
Gemin4	276919	-0.655642	-2.06932	0.0012	0.00544762	YES
5730455O13Rik	70567	-0.655734	-2.54147	0.00005	0.000323529	YES
Psma3	19167	-0.655878	-3.15587	0.00005	0.000323529	YES
6720427I07Rik	109186	-0.656194	-1.77711	0.00435	0.0164445	YES
Nutf2	68051	-0.656387	-1.56105	0.0095	0.0316331	YES
Fyttd1	69823	-0.656422	-3.0389	0.00005	0.000323529	YES
Rapgef5	217944	-0.657017	-1.47252	0.01295	0.041061	YES
Stk24	223255	-0.657158	-3.04127	0.00005	0.000323529	YES
Mrps23	64656	-0.657551	-3.48205	0.00005	0.000323529	YES
Map3k14	53859	-0.658133	-2.06875	0.00055	0.00276141	YES
Mcts1	68995	-0.658227	-3.43592	0.00005	0.000323529	YES
Mrps30	59054	-0.65883	-3.3324	0.00005	0.000323529	YES
Rbm33	381626	-0.659695	-2.97263	0.00005	0.000323529	YES
Rps14	20044	-0.659813	-4.22452	0.00005	0.000323529	YES
Eif2s2	67204	-0.659859	-3.14635	0.00005	0.000323529	YES
Map4k3	225028	-0.660209	-2.98191	0.00005	0.000323529	YES
Pde7a	18583	-0.660341	-2.67937	0.00005	0.000323529	YES
Gm14326	665211	-0.660756	-2.14369	0.0003	0.00163174	YES

Gm16740	100504029	-0.660955	-1.88732	0.0027	0.0108761	YES
Picalm	233489	-0.661082	-3.09581	0.00005	0.000323529	YES
2310030G06Rik	66952	-0.661874	-2.20893	0.00205	0.00859219	YES
Eif4ebp1	13685	-0.662065	-3.77762	0.00005	0.000323529	YES
Ccdc6	76551	-0.663182	-2.97191	0.00005	0.000323529	YES
Mark1	226778	-0.663659	-1.59338	0.0098	0.0325357	YES
Uqcr10	66152	-0.66387	-5.58207	0.00005	0.000323529	YES
Bcam	57278	-0.664362	-3.3571	0.00005	0.000323529	YES
Mrpl23	19935	-0.665176	-4.34356	0.00005	0.000323529	YES
Kctd21	622320	-0.665265	-1.6707	0.008	0.027458	YES
Mrps15	66407	-0.666241	-3.69105	0.00005	0.000323529	YES
Ccdc88b	78317	-0.666392	-1.44429	0.01275	0.040484	YES
Cox5b	12859	-0.667513	-4.53648	0.00005	0.000323529	YES
Dpm1	13480	-0.668655	-3.30832	0.00005	0.000323529	YES
Rnf150	330812	-0.668706	-3.00275	0.00005	0.000323529	YES
Bccip	66165	-0.66872	-2.22956	0.00085	0.00404799	YES
Mknk2	17347	-0.668907	-3.33127	0.00005	0.000323529	YES
Myo1b	17912	-0.669569	-2.42247	0.00005	0.000323529	YES
Cfl2	12632	-0.669967	-3.32771	0.00005	0.000323529	YES
Jtb	23922	-0.670046	-3.83152	0.00005	0.000323529	YES
Stat5b	20851	-0.670193	-3.11869	0.00005	0.000323529	YES
Bag1	12017	-0.670213	-3.33167	0.00005	0.000323529	YES
Gm16093		-0.670276	-1.48454	0.00695	0.0244189	YES
Psmc12	66997	-0.670485	-3.25405	0.00005	0.000323529	YES
Kpna1	16646	-0.670583	-3.20592	0.00005	0.000323529	YES
Serhl	68607	-0.670951	-2.34343	0.0009	0.00424116	YES
Ophn1	94190	-0.672412	-2.36949	0.00005	0.000323529	YES
Adamts5	23794	-0.673072	-2.43328	0.0001	0.000610637	YES
Deptor	97998	-0.673239	-2.53159	0.00005	0.000323529	YES
3110057O12Rik	269423	-0.673488	-2.02685	0.00195	0.00825222	YES
Sgcg	24053	-0.673809	-2.9684	0.00005	0.000323529	YES
G2e3	217558	-0.674039	-1.77565	0.0047	0.0175317	YES
Zfp961	234413	-0.674444	-1.76454	0.00545	0.0198492	YES
Arrdc4	66412	-0.674953	-1.74563	0.00415	0.0157832	YES
Zfp386	56220	-0.67514	-2.56241	0.00005	0.000323529	YES
Pi15	94227	-0.675266	-1.75732	0.0062	0.0221348	YES
Bach1	12013	-0.675979	-2.91445	0.00005	0.000323529	YES
Sumo1	22218	-0.676238	-3.58055	0.00005	0.000323529	YES
Sepw1	20364	-0.676368	-3.89672	0.00005	0.000323529	YES
Pam16	66449	-0.676444	-4.29553	0.00005	0.000323529	YES
Ccdc101	75565	-0.676836	-2.7853	0.00005	0.000323529	YES
Col11a2	12815	-0.677124	-2.45919	0.00005	0.000323529	YES
Mfng	17305	-0.677135	-1.93287	0.00565	0.0204591	YES
Ndufaf1	69702	-0.677266	-3.19	0.00005	0.000323529	YES
Uba52	22186	-0.677356	-4.89349	0.00005	0.000323529	YES
2310061I04Rik	69662	-0.678024	-2.65122	0.00045	0.00232845	YES
Spast	50850	-0.678061	-3.03015	0.00005	0.000323529	YES

Ankzf1	52231	-0.678089	-2.1563	0.00065	0.00319117	YES
Gm26787	102637672	-0.678326	-2.06268	0.00115	0.00525399	YES
Fosl2	14284	-0.67842	-2.92264	0.00005	0.000323529	YES
Rpp38	227522	-0.678949	-1.97932	0.0043	0.016275	YES
Prex2	109294	-0.679561	-2.03327	0.0005	0.00254778	YES
Ndufb8	67264	-0.679884	-4.21859	0.00005	0.000323529	YES
Cops4	26891	-0.680396	-3.33152	0.00005	0.000323529	YES
Sema7a	20361	-0.680444	-2.55948	0.00005	0.000323529	YES
Ubac1	98766	-0.68072	-3.21055	0.00005	0.000323529	YES
Zfp956	101197	-0.681053	-2.10063	0.0001	0.000610637	YES
Hoxc10	209448	-0.681109	-3.42137	0.00005	0.000323529	YES
Phka1	18679	-0.681344	-3.047	0.00005	0.000323529	YES
Cltb	74325	-0.681494	-3.47397	0.00005	0.000323529	YES
Esam	69524	-0.68168	-3.18103	0.00005	0.000323529	YES
Mdh2	17448	-0.681701	-3.1151	0.00005	0.000323529	YES
Hectd1	207304	-0.681901	-3.07641	0.00005	0.000323529	YES
Stradb	227154	-0.681983	-3.4392	0.00005	0.000323529	YES
Cops5	26754	-0.681994	-3.65147	0.00005	0.000323529	YES
Lyar	17089	-0.682618	-2.57655	0.00005	0.000323529	YES
Bcs1l	66821	-0.683101	-2.8373	0.00005	0.000323529	YES
Qrs1	76563	-0.683314	-2.75181	0.00005	0.000323529	YES
Ptp4a2	19244	-0.683339	-3.10448	0.00005	0.000323529	YES
Stard7	99138	-0.683665	-3.42287	0.00005	0.000323529	YES
Lym5	67636	-0.684519	-3.0243	0.00005	0.000323529	YES
Pfdn2	18637	-0.685168	-3.96837	0.00005	0.000323529	YES
4933407H18Rik	71101	-0.685575	-2.14097	0.00015	0.000880082	YES
Fgf7	14178	-0.685598	-1.89194	0.0019	0.00807975	YES
Cox11	69802	-0.686128	-2.05563	0.00215	0.00894696	YES
Slc25a15	18408	-0.686283	-2.72884	0.00005	0.000323529	YES
2310003L22Rik	69487	-0.686571	-3.15047	0.00005	0.000323529	YES
Phf14	75725	-0.688931	-2.64452	0.00005	0.000323529	YES
Farsb	23874	-0.689462	-3.38394	0.00005	0.000323529	YES
AI316807	102032	-0.689917	-2.01878	0.0065	0.0230697	YES
Arl8b	67166	-0.690347	-3.55388	0.00005	0.000323529	YES
Sncg	20618	-0.69064	-2.67931	0.00055	0.00276141	YES
Gm17300		-0.690844	-1.90723	0.0033	0.0129643	YES
Tatdn1	69694	-0.690887	-1.42269	0.01225	0.0391095	YES
Endog	13804	-0.691791	-2.80355	0.0007	0.00340476	YES
Kbtbd3	69149	-0.691791	-1.92612	0.00075	0.00362109	YES
LOC433374	433374	-0.691844	-1.91293	0.00475	0.0176888	YES
Timm44	21856	-0.691856	-3.23523	0.00005	0.000323529	YES
Ubn2	320538	-0.691891	-3.08177	0.00005	0.000323529	YES
Bod1	69556	-0.692002	-3.69027	0.00005	0.000323529	YES
Mat2a	232087	-0.692193	-3.3791	0.00005	0.000323529	YES
Tmem186	66690	-0.692455	-2.86677	0.00005	0.000323529	YES
Bcl6	12053	-0.69304	-3.10821	0.00005	0.000323529	YES
Casp7	12369	-0.693375	-1.96905	0.0021	0.00876905	YES

Ctgf	14219	-0.693719	-2.45289	0.0002	0.0011411	YES
Tubd1	56427	-0.69393	-2.1611	0.00035	0.00186438	YES
Sh3bp2	24055	-0.695012	-1.66566	0.0054	0.0197081	YES
Lactb	80907	-0.696522	-2.86263	0.00005	0.000323529	YES
Poldip2	67811	-0.697242	-3.53998	0.00005	0.000323529	YES
Phb	18673	-0.698195	-3.36834	0.00005	0.000323529	YES
Acat1	110446	-0.698689	-3.13138	0.00005	0.000323529	YES
Rpusd3	101122	-0.699157	-2.27212	0.00115	0.00525399	YES
Atxn1	20238	-0.699775	-3.18257	0.00005	0.000323529	YES
Etfb	110826	-0.699808	-3.94205	0.00005	0.000323529	YES
Rab12	19328	-0.700029	-3.51965	0.00005	0.000323529	YES
Fth1	14319	-0.700186	-3.25391	0.00005	0.000323529	YES
MIl3	231051	-0.7004	-3.04353	0.00005	0.000323529	YES
Sigirr	24058	-0.700672	-1.68482	0.0122	0.0389974	YES
Ints10	70885	-0.701182	-3.0762	0.00005	0.000323529	YES
Ddx56	52513	-0.702083	-3.01027	0.00005	0.000323529	YES
4931414P19Rik	74359	-0.703287	-1.77455	0.00625	0.0222779	YES
Tef	21685	-0.703303	-3.13137	0.00005	0.000323529	YES
Cited4	56222	-0.703419	-2.17656	0.00385	0.0147745	YES
1110002N22Rik	68550	-0.704094	-2.80246	0.00015	0.000880082	YES
Hsf2	15500	-0.704347	-3.249	0.00005	0.000323529	YES
Prkar2a	19087	-0.704395	-3.43643	0.00005	0.000323529	YES
Csde1	229663	-0.704575	-2.99011	0.00005	0.000323529	YES
Ccbl1	70266	-0.704657	-3.09106	0.00005	0.000323529	YES
Ndufb7	66916	-0.704713	-4.93384	0.00005	0.000323529	YES
Arhgef37	328967	-0.705125	-1.89898	0.00175	0.00752117	YES
Tmem149	101883	-0.70551	-2.22026	0.002	0.00841627	YES
Cox10	70383	-0.705642	-3.17933	0.00005	0.000323529	YES
Homer1	26556	-0.705757	-2.80535	0.00005	0.000323529	YES
Smcr7	237781	-0.705994	-3.43534	0.00005	0.000323529	YES
Ddx1	104721	-0.706321	-3.28754	0.00005	0.000323529	YES
Uqcrh	66576	-0.706484	-4.58062	0.00005	0.000323529	YES
Ube3a	22215	-0.706846	-2.71762	0.00005	0.000323529	YES
Thap4	67026	-0.707302	-3.26858	0.00005	0.000323529	YES
Klf9	16601	-0.70761	-3.29745	0.00005	0.000323529	YES
B230208H17Rik	227624	-0.707814	-2.86884	0.00005	0.000323529	YES
1110007C09Rik	68480	-0.707869	-4.18795	0.00005	0.000323529	YES
2610044O15Rik	72139	-0.708832	-2.7121	0.00005	0.000323529	YES
Mtus1	102103	-0.708867	-3.10168	0.00005	0.000323529	YES
Zxdc	80292	-0.709563	-3.14527	0.00005	0.000323529	YES
Tie1	21846	-0.709577	-3.26159	0.00005	0.000323529	YES
Snrpb	20638	-0.709925	-3.96334	0.00005	0.000323529	YES
Rpsa	16785	-0.710272	-3.14268	0.00005	0.000323529	YES
Hook1	77963	-0.710677	-2.6445	0.00005	0.000323529	YES
4833439L19Rik	97820	-0.710971	-3.21931	0.00005	0.000323529	YES
Gltpd1	79554	-0.711161	-2.4215	0.00005	0.000323529	YES
Cyb5r4	266690	-0.711799	-3.1334	0.00005	0.000323529	YES

Rab7	19349	-0.712544	-4.48557	0.00005	0.000323529	YES
Col4a3bp	68018	-0.713174	-3.18759	0.00005	0.000323529	YES
Ndufa3	66091	-0.713462	-7.52514	0.00005	0.000323529	YES
Ndufv3	78330	-0.714012	-3.03672	0.00005	0.000323529	YES
Ctsc	13032	-0.714062	-2.9064	0.00005	0.000323529	YES
Kitl	17311	-0.714228	-2.97064	0.00005	0.000323529	YES
Smpx	66106	-0.714233	-3.03635	0.00005	0.000323529	YES
Zfp106	20402	-0.714429	-2.43077	0.00005	0.000323529	YES
Polr2l	66491	-0.714445	-3.70786	0.00005	0.000323529	YES
Gpr116	224792	-0.714579	-3.19959	0.00005	0.000323529	YES
Trp53i11	277414	-0.715217	-2.55831	0.00015	0.000880082	YES
Nr6a1	14536	-0.715222	-1.8485	0.00365	0.0141172	YES
Ccdc28b	66264	-0.715358	-2.57025	0.00015	0.000880082	YES
1110002B05Rik	104725	-0.715364	-3.17132	0.00005	0.000323529	YES
Ndufb6	230075	-0.71541	-2.83978	0.00005	0.000323529	YES
Cd300lg	52685	-0.715467	-3.01872	0.00005	0.000323529	YES
Tomm20	67952	-0.715498	-3.50173	0.00005	0.000323529	YES
Larp4	207214	-0.716638	-3.07426	0.00005	0.000323529	YES
Hibch	227095	-0.717849	-3.37813	0.00005	0.000323529	YES
6430571L13Rik	235599	-0.718185	-2.87285	0.00005	0.000323529	YES
Lrrc14b	432779	-0.718529	-2.73867	0.00005	0.000323529	YES
Prkch	18755	-0.718617	-2.31655	0.00015	0.000880082	YES
Gm17435	100503374	-0.718729	-2.05591	0.00008	0.00383425	YES
Rgs2	19735	-0.718759	-2.7374	0.00005	0.000323529	YES
Rtn2	20167	-0.718994	-3.20007	0.00005	0.000323529	YES
Ccdc41	77048	-0.719059	-2.55717	0.00005	0.000323529	YES
Rin3	217835	-0.71926	-1.99471	0.00075	0.00362109	YES
Rps25	75617	-0.71978	-4.33123	0.00005	0.000323529	YES
Rplp0	11837	-0.720205	-3.41629	0.00005	0.000323529	YES
Gfm1	28030	-0.721179	-3.43999	0.00005	0.000323529	YES
Plk2	20620	-0.722447	-2.62429	0.00005	0.000323529	YES
Ephb6	13848	-0.722858	-2.03565	0.00006	0.0029726	YES
Nmd3	97112	-0.723092	-3.10272	0.00005	0.000323529	YES
Pgm2l1	70974	-0.723368	-2.63706	0.00005	0.000323529	YES
Dhrs7c	68460	-0.724077	-3.93312	0.00005	0.000323529	YES
Ppp1r16b	228852	-0.724833	-1.65739	0.00525	0.0192545	YES
Atp5a1	11946	-0.727522	-2.48715	0.00002	0.0011411	YES
Grhpr	76238	-0.727661	-3.33789	0.00005	0.000323529	YES
2310067B10Rik	71947	-0.727922	-3.58601	0.00005	0.000323529	YES
C1qbp	12261	-0.727967	-2.99505	0.00005	0.000323529	YES
2010109K11Rik	72123	-0.728091	-2.87962	0.00005	0.000323529	YES
Ksr1	16706	-0.728101	-3.42526	0.00005	0.000323529	YES
Sepx1	27361	-0.728375	-4.41738	0.00005	0.000323529	YES
Osgepl1	72085	-0.728831	-3.35261	0.00005	0.000323529	YES
Ptcd2	68927	-0.728892	-3.26845	0.00005	0.000323529	YES
Cd38	12494	-0.72932	-2.51058	0.00001	0.000610637	YES
Slc7a8	50934	-0.729457	-2.11383	0.00007	0.00340476	YES

Fabp5	16592	-0.729791	-2.67617	0.00025	0.00138761	YES
Mrpl15	27395	-0.730656	-2.93873	0.00005	0.000323529	YES
Phyh	16922	-0.730689	-3.63617	0.00005	0.000323529	YES
Erg	13876	-0.731665	-2.18454	0.00055	0.00276141	YES
Ablim3	319713	-0.732016	-2.95482	0.00005	0.000323529	YES
Ndufa2	17991	-0.732261	-3.17103	0.00005	0.000323529	YES
Osbpl10	74486	-0.732613	-2.19627	0.00055	0.00276141	YES
Ing2	69260	-0.732619	-2.94717	0.00005	0.000323529	YES
Irf2	16363	-0.73284	-2.89729	0.00005	0.000323529	YES
Tsc22d4	78829	-0.733814	-3.28784	0.00005	0.000323529	YES
Etf1	225363	-0.734257	-3.50295	0.00005	0.000323529	YES
Pthlh	19227	-0.734355	-1.7366	0.01345	0.0423645	YES
Zfp51	22709	-0.734572	-2.30889	0.0001	0.000610637	YES
Ly6c1	17067	-0.735176	-3.31593	0.00005	0.000323529	YES
Zfand3	21769	-0.735344	-3.81391	0.00005	0.000323529	YES
Adk	11534	-0.735465	-3.08395	0.00005	0.000323529	YES
A830039N20Rik	268723	-0.735522	-2.00062	0.0025	0.0101825	YES
Phtf2	68770	-0.735787	-3.57475	0.00005	0.000323529	YES
Hemk1	69536	-0.737185	-2.84027	0.00005	0.000323529	YES
Abtb2	99382	-0.737333	-3.09309	0.00005	0.000323529	YES
Mrps36	66128	-0.737514	-3.07968	0.00005	0.000323529	YES
Lrrc58	320184	-0.737678	-3.42878	0.00005	0.000323529	YES
Tufm	233870	-0.738073	-3.22529	0.00005	0.000323529	YES
Zfp358	140482	-0.738093	-3.70035	0.00005	0.000323529	YES
Fabp4	11770	-0.738966	-4.6389	0.00005	0.000323529	YES
Acs1	14081	-0.739165	-3.44415	0.00005	0.000323529	YES
Tfb2m	15278	-0.739366	-3.60943	0.00005	0.000323529	YES
Maz	17188	-0.739608	-3.77676	0.00005	0.000323529	YES
Echs1	93747	-0.739973	-3.82855	0.00005	0.000323529	YES
Atad3a	108888	-0.740156	-3.31069	0.00005	0.000323529	YES
Flt1	14254	-0.740334	-3.10728	0.00005	0.000323529	YES
Cd274	60533	-0.740958	-1.87583	0.00325	0.012803	YES
Pla2g6	53357	-0.74098	-2.65806	0.00005	0.000323529	YES
Bend3	331623	-0.741076	-2.68819	0.00005	0.000323529	YES
Haus1	225745	-0.741139	-2.9292	0.00005	0.000323529	YES
Tfam	21780	-0.741314	-3.32036	0.00005	0.000323529	YES
Psmb7	19177	-0.741691	-4.16068	0.00005	0.000323529	YES
Id1	15901	-0.741979	-3.11291	0.00035	0.00186438	YES
Anp32b	67628	-0.74211	-3.40456	0.00005	0.000323529	YES
Zfp759	268670	-0.742346	-1.79782	0.00395	0.0151103	YES
Wnt4	22417	-0.742475	-3.24529	0.00005	0.000323529	YES
Lep	16846	-0.74261	-2.1837	0.0005	0.00254778	YES
Metap2	56307	-0.742951	-3.55717	0.00005	0.000323529	YES
Abhd11	68758	-0.743455	-3.9122	0.00005	0.000323529	YES
Fmnl2	71409	-0.743811	-2.42028	0.0001	0.000610637	YES
Cnksr3	215748	-0.744355	-2.59783	0.0003	0.00163174	YES
Nmnat1	66454	-0.745176	-2.73362	0.00015	0.000880082	YES

Rnf144a	108089	-0.746065	-1.97507	0.00145	0.0063961	YES
Dnajb4	67035	-0.746627	-3.4262	0.00005	0.000323529	YES
Immt	76614	-0.746666	-3.07148	0.00005	0.000323529	YES
Al314180	230249	-0.746779	-3.39224	0.00005	0.000323529	YES
Naa25	231713	-0.747947	-3.05294	0.00005	0.000323529	YES
Ptcd3	69956	-0.74846	-3.49531	0.00005	0.000323529	YES
1810029B16Rik	66282	-0.74853	-2.35067	0.00035	0.00186438	YES
Acad8	66948	-0.748652	-3.6756	0.00005	0.000323529	YES
Nrd1	230598	-0.749208	-2.75386	0.00005	0.000323529	YES
Vezt	215008	-0.749468	-3.42581	0.00005	0.000323529	YES
1500011K16Rik	67885	-0.749728	-2.34399	0.00085	0.00404799	YES
Gm15441	100038464	-0.749743	-1.94118	0.00165	0.00715394	YES
Phf20l1	239510	-0.749854	-3.18909	0.00005	0.000323529	YES
C1qtnf9	239126	-0.749866	-1.87998	0.00205	0.00859219	YES
Egr1	13653	-0.75037	-2.14884	0.0018	0.00770449	YES
Zfp597	71063	-0.750572	-2.11722	0.0009	0.00424116	YES
Myzap	102371	-0.751492	-2.22754	0.00015	0.000880082	YES
Mapk14	26416	-0.752244	-3.47579	0.00005	0.000323529	YES
Npnt	114249	-0.752934	-2.30338	0.00005	0.000323529	YES
Polb	18970	-0.753023	-3.55002	0.00005	0.000323529	YES
Mapkapk5	17165	-0.753305	-3.72748	0.00005	0.000323529	YES
Sox17	20671	-0.753374	-2.52593	0.0004	0.00210083	YES
Suclg1	56451	-0.753539	-3.91156	0.00005	0.000323529	YES
Spryd4	66701	-0.753709	-3.13137	0.00005	0.000323529	YES
Pdhb	68263	-0.75386	-3.88887	0.00005	0.000323529	YES
Gimap6	231931	-0.753887	-2.89441	0.00005	0.000323529	YES
Atp5s	68055	-0.753939	-3.14135	0.00005	0.000323529	YES
Mapkapk3	102626	-0.754613	-3.54268	0.00005	0.000323529	YES
Stt3b	68292	-0.754752	-3.75164	0.00005	0.000323529	YES
Spag1	26942	-0.754894	-1.46639	0.0144	0.0448627	YES
Obscn	380698	-0.75537	-2.65681	0.00005	0.000323529	YES
Parp16	214424	-0.75549	-2.6794	0.0001	0.000610637	YES
Dusp28	67446	-0.756314	-3.81607	0.00005	0.000323529	YES
Pcgf5	76073	-0.757561	-3.17703	0.00005	0.000323529	YES
Fgd3	30938	-0.757818	-1.522	0.01175	0.0378667	YES
Pcdh12	53601	-0.758042	-1.76673	0.0034	0.0132809	YES
Wnt5a	22418	-0.758106	-2.52146	0.0001	0.000610637	YES
Notch4	18132	-0.758478	-2.69999	0.00005	0.000323529	YES
Cisd1	52637	-0.758557	-4.45248	0.00005	0.000323529	YES
Ets1	23871	-0.758637	-2.86932	0.00005	0.000323529	YES
Cutc	66388	-0.759335	-2.8881	0.00005	0.000323529	YES
Mrpl33	66845	-0.759467	-5.7763	0.00005	0.000323529	YES
Crybg3	224273	-0.759754	-2.86824	0.00005	0.000323529	YES
Rnf11	29864	-0.759818	-4.02006	0.00005	0.000323529	YES
Tmem93	66048	-0.761056	-3.56074	0.00005	0.000323529	YES
Gpr4	319197	-0.7618	-1.85898	0.00725	0.0252978	YES
Lrrc56	70552	-0.762603	-1.54303	0.012	0.0384753	YES

C80913	19777	-0.764258	-3.44507	0.00005	0.000323529	YES
Catsper2	212670	-0.764399	-1.76281	0.0076	0.026309	YES
Zfp36l1	12192	-0.764453	-3.78924	0.00005	0.000323529	YES
Gkap1	56278	-0.765111	-3.10088	0.00005	0.000323529	YES
Prkrir	72981	-0.765813	-3.60385	0.00005	0.000323529	YES
Gm26840		-0.76608	-2.11786	0.00035	0.00186438	YES
Ndufa1	54405	-0.766248	-6.00388	0.00005	0.000323529	YES
Tmem147	69804	-0.766971	-4.7312	0.00005	0.000323529	YES
Kif1b	16561	-0.767138	-3.19631	0.00005	0.000323529	YES
0610012G03Rik	106264	-0.767418	-4.02204	0.00005	0.000323529	YES
Abcb1b	18669	-0.767455	-2.18828	0.0002	0.0011411	YES
Lhpp	76429	-0.767724	-3.09785	0.00005	0.000323529	YES
AW112010	107350	-0.767768	-2.70133	0.0006	0.0029726	YES
Ube2f	67921	-0.767792	-3.70911	0.00005	0.000323529	YES
Tbx15	21384	-0.768478	-3.60375	0.00005	0.000323529	YES
Atg4a	666468	-0.76868	-3.57991	0.00005	0.000323529	YES
Ppif	105675	-0.769885	-3.8173	0.00005	0.000323529	YES
Taco1	70207	-0.770652	-2.95575	0.00005	0.000323529	YES
Itga6	16403	-0.771153	-2.90864	0.00005	0.000323529	YES
Zc3h8	57432	-0.771185	-2.54797	0.00015	0.000880082	YES
Atp5g3	228033	-0.772036	-4.47218	0.00005	0.000323529	YES
Aco2	11429	-0.772924	-2.74316	0.00005	0.000323529	YES
Dnajc7	56354	-0.773002	-3.69204	0.00005	0.000323529	YES
D8Ertd82e	244418	-0.773276	-2.23036	0.00035	0.00186438	YES
Gm10687	100038560	-0.773299	-1.65406	0.00835	0.028399	YES
Cxcr4	12767	-0.773612	-2.16116	0.002	0.00841627	YES
2310030N02Rik	76947	-0.773668	-3.23408	0.00005	0.000323529	YES
Nme6	54369	-0.773751	-3.29427	0.00005	0.000323529	YES
Ube2q2	109161	-0.774013	-3.50592	0.00005	0.000323529	YES
Mapre2	212307	-0.774126	-3.18129	0.00005	0.000323529	YES
B330016D10Rik	320456	-0.774128	-2.66935	0.00035	0.00186438	YES
Rasa4	54153	-0.775559	-3.39159	0.00005	0.000323529	YES
Ppp2r2d	52432	-0.776477	-3.40513	0.00005	0.000323529	YES
Snrpd3	67332	-0.776884	-4.56309	0.00005	0.000323529	YES
Mmp15	17388	-0.778523	-3.13446	0.00005	0.000323529	YES
Tex9	21778	-0.779107	-1.56258	0.00515	0.0189718	YES
CpoX	12892	-0.779143	-3.44675	0.00005	0.000323529	YES
Mettl22	239706	-0.779423	-4.05975	0.00005	0.000323529	YES
Sdhc	66052	-0.779599	-4.49959	0.00005	0.000323529	YES
Tmem38a	74166	-0.779641	-3.31713	0.00005	0.000323529	YES
Plekha6	240753	-0.780297	-3.4109	0.00005	0.000323529	YES
Afap1l1	106877	-0.780442	-2.72915	0.00005	0.000323529	YES
Entpd6	12497	-0.780746	-2.23758	0.0001	0.000610637	YES
Mypn	68802	-0.781286	-3.53617	0.00005	0.000323529	YES
Aifm1	26926	-0.781422	-3.61615	0.00005	0.000323529	YES
Tubg1	103733	-0.782301	-3.4758	0.00005	0.000323529	YES
Chrna9	231252	-0.782504	-3.48762	0.00005	0.000323529	YES

Cox6a2	12862	-0.782978	-3.57885	0.00005	0.000323529	YES
Tmem177	66343	-0.78335	-2.98141	0.00005	0.000323529	YES
Zcchc11	230594	-0.783985	-3.08652	0.00005	0.000323529	YES
Memo1	76890	-0.78412	-3.8755	0.00005	0.000323529	YES
Akap9	100986	-0.784545	-3.24287	0.00005	0.000323529	YES
Zfp560	434377	-0.784774	-2.24712	0.0003	0.00163174	YES
A430046D13Rik	654440	-0.784904	-2.97947	0.00005	0.000323529	YES
Rph3al	380714	-0.785186	-2.01459	0.0027	0.0108761	YES
Lipt1	623661	-0.785543	-2.34749	0.00055	0.00276141	YES
Ung	22256	-0.785582	-1.50527	0.01575	0.0481999	YES
Rev3l	19714	-0.785889	-3.36022	0.00005	0.000323529	YES
Zbtb46	72147	-0.785892	-1.64234	0.00495	0.0183424	YES
Jak2	16452	-0.786302	-3.31242	0.00005	0.000323529	YES
Slc28a2	269346	-0.78684	-2.79452	0.00005	0.000323529	YES
Slc35e1	270066	-0.787033	-3.71444	0.00005	0.000323529	YES
Dennd4b	229541	-0.787182	-3.86804	0.00005	0.000323529	YES
Apol10b	328561	-0.787833	-2.17557	0.0003	0.00163174	YES
Prss36	77613	-0.787877	-2.52577	0.00025	0.00138761	YES
Galnt12	78754	-0.788201	-2.66675	0.00005	0.000323529	YES
Epb4.1	269587	-0.788443	-3.46323	0.00005	0.000323529	YES
Coq5	52064	-0.788739	-3.82442	0.00005	0.000323529	YES
Paqr8	74229	-0.789385	-1.58024	0.01155	0.0373216	YES
Speg	11790	-0.790096	-2.69274	0.00005	0.000323529	YES
Gm15469		-0.790234	-1.52593	0.0164	0.0497823	YES
Clic5	224796	-0.790418	-3.7217	0.00005	0.000323529	YES
Ric8b	237422	-0.790566	-3.40988	0.00005	0.000323529	YES
Mgat4a	269181	-0.791787	-3.50444	0.00005	0.000323529	YES
Rab40b	217371	-0.791963	-3.23267	0.00005	0.000323529	YES
Coq3	230027	-0.792572	-3.23699	0.00005	0.000323529	YES
Zfp14	243906	-0.792888	-2.32547	0.0001	0.000610637	YES
Parp8	52552	-0.79309	-3.3877	0.00005	0.000323529	YES
Aqp1	11826	-0.793231	-3.86009	0.00005	0.000323529	YES
9430091E24Rik	434350	-0.793481	-3.24753	0.00005	0.000323529	YES
Acs16	216739	-0.793612	-2.15653	0.00065	0.00319117	YES
Myocd	214384	-0.794273	-1.44051	0.0148	0.0458095	YES
Rcan2	53901	-0.79541	-3.51641	0.00005	0.000323529	YES
Atp5g2	67942	-0.795668	-5.45597	0.00005	0.000323529	YES
Mtrf1	211253	-0.796621	-2.98885	0.00005	0.000323529	YES
Itgb6	16420	-0.797064	-3.58086	0.00005	0.000323529	YES
Zfp943	74670	-0.797097	-3.16074	0.00005	0.000323529	YES
Atp5j2	57423	-0.79733	-6.12363	0.00005	0.000323529	YES
Pcdh1	75599	-0.797975	-2.3168	0.0004	0.00210083	YES
1700021F05Rik	67851	-0.798119	-3.9638	0.00005	0.000323529	YES
Rfwd2	26374	-0.798574	-3.62241	0.00005	0.000323529	YES
Sdha	66945	-0.79861	-3.29336	0.00005	0.000323529	YES
Zfp72	238722	-0.798663	-1.63872	0.0133	0.0419509	YES
Setbp1	240427	-0.79881	-3.22325	0.00005	0.000323529	YES

Coasy	71743	-0.799787	-3.07117	0.00005	0.000323529	YES
Prkaa2	108079	-0.79985	-3.90063	0.00005	0.000323529	YES
Tsc22d3	14605	-0.800022	-3.72211	0.00005	0.000323529	YES
Ttc32	75516	-0.800342	-3.48249	0.00005	0.000323529	YES
Wfdc1	67866	-0.800525	-4.25311	0.00005	0.000323529	YES
Atp5c1	11949	-0.800943	-3.16549	0.00005	0.000323529	YES
Thoc7	66231	-0.802036	-3.27037	0.00005	0.000323529	YES
Hp	15439	-0.802084	-3.21834	0.00005	0.000323529	YES
Ttc21b	73668	-0.802136	-2.55419	0.00005	0.000323529	YES
Golga4	54214	-0.802171	-3.23576	0.00005	0.000323529	YES
Tle4	21888	-0.802391	-3.59572	0.00005	0.000323529	YES
Sox6	20679	-0.802456	-3.62091	0.00005	0.000323529	YES
Mrps28	66230	-0.80262	-4.70854	0.00005	0.000323529	YES
Angptl1	72713	-0.80325	-2.10608	0.00005	0.000323529	YES
Pip4k2b	108083	-0.803396	-3.80193	0.00005	0.000323529	YES
Nexn	68810	-0.803802	-3.31791	0.00005	0.000323529	YES
Prdx3	11757	-0.80385	-4.45298	0.00005	0.000323529	YES
Ndufa6	67130	-0.804082	-5.51701	0.00005	0.000323529	YES
4933403G14Rik	74393	-0.8044	-1.82291	0.0034	0.0132809	YES
Uqcrq	22272	-0.804664	-6.65472	0.00005	0.000323529	YES
Fyco1	17281	-0.804728	-3.40905	0.00005	0.000323529	YES
Mrm1	217038	-0.805205	-2.6852	0.0001	0.000610637	YES
Psma7	26444	-0.805513	-4.62298	0.00005	0.000323529	YES
Mrpl35	66223	-0.805617	-3.72375	0.00005	0.000323529	YES
Cdv3	321022	-0.805934	-3.66018	0.00005	0.000323529	YES
Tmem70	70397	-0.806218	-3.84201	0.00005	0.000323529	YES
Arhgef15	442801	-0.806718	-3.16879	0.00005	0.000323529	YES
Rilpl1	75695	-0.807205	-3.88792	0.00005	0.000323529	YES
Tusc5	237858	-0.807501	-1.66972	0.00775	0.02674	YES
Adamts7	108153	-0.807945	-1.5946	0.01105	0.0359348	YES
Ccdc86	108673	-0.80816	-2.67196	0.00005	0.000323529	YES
Pigy	66459	-0.808247	-3.76282	0.00005	0.000323529	YES
Denr	68184	-0.808929	-3.86427	0.00005	0.000323529	YES
Kdr	16542	-0.809597	-3.41553	0.00005	0.000323529	YES
Cox6b1	110323	-0.810317	-5.93975	0.00005	0.000323529	YES
Psmc4	19185	-0.81113	-4.22386	0.00005	0.000323529	YES
Gm16163	100303730	-0.811168	-1.48435	0.01215	0.0388691	YES
Aqp7	11832	-0.811588	-2.49644	0.0003	0.00163174	YES
Usp53	99526	-0.812554	-2.75204	0.00005	0.000323529	YES
Slc26a6	171429	-0.813376	-3.05653	0.00005	0.000323529	YES
Sypl2	17306	-0.814076	-4.06786	0.00005	0.000323529	YES
Rabgef1	56715	-0.814938	-3.40755	0.00005	0.000323529	YES
Gm26767		-0.815262	-1.47447	0.0097	0.0322173	YES
Vipr2	22355	-0.81528	-1.76828	0.0058	0.0209252	YES
Ociad2	433904	-0.815629	-4.02177	0.00005	0.000323529	YES
Trim54	58522	-0.815766	-3.65909	0.00005	0.000323529	YES
Gtf3a	66596	-0.816132	-2.51004	0.0004	0.00210083	YES

Timm17a	21854	-0.816314	-4.80276	0.00005	0.000323529	YES
4933403F05Rik	108654	-0.816515	-3.87866	0.00005	0.000323529	YES
BC018507	218333	-0.816846	-3.62304	0.00005	0.000323529	YES
Cyp27a1	104086	-0.817276	-4.07592	0.00005	0.000323529	YES
Mapk1ip1	69546	-0.8176	-3.47906	0.00005	0.000323529	YES
Calm2	12314	-0.817649	-4.31059	0.00005	0.000323529	YES
Idh2	269951	-0.817672	-3.97641	0.00005	0.000323529	YES
Slc39a2	214922	-0.817805	-1.68463	0.01455	0.0451958	YES
Kcnk1	16525	-0.818445	-2.30567	0.0005	0.00254778	YES
Hint2	68917	-0.819012	-5.05467	0.00005	0.000323529	YES
Cpeb4	67579	-0.819655	-3.20385	0.00005	0.000323529	YES
Tmem5	216395	-0.820307	-3.81172	0.00005	0.000323529	YES
Svil	225115	-0.821554	-3.55868	0.00005	0.000323529	YES
Il1r2	16178	-0.821696	-1.65209	0.0083	0.0282595	YES
Csrp2bp	228714	-0.82273	-3.21358	0.00005	0.000323529	YES
Nudt19	110959	-0.822959	-4.50457	0.00005	0.000323529	YES
Rhobtb2	246710	-0.822992	-3.58129	0.00005	0.000323529	YES
Nme2	18103	-0.823143	-3.64498	0.00005	0.000323529	YES
Prdm9	213389	-0.823419	-1.85251	0.00195	0.00825222	YES
Ndufb11	104130	-0.823529	-4.79419	0.00005	0.000323529	YES
2010107E04Rik	70257	-0.823968	-8.55909	0.00005	0.000323529	YES
Mtx3	382793	-0.824429	-3.60312	0.00005	0.000323529	YES
Snn	20621	-0.827641	-3.41716	0.00005	0.000323529	YES
Prune2	353211	-0.829668	-3.53997	0.00005	0.000323529	YES
Nudt14	66174	-0.83001	-3.41465	0.00005	0.000323529	YES
Gatsl2	80909	-0.830414	-4.00058	0.00005	0.000323529	YES
Comp	12845	-0.830947	-1.98594	0.00215	0.00894696	YES
Naa20	67877	-0.832646	-3.42315	0.00005	0.000323529	YES
Fem1c	240263	-0.83285	-3.22521	0.00005	0.000323529	YES
Jarid2	16468	-0.832967	-3.45672	0.00005	0.000323529	YES
Dll4	54485	-0.83297	-2.70926	0.00005	0.000323529	YES
Irx3	16373	-0.833147	-2.80412	0.00005	0.000323529	YES
Aen	68048	-0.833406	-3.14289	0.00005	0.000323529	YES
1110005A03Rik	74319	-0.834393	-4.32084	0.00005	0.000323529	YES
Tbrg4	21379	-0.834633	-3.72204	0.00005	0.000323529	YES
Ednrb	13618	-0.83507	-2.33821	0.0002	0.0011411	YES
Gps2	56310	-0.835662	-3.70201	0.00005	0.000323529	YES
Sypl	19027	-0.835889	-4.16965	0.00005	0.000323529	YES
Ndufa12	66414	-0.83591	-5.91511	0.00005	0.000323529	YES
Piga	18700	-0.836046	-1.76736	0.0083	0.0282595	YES
Myct1	68632	-0.836056	-2.71351	0.0001	0.000610637	YES
Gbp4	17472	-0.836686	-2.69289	0.00005	0.000323529	YES
Ccdc45	320162	-0.836773	-2.40884	0.00005	0.000323529	YES
Rpia	19895	-0.837634	-3.57175	0.00005	0.000323529	YES
Mrpl12	56282	-0.837766	-4.56542	0.00005	0.000323529	YES
1700049G17Rik	73430	-0.838577	-2.11902	0.0006	0.0029726	YES
Gm16576	100504191	-0.838654	-2.12782	0.00045	0.00232845	YES

Naa16	66897	-0.839951	-2.56793	0.00005	0.000323529	YES
Il12rb2	16162	-0.841149	-1.74048	0.0048	0.0178539	YES
Camk2a	12322	-0.841565	-3.87203	0.00005	0.000323529	YES
Pnpla3	116939	-0.841705	-2.68983	0.00005	0.000323529	YES
Grpel1	17713	-0.841875	-3.36711	0.00005	0.000323529	YES
Jph2	59091	-0.842043	-3.84176	0.00005	0.000323529	YES
Gimap8	243374	-0.842536	-2.20398	0.0003	0.00163174	YES
Jph1	57339	-0.843064	-4.16591	0.00005	0.000323529	YES
Cul3	26554	-0.844789	-3.88636	0.00005	0.000323529	YES
Serpinb6a	20719	-0.844878	-3.24044	0.00005	0.000323529	YES
Als2cl	235633	-0.845444	-3.00663	0.00005	0.000323529	YES
Usmg5	66477	-0.845635	-3.73286	0.00005	0.000323529	YES
Ap4s1	11782	-0.846075	-1.82741	0.0026	0.0105407	YES
Pitpnm2	19679	-0.846446	-3.95435	0.00005	0.000323529	YES
Ptprb	19263	-0.846864	-3.75069	0.00005	0.000323529	YES
Lrrc51	69358	-0.847049	-1.58851	0.0073	0.0254497	YES
Zbtb44	235132	-0.847551	-3.83934	0.00005	0.000323529	YES
Rab10	19325	-0.847701	-3.88446	0.00005	0.000323529	YES
Afg3l2	69597	-0.848091	-3.99077	0.00005	0.000323529	YES
Ppp1r12b	329251	-0.848562	-3.81596	0.00005	0.000323529	YES
Cacng6	54378	-0.849514	-4.81908	0.00005	0.000323529	YES
She	214547	-0.849612	-2.65514	0.00005	0.000323529	YES
Chrne	11448	-0.849937	-3.49732	0.00005	0.000323529	YES
Gm13008		-0.850278	-2.19677	0.00805	0.0275875	YES
Fastkd5	380601	-0.850292	-2.00488	0.00035	0.00186438	YES
Camta1	100072	-0.850437	-3.03809	0.00005	0.000323529	YES
Acot13	66834	-0.850724	-5.09038	0.00005	0.000323529	YES
Mob1b	68473	-0.850787	-3.2401	0.00005	0.000323529	YES
Fam70a	245386	-0.850843	-2.62577	0.00015	0.000880082	YES
Suox	211389	-0.850947	-4.10686	0.00005	0.000323529	YES
Pecam1	18613	-0.851112	-3.68698	0.00005	0.000323529	YES
Osbp16	99031	-0.85221	-3.297	0.00005	0.000323529	YES
Slc37a1	224674	-0.852519	-2.24672	0.0002	0.0011411	YES
Psmb2	26445	-0.852891	-5.14487	0.00005	0.000323529	YES
2310043L19Rik	75589	-0.85368	-3.97244	0.00005	0.000323529	YES
Arih2	23807	-0.853914	-4.02833	0.00005	0.000323529	YES
Amz2	13929	-0.854008	-4.23567	0.00005	0.000323529	YES
Eif3h	68135	-0.854334	-4.55932	0.00005	0.000323529	YES
Gm9581	672884	-0.854594	-1.9478	0.00055	0.00276141	YES
Dvl1	13542	-0.854697	-4.21277	0.00005	0.000323529	YES
Gpc1	14733	-0.855212	-3.95508	0.00005	0.000323529	YES
Rnmtl1	67390	-0.855306	-3.12861	0.00005	0.000323529	YES
Cdc42ep2	104252	-0.856091	-3.96291	0.00005	0.000323529	YES
Vdac2	22334	-0.856463	-4.23024	0.00005	0.000323529	YES
Asb5	76294	-0.856848	-3.26541	0.00005	0.000323529	YES
4930578C19Rik	75905	-0.856941	-1.60186	0.01535	0.0472608	YES
Cox7a1	12865	-0.857352	-8.29458	0.00005	0.000323529	YES

Mpp5	56217	-0.857526	-3.91889	0.00005	0.000323529	YES
Ggta1	14594	-0.857869	-2.9137	0.00005	0.000323529	YES
Prkcq	18761	-0.858052	-3.95946	0.00005	0.000323529	YES
Ifrd2	15983	-0.858273	-4.1999	0.00005	0.000323529	YES
Msh3	17686	-0.858368	-2.96731	0.00005	0.000323529	YES
Gm16933		-0.859614	-2.05989	0.00145	0.0063961	YES
4930453N24Rik	67609	-0.859823	-3.98817	0.00005	0.000323529	YES
Pfdn1	67199	-0.860409	-4.51632	0.00005	0.000323529	YES
Bin1	30948	-0.860437	-3.28137	0.00005	0.000323529	YES
Gbp9	236573	-0.861641	-2.8055	0.00005	0.000323529	YES
D830044D21Rik	320621	-0.861674	-2.02409	0.00008	0.00383425	YES
Lin9	72568	-0.86246	-2.0908	0.0004	0.00210083	YES
Mrpl18	67681	-0.86324	-4.75618	0.00005	0.000323529	YES
Gadd45b	17873	-0.863712	-3.70677	0.00005	0.000323529	YES
Uqcrb	67530	-0.863881	-6.21727	0.00005	0.000323529	YES
A430105I19Rik	214239	-0.864241	-3.87144	0.00005	0.000323529	YES
Galnt7	108150	-0.864276	-2.23773	0.00025	0.00138761	YES
Stard10	56018	-0.864471	-3.09399	0.00005	0.000323529	YES
Dusp6	67603	-0.864903	-3.45698	0.00005	0.000323529	YES
Aimp2	231872	-0.864967	-2.66245	0.00005	0.000323529	YES
Slc25a4	11739	-0.864968	-3.01251	0.00015	0.000880082	YES
Ndufb10	68342	-0.866584	-5.26179	0.00005	0.000323529	YES
Rbfox1	268859	-0.867068	-4.18966	0.00005	0.000323529	YES
Cd209d	170779	-0.868755	-1.76913	0.01535	0.0472608	YES
Nrarp	67122	-0.869301	-3.0156	0.0001	0.000610637	YES
Fh1	14194	-0.869518	-4.31298	0.00005	0.000323529	YES
Cdh23	22295	-0.870208	-1.65752	0.01095	0.035676	YES
Ano5	233246	-0.870279	-4.09457	0.00005	0.000323529	YES
Phb2	12034	-0.870489	-4.11727	0.00005	0.000323529	YES
Gimap4	107526	-0.870613	-1.98181	0.00065	0.00319117	YES
Senp8	71599	-0.870615	-2.34684	0.00005	0.000323529	YES
1190007I07Rik	544717	-0.8707	-2.89994	0.00005	0.000323529	YES
Fam131b	76156	-0.870759	-2.22535	0.0002	0.0011411	YES
Fli1	14247	-0.871265	-2.66227	0.00005	0.000323529	YES
Uck2	80914	-0.871288	-2.93066	0.00015	0.000880082	YES
Gzmm	16904	-0.871468	-2.24705	0.00105	0.00485494	YES
Thrb	21834	-0.871812	-3.10152	0.00005	0.000323529	YES
Cyrr1	224405	-0.872294	-1.8758	0.0066	0.0233404	YES
Nudt18	213484	-0.872417	-3.15828	0.00005	0.000323529	YES
Ubc	22190	-0.872436	-3.9605	0.00005	0.000323529	YES
Plxnd1	67784	-0.872946	-4.19151	0.00005	0.000323529	YES
Ndufaf4	68493	-0.873291	-3.65173	0.00005	0.000323529	YES
Lrba	80877	-0.873359	-3.90388	0.00005	0.000323529	YES
Mgat4b	103534	-0.873783	-4.33296	0.00005	0.000323529	YES
Rasgrp3	240168	-0.874115	-3.94346	0.00005	0.000323529	YES
Mybpc1	109272	-0.874513	-2.3462	0.00005	0.000323529	YES
Pdhx	27402	-0.876002	-4.24716	0.00005	0.000323529	YES

Otub2	68149	-0.877258	-2.45965	0.00005	0.000323529	YES
Meox2	17286	-0.877604	-3.04896	0.00005	0.000323529	YES
Zfp91	109910	-0.878005	-4.05789	0.00005	0.000323529	YES
Idh3g	15929	-0.878372	-4.37702	0.00005	0.000323529	YES
Ube4a	140630	-0.879694	-4.0352	0.00005	0.000323529	YES
Gm26858		-0.880671	-2.38606	0.0003	0.00163174	YES
Dll1	13388	-0.880678	-2.56401	0.00005	0.000323529	YES
Pdha1	18597	-0.881164	-3.51653	0.00005	0.000323529	YES
Fam101b	76566	-0.881559	-3.0358	0.00005	0.000323529	YES
Wbscr17	212996	-0.882126	-3.96054	0.00005	0.000323529	YES
C130074G19Rik	226777	-0.882165	-3.66757	0.00005	0.000323529	YES
Setd8	67956	-0.882256	-4.22395	0.00005	0.000323529	YES
9330159F19Rik	212448	-0.882489	-4.118	0.00005	0.000323529	YES
Pgp	67078	-0.882968	-5.24698	0.00005	0.000323529	YES
B230118H07Rik	68170	-0.883129	-3.81926	0.00005	0.000323529	YES
Gch1	14528	-0.883524	-2.71413	0.00005	0.000323529	YES
Ndrp2	29811	-0.886251	-3.08819	0.00005	0.000323529	YES
Cox7c	12867	-0.886958	-7.6136	0.00005	0.000323529	YES
Gm20457		-0.888739	-1.3914	0.0125	0.0397946	YES
6430548M08Rik	234797	-0.890143	-3.55496	0.00005	0.000323529	YES
Atp5f1	11950	-0.890541	-4.28615	0.00005	0.000323529	YES
Cuedc1	103841	-0.891315	-4.00226	0.00005	0.000323529	YES
Ube2e1	22194	-0.89283	-2.83952	0.00005	0.000323529	YES
Grsf1	231413	-0.893753	-3.96865	0.00005	0.000323529	YES
Smyd1	12180	-0.894303	-3.63411	0.00005	0.000323529	YES
Atpaf1	230649	-0.895232	-4.06828	0.00005	0.000323529	YES
Sdh	66925	-0.895971	-4.91753	0.00005	0.000323529	YES
Mgst3	66447	-0.896003	-6.08355	0.00005	0.000323529	YES
Mrpl47	74600	-0.896078	-3.83382	0.00005	0.000323529	YES
Cdh5	12562	-0.896789	-4.13915	0.00005	0.000323529	YES
Gdap1	14545	-0.896829	-2.58235	0.00005	0.000323529	YES
Faf1	14084	-0.898481	-4.32256	0.00005	0.000323529	YES
Usp38	74841	-0.899499	-3.66876	0.00005	0.000323529	YES
Asrgl1	66514	-0.899837	-3.7907	0.00005	0.000323529	YES
Ugp2	216558	-0.899931	-4.04826	0.00005	0.000323529	YES
Prex1	277360	-0.900869	-3.37536	0.00005	0.000323529	YES
2410015M20Rik	224904	-0.901035	-5.14217	0.00005	0.000323529	YES
Chst3	53374	-0.901231	-1.56567	0.0139	0.0435812	YES
Sema6d	214968	-0.901726	-3.32354	0.00005	0.000323529	YES
Nrbf2	641340	-0.902281	-3.6724	0.00005	0.000323529	YES
Atp5k	11958	-0.902461	-12.4106	0.00005	0.000323529	YES
Ndufb2	68198	-0.904776	-3.68301	0.00005	0.000323529	YES
Neb	17996	-0.905246	-2.29981	0.0002	0.0011411	YES
Tnks2	74493	-0.90528	-4.33105	0.00005	0.000323529	YES
Arpc5l	74192	-0.905822	-4.69428	0.00005	0.000323529	YES
Vwa1	246228	-0.906325	-2.56893	0.0002	0.0011411	YES
Aldh5a1	214579	-0.906359	-2.96485	0.00005	0.000323529	YES

Rtp4	67775	-0.906898	-2.43155	0.00005	0.000323529	YES
Egln1	112405	-0.907179	-4.67333	0.00005	0.000323529	YES
Atp5j	11957	-0.907461	-5.16405	0.00005	0.000323529	YES
Ndufs1	227197	-0.907565	-3.64465	0.00005	0.000323529	YES
Gm10069	791299	-0.90781	-2.69352	0.00005	0.000323529	YES
Asb8	78541	-0.908072	-4.25744	0.00005	0.000323529	YES
Tmem65	74868	-0.908369	-4.78938	0.00005	0.000323529	YES
Cops3	26572	-0.90865	-3.92081	0.00005	0.000323529	YES
Ndufab1	70316	-0.90869	-5.40851	0.00005	0.000323529	YES
Neurl1a	18011	-0.909011	-4.46544	0.00005	0.000323529	YES
Phlda1	21664	-0.909637	-3.10009	0.00005	0.000323529	YES
Fastkd1	320720	-0.909683	-3.49499	0.00005	0.000323529	YES
Ndufb4	68194	-0.910101	-7.49611	0.00005	0.000323529	YES
Ptpn4	19258	-0.910472	-2.52576	0.00005	0.000323529	YES
Dbnidd2	52840	-0.91057	-3.58132	0.00005	0.000323529	YES
Tpd52l1	21987	-0.911485	-4.66023	0.00005	0.000323529	YES
Gm26624		-0.911577	-3.10374	0.00005	0.000323529	YES
Dpp8	74388	-0.913108	-4.23222	0.00005	0.000323529	YES
Ncs1	14299	-0.914545	-3.80902	0.00005	0.000323529	YES
Fam198b	68659	-0.914965	-3.71263	0.00005	0.000323529	YES
Eef2k	13631	-0.915492	-4.0306	0.00005	0.000323529	YES
Scn4a	110880	-0.915598	-4.25294	0.00005	0.000323529	YES
Tnk2	51789	-0.91589	-4.32855	0.00005	0.000323529	YES
Grina	66168	-0.916823	-5.04382	0.00005	0.000323529	YES
Txlnb	378431	-0.917021	-3.50529	0.00005	0.000323529	YES
Raph1	77300	-0.917022	-3.8345	0.00005	0.000323529	YES
Rars2	109093	-0.917081	-3.74141	0.00005	0.000323529	YES
Ak1	11636	-0.917638	-3.44494	0.00005	0.000323529	YES
Siva1	30954	-0.918137	-3.2359	0.00005	0.000323529	YES
Gm16845	100503652	-0.918882	-1.66739	0.01105	0.0359348	YES
Slc12a2	20496	-0.919936	-4.47338	0.00005	0.000323529	YES
Usp24	329908	-0.920383	-4.24224	0.00005	0.000323529	YES
Tnpo1	238799	-0.921193	-3.76038	0.00005	0.000323529	YES
Cox4i1	12857	-0.9219	-5.23332	0.00005	0.000323529	YES
Lars2	102436	-0.922333	-3.43308	0.00005	0.000323529	YES
Ube2b	22210	-0.922668	-2.41492	0.00015	0.000880082	YES
Tdg	21665	-0.922785	-1.57907	0.0121	0.0387328	YES
Serinc3	26943	-0.923674	-4.4375	0.00005	0.000323529	YES
Gm9781	100042807	-0.923788	-1.74015	0.0075	0.0260201	YES
Gm11428	100034251	-0.924138	-2.6096	0.0116	0.0374601	YES
Fam70b	272465	-0.924352	-1.90061	0.0033	0.0129643	YES
Ccdc88c	68339	-0.924696	-3.85561	0.00005	0.000323529	YES
Cdc34	216150	-0.926288	-5.0945	0.00005	0.000323529	YES
Fmnl3	22379	-0.926574	-3.31876	0.00005	0.000323529	YES
Cox7b	66142	-0.926743	-5.14369	0.00005	0.000323529	YES
Rnf125	67664	-0.926759	-1.63606	0.01645	0.049886	YES
Dtl	76843	-0.926855	-1.62837	0.00745	0.0258923	YES

Cth	107869	-0.927567	-1.79921	0.0105	0.03451	YES
Slc36a2	246049	-0.927599	-1.88373	0.00515	0.0189718	YES
Gm20476	102638655	-0.928706	-1.49885	0.0104	0.0342386	YES
Unc119	22248	-0.929285	-3.0712	0.00005	0.000323529	YES
Sox7	20680	-0.929421	-2.91849	0.00005	0.000323529	YES
Gda	14544	-0.929549	-3.21139	0.00005	0.000323529	YES
Parp6	67287	-0.929566	-3.67979	0.00005	0.000323529	YES
L2hgdh	217666	-0.929872	-4.34109	0.00005	0.000323529	YES
Ndufa9	66108	-0.9303	-4.99483	0.00005	0.000323529	YES
AA415398	433752	-0.930526	-2.12364	0.00065	0.00319117	YES
Sh3glb1	54673	-0.930819	-4.44241	0.00005	0.000323529	YES
Spa17	20686	-0.932645	-2.31728	0.00335	0.0131247	YES
Itga3	16400	-0.933579	-3.49783	0.00005	0.000323529	YES
Anxa8	11752	-0.934111	-1.73176	0.0026	0.0105407	YES
Hopx	74318	-0.934213	-3.51622	0.00005	0.000323529	YES
Usp15	14479	-0.934664	-4.2777	0.00005	0.000323529	YES
Gfm2	320806	-0.935398	-3.95894	0.00005	0.000323529	YES
Ehhadh	74147	-0.935553	-3.22737	0.00005	0.000323529	YES
Wbscr16	94254	-0.936979	-4.17688	0.00005	0.000323529	YES
Gys1	14936	-0.938225	-4.31833	0.00005	0.000323529	YES
Usp13	72607	-0.939444	-4.36169	0.00005	0.000323529	YES
Gm16586		-0.941499	-3.76263	0.00005	0.000323529	YES
Cldn25	224250	-0.942016	-4.13253	0.00005	0.000323529	YES
Pm20d2	242377	-0.942367	-4.6172	0.00005	0.000323529	YES
Tcea3	21401	-0.942483	-4.58709	0.00005	0.000323529	YES
Pigp	56176	-0.94299	-3.79704	0.00005	0.000323529	YES
Dnaja3	83945	-0.946309	-4.32668	0.00005	0.000323529	YES
Pitpnm3	327958	-0.946794	-3.01348	0.00005	0.000323529	YES
Fem1a	14154	-0.947219	-4.3037	0.00005	0.000323529	YES
Sim2	20465	-0.9473	-4.70077	0.00005	0.000323529	YES
Qser1	99003	-0.947304	-4.37168	0.00005	0.000323529	YES
Gm16170	100861855	-0.947555	-4.17101	0.00005	0.000323529	YES
Gmpr	66355	-0.948265	-4.84731	0.00005	0.000323529	YES
Phkb	102093	-0.948327	-4.19991	0.00005	0.000323529	YES
Ern1	78943	-0.948809	-3.33579	0.00005	0.000323529	YES
Abcc1	17250	-0.949331	-4.44879	0.00005	0.000323529	YES
Polr3k	67005	-0.949479	-4.28003	0.00005	0.000323529	YES
Fam36a	66359	-0.950104	-2.63785	0.0119	0.0382795	YES
Ttc4	72354	-0.950281	-3.93772	0.00005	0.000323529	YES
Ryr3	20192	-0.95086	-3.56105	0.00005	0.000323529	YES
Sec14l5	665119	-0.950873	-3.12151	0.00005	0.000323529	YES
Slc4a8	59033	-0.951131	-2.30423	0.00025	0.00138761	YES
Scarb1	20778	-0.951905	-4.08232	0.00005	0.000323529	YES
Mgst1	56615	-0.951981	-5.74755	0.00005	0.000323529	YES
Ccdc72	66167	-0.952305	-5.82403	0.00005	0.000323529	YES
Apoo	68316	-0.952372	-3.41381	0.00005	0.000323529	YES
Gm15884		-0.953654	-1.90962	0.0015	0.00658526	YES

Cacna1s	12292	-0.955057	-3.9163	0.00005	0.000323529	YES
Fbxo36	66153	-0.955148	-1.8936	0.012	0.0384753	YES
At12	56298	-0.955881	-4.40394	0.00005	0.000323529	YES
Sra1	24068	-0.955945	-4.03593	0.00005	0.000323529	YES
Sec31b	240667	-0.956388	-4.28838	0.00005	0.000323529	YES
Npff	54615	-0.957213	-1.54476	0.00815	0.0278998	YES
Wwp1	107568	-0.957652	-4.56438	0.00005	0.000323529	YES
Fam100b	319370	-0.958493	-1.90362	0.0037	0.0142754	YES
Col24a1	71355	-0.958627	-2.36053	0.00015	0.000880082	YES
Nudt8	66387	-0.960076	-4.01704	0.00005	0.000323529	YES
MIxipl	58805	-0.961623	-4.42924	0.00005	0.000323529	YES
Uqcrrs1	66694	-0.962405	-5.14162	0.00005	0.000323529	YES
Gfer	11692	-0.962469	-3.90329	0.00005	0.000323529	YES
Atp5e	67126	-0.963673	-8.19053	0.00005	0.000323529	YES
Nos2	18126	-0.9642	-2.5382	0.0001	0.000610637	YES
Fxr1	14359	-0.966445	-4.13126	0.00005	0.000323529	YES
Nmnat3	74080	-0.968871	-3.80892	0.00005	0.000323529	YES
Bbip1	100503572	-0.969324	-2.59192	0.0001	0.000610637	YES
Lrrc30	240131	-0.969357	-4.61317	0.00005	0.000323529	YES
Ptges2	96979	-0.969425	-4.89919	0.00005	0.000323529	YES
Npepl1	228961	-0.970785	-5.06409	0.00005	0.000323529	YES
Dnmt3a	13435	-0.971248	-4.11474	0.00005	0.000323529	YES
Psme4	103554	-0.971497	-4.51664	0.00005	0.000323529	YES
Asb12	70392	-0.972627	-3.9479	0.00005	0.000323529	YES
Pdcd5	56330	-0.9727	-5.87614	0.00005	0.000323529	YES
Tmem143	70209	-0.972958	-4.90556	0.00005	0.000323529	YES
Mtap1b	17755	-0.975087	-3.94856	0.00005	0.000323529	YES
Zfp423	94187	-0.976016	-3.34593	0.00005	0.000323529	YES
Calcl	54598	-0.978425	-3.21449	0.00005	0.000323529	YES
Cntnap1	53321	-0.979296	-2.28039	0.00065	0.00319117	YES
Mrps31	57312	-0.979588	-4.32583	0.00005	0.000323529	YES
Ndufs2	226646	-0.980286	-4.53888	0.00005	0.000323529	YES
Rhbdf2	217344	-0.980672	-4.0886	0.00005	0.000323529	YES
Ddi2	68817	-0.98087	-2.95214	0.00005	0.000323529	YES
Park7	57320	-0.982556	-5.5268	0.00005	0.000323529	YES
Has3	15118	-0.983618	-2.65546	0.00005	0.000323529	YES
Mast4	328329	-0.983837	-3.93447	0.00005	0.000323529	YES
D9Ertd402e	382117	-0.984499	-4.50242	0.00005	0.000323529	YES
Mbd2	17191	-0.986588	-4.95743	0.00005	0.000323529	YES
Tead1	21676	-0.986987	-4.64198	0.00005	0.000323529	YES
Rnf139	75841	-0.988735	-4.17067	0.00005	0.000323529	YES
Hs3st5	319415	-0.989534	-2.90995	0.00005	0.000323529	YES
Sod2	20656	-0.989996	-5.09973	0.00005	0.000323529	YES
Mcee	73724	-0.991272	-5.41455	0.00005	0.000323529	YES
Gm14818		-0.991331	-1.62688	0.0082	0.0280222	YES
Vdac3	22335	-0.992342	-4.26243	0.00005	0.000323529	YES
Pnpla8	67452	-0.992518	-4.71426	0.00005	0.000323529	YES

Fam49a	76820	-0.993345	-3.75841	0.00005	0.000323529	YES
Dld	13382	-0.993409	-4.72258	0.00005	0.000323529	YES
Inpp5j	170835	-0.993707	-1.67005	0.0095	0.0316331	YES
Schip1	30953	-0.993777	-4.33903	0.00005	0.000323529	YES
D19Wsu162e	226178	-0.994868	-4.60427	0.00005	0.000323529	YES
Nr1d1	217166	-0.994912	-5.21707	0.00005	0.000323529	YES
Col27a1	373864	-0.994968	-2.96142	0.00005	0.000323529	YES
Col28a1	213945	-0.995741	-1.92894	0.0012	0.00544762	YES
Hspa9	15526	-0.996465	-4.42011	0.00005	0.000323529	YES
Apool	68117	-0.996491	-4.96712	0.00005	0.000323529	YES
Gtdc1	227835	-0.996678	-4.28006	0.00005	0.000323529	YES
Eltd1	170757	-0.997126	-3.91987	0.00005	0.000323529	YES
Ndufs6	407785	-0.999817	-4.32364	0.00005	0.000323529	YES
Gm14565		-1.00166	-2.19897	0.00025	0.00138761	YES
Ndufa4	17992	-1.00175	-6.87078	0.00005	0.000323529	YES
1110038D17Rik	68778	-1.00201	-4.70598	0.00005	0.000323529	YES
Ndufv2	72900	-1.00339	-5.19879	0.00005	0.000323529	YES
Ddit4l	73284	-1.00407	-5.12455	0.00005	0.000323529	YES
Cmb1	69574	-1.0048	-5.47463	0.00005	0.000323529	YES
Chd7	320790	-1.00509	-3.63309	0.00005	0.000323529	YES
Olfr78	170639	-1.00548	-2.25986	0.00085	0.00404799	YES
5330439A09Rik	77103	-1.00691	-3.13767	0.00005	0.000323529	YES
9330185C12Rik	77511	-1.00914	-4.57419	0.00005	0.000323529	YES
Arhgef6	73341	-1.00924	-4.45396	0.00005	0.000323529	YES
Cd93	17064	-1.01038	-4.30998	0.00005	0.000323529	YES
St8sia4	20452	-1.0105	-2.12699	0.00045	0.00232845	YES
Ybx1	22608	-1.0114	-4.55146	0.00005	0.000323529	YES
A330094K24Rik	77093	-1.01164	-3.41621	0.00005	0.000323529	YES
Med25	75613	-1.01179	-5.14447	0.00005	0.000323529	YES
Zfp710	209225	-1.01187	-3.9696	0.00005	0.000323529	YES
Atp1a2	98660	-1.01243	-3.94939	0.00005	0.000323529	YES
Lhx8	16875	-1.01457	-5.0776	0.00005	0.000323529	YES
Rragb	245670	-1.01464	-2.14145	0.00135	0.00601572	YES
Bckdk	12041	-1.01531	-4.97818	0.00005	0.000323529	YES
Pnp0	103711	-1.0174	-2.43916	0.0005	0.00254778	YES
Gcc2	70297	-1.01749	-3.97238	0.00005	0.000323529	YES
Mospd1	70380	-1.01749	-4.49452	0.00005	0.000323529	YES
1700021C14Rik	76927	-1.01793	-3.15933	0.00225	0.00928693	YES
Ttn	22138	-1.0202	-1.80672	0.0035	0.0136376	YES
BB218582	99465	-1.02025	-2.86764	0.0011	0.0050638	YES
Shroom4	208431	-1.02091	-1.9568	0.0007	0.00340476	YES
Pop5	117109	-1.02113	-4.95678	0.00005	0.000323529	YES
Pkig	18769	-1.02214	-4.65381	0.00005	0.000323529	YES
D7Ertd715e	52480	-1.02315	-2.88778	0.00005	0.000323529	YES
Zmiz1	328365	-1.02439	-4.65555	0.00005	0.000323529	YES
Trim63	433766	-1.02653	-4.90172	0.00005	0.000323529	YES
Ccl25	20300	-1.02673	-1.41582	0.0133	0.0419509	YES

Asb10	117590	-1.0274	-5.183	0.00005	0.000323529	YES
Al464131	329828	-1.02746	-5.05698	0.00005	0.000323529	YES
Ndufb5	66046	-1.0281	-5.87161	0.00005	0.000323529	YES
Ubxn2a	217379	-1.02879	-4.88214	0.00005	0.000323529	YES
Pstpip2	19201	-1.02887	-4.10318	0.00005	0.000323529	YES
Sub1	20024	-1.02934	-5.00231	0.00005	0.000323529	YES
Cyc1	66445	-1.03084	-5.50476	0.00005	0.000323529	YES
Rwdd1	66521	-1.03094	-5.08952	0.00005	0.000323529	YES
Hint3	66847	-1.03194	-5.85866	0.00005	0.000323529	YES
Mrpl51	66493	-1.03224	-5.50772	0.00005	0.000323529	YES
B930003M22Rik	100526796	-1.03279	-2.58698	0.0023	0.00946104	YES
Abcb1a	18671	-1.03393	-3.55662	0.00005	0.000323529	YES
Pars2	230577	-1.03448	-2.71882	0.00005	0.000323529	YES
Hmgb3	15354	-1.0346	-3.61854	0.00005	0.000323529	YES
Cnbp	12785	-1.03663	-4.48273	0.00005	0.000323529	YES
Rangrf	57785	-1.0367	-3.74628	0.00005	0.000323529	YES
Aldh1a2	19378	-1.03735	-1.76766	0.007	0.0245617	YES
Gm10767	100038538	-1.03741	-1.7796	0.00595	0.021383	YES
Tfcp2l1	81879	-1.03781	-4.81361	0.00005	0.000323529	YES
Gm20712		-1.03816	-2.84045	0.00025	0.00138761	YES
BC005561	100042165	-1.03927	-2.51827	0.0001	0.000610637	YES
Pdlim5	56376	-1.03957	-4.40836	0.00005	0.000323529	YES
Gm7367	664849	-1.04319	-3.42661	0.00005	0.000323529	YES
Art3	109979	-1.04417	-5.29879	0.00005	0.000323529	YES
Atp5o	28080	-1.04457	-5.09298	0.00005	0.000323529	YES
Aplnr	23796	-1.04542	-4.14262	0.00005	0.000323529	YES
Rnf165	225743	-1.04561	-2.55445	0.00025	0.00138761	YES
Coq9	67914	-1.04565	-4.9737	0.00005	0.000323529	YES
Ndufa10	67273	-1.04632	-5.34912	0.00005	0.000323529	YES
Fam162a	70186	-1.04694	-6.24435	0.00005	0.000323529	YES
Ubtd1	226122	-1.04759	-4.7358	0.00005	0.000323529	YES
0610010012Rik	66060	-1.04921	-7.12089	0.00005	0.000323529	YES
Zfp874b	408067	-1.04949	-3.30391	0.00005	0.000323529	YES
Abca1	11303	-1.0501	-4.23733	0.00005	0.000323529	YES
Pdk2	18604	-1.05051	-5.12755	0.00005	0.000323529	YES
Pcdh17	219228	-1.05054	-1.75657	0.00445	0.0167501	YES
Amy1	11722	-1.05131	-4.0604	0.00005	0.000323529	YES
Zfp455	218311	-1.05196	-1.61813	0.01175	0.0378667	YES
C630043F03Rik	68285	-1.052	-3.86903	0.00005	0.000323529	YES
Mrpl1	94061	-1.05274	-3.93177	0.00005	0.000323529	YES
Mcl1	17210	-1.05451	-5.34404	0.00005	0.000323529	YES
Plxnb3	140571	-1.0552	-2.2861	0.00055	0.00276141	YES
Pde4dip	83679	-1.05554	-2.86232	0.00005	0.000323529	YES
2310015B20Rik	69563	-1.05842	-7.94674	0.00005	0.000323529	YES
Nrp1	18186	-1.05935	-4.53509	0.00005	0.000323529	YES
Nup210	54563	-1.06054	-4.85192	0.00005	0.000323529	YES
Ugt8a	22239	-1.06163	-1.58059	0.01485	0.0459191	YES

Ndufs3	68349	-1.06222	-6.25207	0.00005	0.000323529	YES
Uqcrc2	67003	-1.06291	-4.94819	0.00005	0.000323529	YES
Tob1	22057	-1.06314	-5.53823	0.00005	0.000323529	YES
Arfgef1	211673	-1.06318	-4.71749	0.00005	0.000323529	YES
Mettl11b	240879	-1.06324	-5.32255	0.00005	0.000323529	YES
Rps6ka5	73086	-1.06352	-4.46726	0.00005	0.000323529	YES
Lrg1	76905	-1.06367	-4.59635	0.00005	0.000323529	YES
Traf2	22030	-1.06477	-4.22579	0.00005	0.000323529	YES
Rsc1a1	69994	-1.06505	-1.87437	0.00155	0.00678017	YES
Ier5	15939	-1.06666	-4.09983	0.00005	0.000323529	YES
Adsl	11564	-1.06693	-5.20242	0.00005	0.000323529	YES
Vgll2	215031	-1.06704	-4.54331	0.00005	0.000323529	YES
Dnajc15	66148	-1.06726	-6.37036	0.00005	0.000323529	YES
Arrdc2	70807	-1.06741	-4.42794	0.00005	0.000323529	YES
1810044D09Rik	69798	-1.06749	-3.77803	0.00045	0.00232845	YES
Pter	19212	-1.06805	-3.03215	0.00005	0.000323529	YES
Fkbp3	30795	-1.06863	-4.19366	0.00005	0.000323529	YES
Abhd6	66082	-1.07292	-3.80384	0.00005	0.000323529	YES
Cyb5b	66427	-1.07431	-5.23072	0.00005	0.000323529	YES
Ndufb9	66218	-1.07477	-6.42625	0.00005	0.000323529	YES
Eif4e	13684	-1.07541	-5.10612	0.00005	0.000323529	YES
Ccdc162	75973	-1.07593	-2.73172	0.00005	0.000323529	YES
Krt80	74127	-1.07715	-1.41536	0.012	0.0384753	YES
Pold2	18972	-1.07855	-3.16569	0.00005	0.000323529	YES
Lmo4	16911	-1.08051	-4.81195	0.00005	0.000323529	YES
Capn3	12335	-1.08119	-3.87198	0.00005	0.000323529	YES
Fam184b	58227	-1.08215	-1.40315	0.01335	0.0421001	YES
1700024P16Rik	242594	-1.08486	-1.73624	0.00325	0.012803	YES
Gm15976		-1.08511	-2.62482	0.00005	0.000323529	YES
I830012O16Rik	667370	-1.08584	-2.51557	0.0001	0.000610637	YES
Vezf1	22344	-1.08599	-5.14219	0.00005	0.000323529	YES
Cpne8	66871	-1.08656	-1.74154	0.00385	0.0147745	YES
Galnt3	14425	-1.08692	-3.23522	0.00005	0.000323529	YES
Styx	56291	-1.08736	-3.69661	0.00005	0.000323529	YES
Lmod2	93677	-1.08786	-4.94882	0.00005	0.000323529	YES
Tns3	319939	-1.08803	-4.23554	0.00005	0.000323529	YES
Trip10	106628	-1.08839	-4.79747	0.00005	0.000323529	YES
Pabpc4	230721	-1.08956	-4.88775	0.00005	0.000323529	YES
Plekhh3	217198	-1.09005	-5.37583	0.00005	0.000323529	YES
Glrx3	30926	-1.09069	-2.14768	0.0001	0.000610637	YES
Runx1t1	12395	-1.09108	-3.04954	0.00005	0.000323529	YES
Atp1b2	11932	-1.09163	-5.04676	0.00005	0.000323529	YES
Znrf1	170737	-1.09234	-5.22455	0.00005	0.000323529	YES
Klhl21	242785	-1.09281	-5.59337	0.00005	0.000323529	YES
Vamp8	22320	-1.09785	-6.06792	0.00005	0.000323529	YES
Brp44l	55951	-1.09949	-3.79473	0.00005	0.000323529	YES
Klhl23	277396	-1.10017	-4.43157	0.00005	0.000323529	YES

Farp1	223254	-1.10071	-3.8307	0.00005	0.000323529	YES
Gm807	328320	-1.10115	-1.67561	0.007	0.0245617	YES
Det1	76375	-1.10124	-4.03469	0.00005	0.000323529	YES
Irs1	16367	-1.10238	-5.0635	0.00005	0.000323529	YES
Bhlhe40	20893	-1.10277	-4.68487	0.00005	0.000323529	YES
Plekha2	83436	-1.10277	-2.86919	0.00005	0.000323529	YES
Dapk2	13143	-1.10509	-3.45096	0.00005	0.000323529	YES
Tppp	72948	-1.10587	-3.75358	0.00005	0.000323529	YES
Hrasls	27281	-1.10603	-5.31298	0.00005	0.000323529	YES
Lpin1	14245	-1.11157	-5.03903	0.00005	0.000323529	YES
Vegfa	22339	-1.11219	-5.117	0.00005	0.000323529	YES
3110009E18Rik	73103	-1.11342	-1.55512	0.0083	0.0282595	YES
Scd1	20249	-1.1137	-4.55905	0.00005	0.000323529	YES
Mrpl30	107734	-1.11442	-6.68559	0.00005	0.000323529	YES
Gng5	14707	-1.11501	-8.46839	0.00005	0.000323529	YES
Ptx3	19288	-1.11519	-3.62893	0.00005	0.000323529	YES
Dyrk1b	13549	-1.11561	-5.12931	0.00005	0.000323529	YES
Arhgap19	71085	-1.11605	-4.02817	0.00005	0.000323529	YES
Vdac1	22333	-1.11623	-5.00814	0.00005	0.000323529	YES
Gm16325	100286843	-1.11832	-1.14674	0.0124	0.0395242	YES
Cdk19	78334	-1.11889	-4.92875	0.00005	0.000323529	YES
Sez6	20370	-1.1221	-1.5884	0.0145	0.0451028	YES
Ldb3	24131	-1.12257	-3.52259	0.00005	0.000323529	YES
Chchd3	66075	-1.12316	-5.39745	0.00005	0.000323529	YES
Pfkm	18642	-1.12338	-3.61165	0.00005	0.000323529	YES
Ckmt2	76722	-1.12445	-4.98853	0.00005	0.000323529	YES
Cacng1	12299	-1.12549	-6.07582	0.00005	0.000323529	YES
Hook3	320191	-1.12589	-5.13805	0.00005	0.000323529	YES
Krt222	268481	-1.12761	-2.61204	0.0002	0.0011411	YES
C530008M17Rik	320827	-1.12929	-2.41004	0.0001	0.000610637	YES
H1fx	243529	-1.13102	-2.77502	0.0018	0.00770449	YES
Tmem126a	66271	-1.13122	-6.65188	0.00005	0.000323529	YES
Kpna3	16648	-1.13166	-5.48589	0.00005	0.000323529	YES
Clcn1	12723	-1.13225	-5.4372	0.00005	0.000323529	YES
Bcl6b	12029	-1.13244	-3.94639	0.00005	0.000323529	YES
Art5	11875	-1.13324	-5.42295	0.00005	0.000323529	YES
Hspb7	29818	-1.13342	-5.53603	0.00005	0.000323529	YES
Taf7	24074	-1.13449	-1.51396	0.016	0.0488415	YES
Crat	12908	-1.13495	-4.88866	0.00005	0.000323529	YES
Cycs	13063	-1.1376	-5.31491	0.00005	0.000323529	YES
Ptpr	19279	-1.1377	-1.44117	0.0122	0.0389974	YES
Gm16576	100504191	-1.13773	-2.17544	0.0005	0.00254778	YES
Ube2d3	66105	-1.13775	-5.93597	0.00005	0.000323529	YES
9430023L20Rik	68118	-1.13847	-5.41273	0.00005	0.000323529	YES
Gdf10	14560	-1.13926	-2.9671	0.0001	0.000610637	YES
Atp5g1	11951	-1.13947	-5.09959	0.00005	0.000323529	YES
Tpt1	22070	-1.13995	-5.15714	0.00005	0.000323529	YES

Al317395	215929	-1.14075	-3.41752	0.00005	0.000323529	YES
Anxa11	11744	-1.14155	-5.69663	0.00005	0.000323529	YES
Fundc2	67391	-1.1417	-5.94655	0.00005	0.000323529	YES
Atp2b3	320707	-1.14182	-2.70662	0.00005	0.000323529	YES
Myod1	17927	-1.14477	-5.19659	0.00005	0.000323529	YES
Kif1c	16562	-1.14494	-4.72696	0.00005	0.000323529	YES
Add3	27360	-1.14521	-4.85551	0.00005	0.000323529	YES
Lrpprc	72416	-1.14528	-5.24164	0.00005	0.000323529	YES
Camk1d	227541	-1.14776	-2.39415	0.00005	0.000323529	YES
Psmc6	66413	-1.14802	-6.03195	0.00005	0.000323529	YES
Tpi1	21991	-1.14825	-3.62554	0.00005	0.000323529	YES
Xirp2	241431	-1.14828	-2.93689	0.00005	0.000323529	YES
Timm23	53600	-1.14874	-6.23179	0.00005	0.000323529	YES
Rcsd1	226594	-1.14915	-5.0238	0.00005	0.000323529	YES
Pfas	237823	-1.14919	-5.09689	0.00005	0.000323529	YES
Jun	16476	-1.14943	-4.56429	0.00005	0.000323529	YES
Tal2	21350	-1.14953	-1.89338	0.00645	0.0229181	YES
Ndufa5	68202	-1.15017	-7.94081	0.00005	0.000323529	YES
Gm16118	102632420	-1.15151	-1.75402	0.00545	0.0198492	YES
Znrd1as	76416	-1.15253	-3.9816	0.00005	0.000323529	YES
Sucla2	20916	-1.15434	-5.36734	0.00005	0.000323529	YES
Slc6a6	21366	-1.15509	-5.61776	0.00005	0.000323529	YES
Epb4.1l4a	13824	-1.15559	-2.76563	0.00005	0.000323529	YES
Bola3	78653	-1.15567	-7.82116	0.00005	0.000323529	YES
Myh4	17884	-1.15637	-2.50364	0.0001	0.000610637	YES
Brp44	70456	-1.15642	-6.92481	0.00005	0.000323529	YES
Mfsd2b	432628	-1.15774	-2.55383	0.0001	0.000610637	YES
St3gal6	54613	-1.16092	-5.72002	0.00005	0.000323529	YES
Ppp1r1a	58200	-1.16122	-2.14954	0.0026	0.0105407	YES
Kcnj2	16518	-1.16129	-5.52619	0.00005	0.000323529	YES
B3galt1	26877	-1.1639	-2.14807	0.00095	0.00445144	YES
Pdss1	56075	-1.16398	-2.60348	0.0004	0.00210083	YES
B930095G15Rik	320268	-1.16401	-2.71836	0.00005	0.000323529	YES
Prkg1	19091	-1.16745	-3.40944	0.00005	0.000323529	YES
Spag9	70834	-1.16747	-5.10129	0.00005	0.000323529	YES
Zfp651	270210	-1.17294	-5.48208	0.00005	0.000323529	YES
Ttll7	70892	-1.17323	-5.15194	0.00005	0.000323529	YES
5930438M14	328324	-1.17355	-3.58642	0.00005	0.000323529	YES
Lrrc2	74249	-1.1752	-5.37853	0.00005	0.000323529	YES
Ppp1r14c	76142	-1.1752	-5.13662	0.00005	0.000323529	YES
Apobec2	11811	-1.17558	-5.87695	0.00005	0.000323529	YES
Isca1	69046	-1.1758	-6.07415	0.00005	0.000323529	YES
Nudt6	229228	-1.1758	-5.52906	0.00005	0.000323529	YES
R3hdm1	226412	-1.18039	-5.21946	0.00005	0.000323529	YES
Asb2	65256	-1.1806	-5.65704	0.00005	0.000323529	YES
Nt5dc3	103466	-1.18136	-5.72482	0.00005	0.000323529	YES
P2ry2	18442	-1.18376	-5.46217	0.00005	0.000323529	YES

Pde8a	18584	-1.18408	-3.65075	0.00005	0.000323529	YES
Usp2	53376	-1.18538	-5.58874	0.00005	0.000323529	YES
Gm15612	100038356	-1.18576	-2.71509	0.00005	0.000323529	YES
9330133O14Rik	100689703	-1.18857	-2.93383	0.00005	0.000323529	YES
Gm17167	102640144	-1.18949	-4.46193	0.00005	0.000323529	YES
Rps6ka1	20111	-1.19046	-4.33104	0.00005	0.000323529	YES
Phkg1	18682	-1.19124	-4.9984	0.00005	0.000323529	YES
Mylk2	228785	-1.19369	-5.40784	0.00005	0.000323529	YES
Ank	11732	-1.19702	-6.14995	0.00005	0.000323529	YES
Myo18b	74376	-1.19744	-4.91252	0.00005	0.000323529	YES
Pgk1	18655	-1.19906	-5.22416	0.00005	0.000323529	YES
Gnpat	14712	-1.20134	-4.5768	0.00005	0.000323529	YES
Ppargc1b	170826	-1.20394	-2.99339	0.00005	0.000323529	YES
Ube2g1	67128	-1.20493	-6.10694	0.00005	0.000323529	YES
Deb1	26901	-1.20677	-7.7941	0.00005	0.000323529	YES
Synpo	104027	-1.20754	-5.45856	0.00005	0.000323529	YES
Ggnbp1	70772	-1.20817	-3.84769	0.00005	0.000323529	YES
Gpcpd1	74182	-1.20852	-5.4748	0.00005	0.000323529	YES
Srcin1	56013	-1.21043	-2.29982	0.0007	0.00340476	YES
Ankrd33b	67434	-1.21328	-4.06509	0.00005	0.000323529	YES
Pdlim3	53318	-1.21441	-5.90411	0.00005	0.000323529	YES
Npc1l1	237636	-1.21505	-2.57985	0.00015	0.000880082	YES
Foxo6	329934	-1.2154	-4.88774	0.00005	0.000323529	YES
Uqcrc1	22273	-1.21736	-5.50488	0.00005	0.000323529	YES
Samd10	229011	-1.21788	-4.32675	0.00005	0.000323529	YES
Cst6	73720	-1.22062	-2.93872	0.00005	0.000323529	YES
Cmtm4	97487	-1.2224	-5.23784	0.00005	0.000323529	YES
Yipf7	75581	-1.22309	-6.5543	0.00005	0.000323529	YES
Tiparp	99929	-1.2274	-5.3897	0.00005	0.000323529	YES
Ly6g6d	114654	-1.22804	-3.40133	0.0005	0.00254778	YES
Tnfaip8	106869	-1.22819	-3.5794	0.00005	0.000323529	YES
Vmp1	75909	-1.23002	-5.42557	0.00005	0.000323529	YES
Ppargc1a	19017	-1.23084	-5.49444	0.00005	0.000323529	YES
Rtn4	68585	-1.23197	-5.15579	0.00005	0.000323529	YES
Emid1	140703	-1.23806	-2.958	0.00005	0.000323529	YES
Adamtsl4	229595	-1.23979	-5.42779	0.00005	0.000323529	YES
Tead4	21679	-1.24235	-4.72021	0.00005	0.000323529	YES
Nrap	18175	-1.24366	-4.31795	0.00005	0.000323529	YES
Tfap4	83383	-1.24562	-3.69125	0.00005	0.000323529	YES
Mkrn2	67027	-1.25021	-2.81235	0.00005	0.000323529	YES
Synpo2	118449	-1.25223	-5.79333	0.00005	0.000323529	YES
Mpp3	13384	-1.25317	-5.38715	0.00005	0.000323529	YES
Mtmr10	233315	-1.25432	-3.00809	0.00005	0.000323529	YES
Tirap	117149	-1.25525	-4.70861	0.00005	0.000323529	YES
Myom1	17929	-1.25838	-2.92613	0.00005	0.000323529	YES
Gm11266	100215	-1.2587	-3.06263	0.00005	0.000323529	YES
P4ha2	18452	-1.25993	-4.1198	0.00005	0.000323529	YES

Fancb	237211	-1.26218	-2.30453	0.00025	0.00138761	YES
Dusp10	63953	-1.26229	-5.60861	0.00005	0.000323529	YES
Sv2a	64051	-1.26229	-2.05424	0.00205	0.00859219	YES
Gm16758	102640752	-1.26233	-1.83356	0.0015	0.00658526	YES
Apex2	77622	-1.26592	-3.13364	0.00005	0.000323529	YES
Lrrc38	242735	-1.26722	-5.66507	0.00005	0.000323529	YES
Gm26615	102640635	-1.26851	-1.40602	0.013	0.0411946	YES
4632428C04Rik	100043102	-1.26884	-2.25836	0.0002	0.0011411	YES
Hddc2	69692	-1.26901	-5.98402	0.00005	0.000323529	YES
9630033F20Rik	319801	-1.26931	-6.08637	0.00005	0.000323529	YES
Ovgp1	12659	-1.27078	-3.34035	0.00005	0.000323529	YES
Tbc1d16	207592	-1.2708	-5.78758	0.00005	0.000323529	YES
Slc1a1	20510	-1.27084	-2.81268	0.0002	0.0011411	YES
Immp1l	66541	-1.27226	-6.95619	0.00005	0.000323529	YES
Idh3a	67834	-1.27647	-6.00531	0.00005	0.000323529	YES
Arfgap2	77038	-1.27673	-5.73235	0.00005	0.000323529	YES
Cited2	17684	-1.27772	-6.73934	0.00005	0.000323529	YES
Gm15655		-1.27835	-3.70223	0.00005	0.000323529	YES
Mn1	433938	-1.27872	-5.65056	0.00005	0.000323529	YES
Cnksr2	245684	-1.28014	-1.59124	0.0087	0.0292855	YES
Ccdc85c	668158	-1.28463	-4.20132	0.00005	0.000323529	YES
Sox13	20668	-1.28475	-5.13962	0.00005	0.000323529	YES
Gm11974	100041286	-1.28707	-1.89528	0.0142	0.044345	YES
1700123M08Rik	100503636	-1.28815	-4.95707	0.00005	0.000323529	YES
Lpl	16956	-1.29002	-5.78688	0.00005	0.000323529	YES
Tk1	21877	-1.29008	-2.09428	0.0077	0.0265966	YES
Slc25a30	67554	-1.29073	-3.67885	0.00005	0.000323529	YES
Agl	77559	-1.29098	-5.4237	0.00005	0.000323529	YES
Guf1	231279	-1.29147	-5.40206	0.00005	0.000323529	YES
Adh1	11522	-1.29212	-4.65641	0.00005	0.000323529	YES
Scube2	56788	-1.29384	-2.74732	0.0001	0.000610637	YES
Rpl3l	66211	-1.29387	-5.41577	0.00005	0.000323529	YES
Pck1	18534	-1.29841	-3.27159	0.00005	0.000323529	YES
Casq1	12372	-1.29954	-4.72023	0.00005	0.000323529	YES
Fbp2	14120	-1.30229	-6.86898	0.00005	0.000323529	YES
Klhl31	244923	-1.30663	-6.32031	0.00005	0.000323529	YES
Nhs	195727	-1.30853	-1.61002	0.0093	0.0310658	YES
Farp2	227377	-1.3098	-1.73658	0.00655	0.0231896	YES
Dcpp3	620253	-1.31001	-3.30718	0.00065	0.00319117	YES
Gm16559	102634608	-1.31004	-1.90807	0.00175	0.00752117	YES
Slc16a10	72472	-1.31097	-5.08205	0.00005	0.000323529	YES
Tuba4a	22145	-1.31649	-5.11236	0.00005	0.000323529	YES
Podxl2	319655	-1.31715	-5.26275	0.00005	0.000323529	YES
Myh8	17885	-1.3173	-2.73424	0.00005	0.000323529	YES
Scn2a1	110876	-1.32111	-4.49803	0.00005	0.000323529	YES
Nos1	18125	-1.32301	-5.79772	0.00005	0.000323529	YES
Fsd2	244091	-1.32706	-6.05128	0.00005	0.000323529	YES

Eepd1	67484	-1.32977	-6.35502	0.00005	0.000323529	YES
Fos	14281	-1.33054	-3.35455	0.00005	0.000323529	YES
1300002E11Rik	100043489	-1.33109	-1.58207	0.0076	0.026309	YES
Eif4ebp3	108112	-1.33239	-4.86354	0.00005	0.000323529	YES
Tmem56	99887	-1.33322	-5.09722	0.00005	0.000323529	YES
Agxt2l2	72947	-1.33578	-2.49938	0.00025	0.00138761	YES
Mrpl42	67270	-1.33634	-8.43987	0.00005	0.000323529	YES
Ppp1r3a	140491	-1.33875	-6.15643	0.00005	0.000323529	YES
Slc19a2	116914	-1.34405	-3.60715	0.00005	0.000323529	YES
4930511M06Rik	75084	-1.34943	-2.06016	0.00495	0.0183424	YES
C130036L24Rik	319336	-1.35332	-1.85198	0.00275	0.0110605	YES
Six1	20471	-1.35379	-6.89702	0.00005	0.000323529	YES
D230002A01Rik		-1.35698	-3.57641	0.00005	0.000323529	YES
Dnajb5	56323	-1.35797	-6.68451	0.00005	0.000323529	YES
Idh3b	170718	-1.35888	-5.28999	0.00005	0.000323529	YES
Serpine2	20720	-1.36044	-6.74892	0.00005	0.000323529	YES
Masp1	17174	-1.36431	-4.38036	0.00005	0.000323529	YES
2610037D02Rik	70040	-1.36623	-1.59292	0.00955	0.0317727	YES
Tmem37	170706	-1.36718	-3.24976	0.00005	0.000323529	YES
Clip4	78785	-1.36874	-5.01149	0.00005	0.000323529	YES
Slc38a4	69354	-1.37115	-6.67002	0.00005	0.000323529	YES
Mapk12	29857	-1.3729	-6.71079	0.00005	0.000323529	YES
Fosb	14282	-1.37293	-2.06508	0.0027	0.0108761	YES
Ets2	23872	-1.37356	-6.57855	0.00005	0.000323529	YES
Prodh	19125	-1.37413	-4.18416	0.00005	0.000323529	YES
Dnajc19	67713	-1.37458	-1.59197	0.0061	0.0218323	YES
Slc37a4	14385	-1.37488	-7.07566	0.00005	0.000323529	YES
Hspb6	243912	-1.37503	-6.91117	0.00005	0.000323529	YES
Cmya5	76469	-1.37851	-4.00537	0.00005	0.000323529	YES
Ar	11835	-1.38326	-4.81813	0.00005	0.000323529	YES
Atp2a1	11937	-1.3838	-3.62344	0.00005	0.000323529	YES
Nell2	54003	-1.38537	-2.8362	0.00005	0.000323529	YES
Nek3	23954	-1.38788	-2.85498	0.00005	0.000323529	YES
Dusp14	56405	-1.39083	-5.54124	0.00005	0.000323529	YES
Tnnc2	21925	-1.39345	-4.33907	0.00005	0.000323529	YES
Dusp1	19252	-1.39366	-6.2048	0.00005	0.000323529	YES
Tecr	106529	-1.39366	-6.47506	0.00005	0.000323529	YES
Dnajc21	78244	-1.39834	-6.0958	0.00005	0.000323529	YES
Adm	11535	-1.4058	-4.20953	0.00005	0.000323529	YES
Kcnj12	16515	-1.40745	-6.17019	0.00005	0.000323529	YES
Rhbdl3	246104	-1.40858	-3.4223	0.00005	0.000323529	YES
Fam83g	69640	-1.40865	-2.03202	0.0012	0.00544762	YES
Gm20544	102636262	-1.4098	-1.89908	0.00125	0.00562912	YES
Lin28a	83557	-1.41093	-4.10399	0.00005	0.000323529	YES
Lcor	212391	-1.4114	-2.32299	0.00035	0.00186438	YES
Gm27028		-1.41231	-2.07407	0.0014	0.00620513	YES
Slc35d2	70484	-1.41266	-3.37108	0.00005	0.000323529	YES

Shc2	216148	-1.41365	-3.41481	0.00005	0.000323529	YES
Snrk	20623	-1.41386	-6.33606	0.00005	0.000323529	YES
Irf5	27056	-1.4181	-2.99456	0.00005	0.000323529	YES
2210408F21Rik	73652	-1.41945	-3.99255	0.00005	0.000323529	YES
Gpr68	238377	-1.42047	-1.73754	0.00615	0.0219763	YES
Myoz2	59006	-1.42277	-2.91825	0.00005	0.000323529	YES
Dagla	269060	-1.42281	-5.16347	0.00005	0.000323529	YES
Dupd1	435391	-1.42299	-6.63636	0.00005	0.000323529	YES
Ccnk	12454	-1.42329	-6.26959	0.00005	0.000323529	YES
Kcmf1	74287	-1.42386	-7.26393	0.00005	0.000323529	YES
Samd7	75953	-1.42397	-4.13969	0.00005	0.000323529	YES
D830044I16Rik	381922	-1.42406	-1.67954	0.00795	0.0273162	YES
Tmem233	545798	-1.42694	-8.4738	0.00005	0.000323529	YES
Slc2a3	20527	-1.42695	-6.83645	0.00005	0.000323529	YES
Pptc7	320717	-1.42763	-7.17183	0.00005	0.000323529	YES
Maf	17132	-1.4293	-3.76126	0.00005	0.000323529	YES
Nrip1	268903	-1.43123	-5.69614	0.00005	0.000323529	YES
Ppapdc3	227721	-1.43321	-7.37801	0.00005	0.000323529	YES
Pygm	19309	-1.43439	-2.94694	0.00005	0.000323529	YES
Gm12070	654472	-1.43468	-3.58243	0.00005	0.000323529	YES
1500026H17Rik	69002	-1.4425	-2.0474	0.0007	0.00340476	YES
Kbtbd13	74492	-1.44717	-5.41176	0.00005	0.000323529	YES
Slc4a4	54403	-1.45527	-4.98517	0.00005	0.000323529	YES
Fam78a	241303	-1.45631	-5.77828	0.00005	0.000323529	YES
Slc25a47	104910	-1.45693	-3.81043	0.00005	0.000323529	YES
Dock4	238130	-1.45709	-6.00856	0.00005	0.000323529	YES
Esm1	71690	-1.45743	-2.46358	0.00075	0.00362109	YES
Gm4861	229862	-1.45794	-3.95162	0.00005	0.000323529	YES
Fhl2	14200	-1.46075	-7.53747	0.00005	0.000323529	YES
Trp53rk	76367	-1.46191	-3.17908	0.00005	0.000323529	YES
Ces1e	13897	-1.46351	-1.67749	0.0133	0.0419509	YES
Sh3rf2	269016	-1.46378	-6.05691	0.00005	0.000323529	YES
Nctc1	330677	-1.46743	-3.49755	0.00005	0.000323529	YES
Relt	320100	-1.46794	-5.75913	0.00005	0.000323529	YES
Ptp4a3	19245	-1.46852	-6.50473	0.00005	0.000323529	YES
Sntb1	20649	-1.46936	-6.68459	0.00005	0.000323529	YES
Asnsd1	70396	-1.47271	-7.27245	0.00005	0.000323529	YES
Nampt	59027	-1.47688	-6.99795	0.00005	0.000323529	YES
Mstn	17700	-1.47734	-7.06537	0.00005	0.000323529	YES
D0H4S114	27528	-1.47829	-7.12627	0.00005	0.000323529	YES
Dhrs11	192970	-1.47947	-7.11714	0.00005	0.000323529	YES
Hpx	15458	-1.48101	-1.79759	0.01355	0.0425942	YES
Zfp703	353310	-1.48111	-6.99082	0.00005	0.000323529	YES
Fam160b1	226252	-1.4836	-7.08374	0.00005	0.000323529	YES
Ctnnbl1	66642	-1.48363	-6.52349	0.00005	0.000323529	YES
Gm15179	100503248	-1.48384	-1.74332	0.0039	0.0149481	YES
Crip3	114570	-1.48411	-3.922	0.00005	0.000323529	YES

Gm11716	102640379	-1.48437	-3.96709	0.00025	0.00138761	YES
3425401B19Rik	100504518	-1.48546	-6.66887	0.00005	0.000323529	YES
Dusp26	66959	-1.48585	-2.80402	0.00015	0.000880082	YES
Ppm1l	242083	-1.48993	-7.0578	0.00005	0.000323529	YES
Alas1	11655	-1.49017	-7.22728	0.00005	0.000323529	YES
Pitpnc1	71795	-1.49042	-6.0645	0.00005	0.000323529	YES
Slc7a6	330836	-1.4919	-6.58379	0.00005	0.000323529	YES
Gpt2	108682	-1.49456	-7.31634	0.00005	0.000323529	YES
Slc41a3	71699	-1.49649	-6.39674	0.00005	0.000323529	YES
Lrrc48	74665	-1.50447	-2.90294	0.00005	0.000323529	YES
Mdga1	74762	-1.50495	-3.95578	0.00005	0.000323529	YES
Slc7a2	11988	-1.50563	-7.31695	0.00005	0.000323529	YES
Trim24	21848	-1.50592	-6.60069	0.00005	0.000323529	YES
A530013C23Rik	329562	-1.5069	-1.58613	0.01605	0.0489466	YES
Utp11l	67205	-1.50826	-7.05959	0.00005	0.000323529	YES
Acbd7	78245	-1.50895	-2.52267	0.0084	0.0285321	YES
Ldhd	52815	-1.50922	-7.30356	0.00005	0.000323529	YES
Mtss1l	244654	-1.5095	-6.34325	0.00005	0.000323529	YES
Snta1	20648	-1.51311	-7.74437	0.00005	0.000323529	YES
1700025G04Rik	69399	-1.51639	-6.99032	0.00005	0.000323529	YES
Tdo2	56720	-1.51705	-1.82027	0.0081	0.0277467	YES
Dusp7	235584	-1.51907	-6.51557	0.00005	0.000323529	YES
Evc	59056	-1.52009	-5.62922	0.00005	0.000323529	YES
Ryr1	20190	-1.52311	-4.59963	0.00005	0.000323529	YES
Nr4a1	15370	-1.52355	-7.65529	0.00005	0.000323529	YES
Pitx1	18740	-1.52618	-5.01723	0.00005	0.000323529	YES
Gm12059	100042875	-1.5268	-2.15041	0.0005	0.00254778	YES
Smyd2	226830	-1.52849	-7.18656	0.00005	0.000323529	YES
Fv1	14349	-1.53056	-3.49092	0.00005	0.000323529	YES
Tuba8	53857	-1.53578	-7.04676	0.00005	0.000323529	YES
Prdm1	12142	-1.54069	-2.38824	0.0004	0.00210083	YES
Ramp1	51801	-1.54704	-6.71708	0.00005	0.000323529	YES
Mc5r	17203	-1.54779	-2.73766	0.00115	0.00525399	YES
Mfsd7b	226844	-1.54808	-4.97918	0.00005	0.000323529	YES
Csda	56449	-1.54944	-6.45776	0.00005	0.000323529	YES
Ccng1	12450	-1.55306	-6.71443	0.00005	0.000323529	YES
Rab44	442827	-1.55471	-2.01424	0.002	0.00841627	YES
Tmpo	21917	-1.55486	-6.56004	0.00005	0.000323529	YES
Zfp52	22710	-1.55495	-3.5474	0.00005	0.000323529	YES
Hsbp1l1	66255	-1.5551	-1.9528	0.0083	0.0282595	YES
2810453I06Rik	67238	-1.55603	-6.94064	0.00005	0.000323529	YES
Slc4a7	218756	-1.55632	-6.18743	0.00005	0.000323529	YES
Xcr1	23832	-1.55864	-1.91399	0.005	0.0184972	YES
Asb14	142687	-1.5595	-7.05508	0.00005	0.000323529	YES
Arhgap20	244867	-1.56115	-2.00118	0.00155	0.00678017	YES
Ndufs4	17993	-1.56477	-8.03185	0.00005	0.000323529	YES
Trib1	211770	-1.56486	-6.3533	0.00005	0.000323529	YES

Morc2b	240069	-1.56649	-2.21189	0.0004	0.00210083	YES
Adcy1	432530	-1.56655	-6.31352	0.00005	0.000323529	YES
Chac1	69065	-1.56702	-4.47456	0.00005	0.000323529	YES
B230206H07Rik	320871	-1.56976	-2.22359	0.00135	0.00601572	YES
Il6ra	16194	-1.57002	-3.32008	0.00005	0.000323529	YES
Ovol1	18426	-1.57379	-3.62738	0.00005	0.000323529	YES
1700042G15Rik	73349	-1.57532	-0.928484	0.0104	0.0342386	YES
1700120C14Rik	73600	-1.57881	-2.4117	0.00075	0.00362109	YES
Slc13a4	243755	-1.58284	-1.94114	0.00695	0.0244189	YES
Pard6b	58220	-1.58475	-3.16921	0.00005	0.000323529	YES
Gm26765		-1.58562	-2.73775	0.001	0.00465385	YES
4831440E17Rik	320965	-1.58582	-4.10771	0.00005	0.000323529	YES
Actr3b	242894	-1.58843	-6.90138	0.00005	0.000323529	YES
Thbs4	21828	-1.59361	-6.28751	0.00005	0.000323529	YES
Vash2	226841	-1.59428	-5.87715	0.00005	0.000323529	YES
Pgam2	56012	-1.59479	-7.51257	0.00005	0.000323529	YES
Prkcz	18762	-1.59499	-3.8829	0.00005	0.000323529	YES
Mrps18a	68565	-1.59969	-9.08107	0.00005	0.000323529	YES
Inca1	103844	-1.60113	-2.77524	0.00005	0.000323529	YES
BC042782		-1.60154	-2.17041	0.0028	0.0112271	YES
Aldh1a1	11668	-1.60335	-7.64888	0.00005	0.000323529	YES
Pde4b	18578	-1.60707	-6.8029	0.00005	0.000323529	YES
Zbtb16	235320	-1.60785	-6.47941	0.00005	0.000323529	YES
Sh2b2	23921	-1.6128	-4.30779	0.00005	0.000323529	YES
Il12a	16159	-1.61553	-2.80977	0.00005	0.000323529	YES
Mylk3	213435	-1.61586	-2.30033	0.0002	0.0011411	YES
Rxrg	20183	-1.61639	-6.79511	0.00005	0.000323529	YES
Atp5l	27425	-1.6225	-11.686	0.00005	0.000323529	YES
Frat1	14296	-1.62262	-5.08005	0.00005	0.000323529	YES
Adh7	11529	-1.62369	-1.81553	0.01545	0.0474943	YES
4933437F05Rik	71275	-1.62475	-2.10042	0.00555	0.0201574	YES
Zfp385b	241494	-1.62498	-3.09748	0.00005	0.000323529	YES
A430078G23Rik	319493	-1.6265	-2.41572	0.0002	0.0011411	YES
Gm6307	622283	-1.62984	-3.0065	0.0004	0.00210083	YES
Calr4	108802	-1.63231	-1.55774	0.0113	0.0366568	YES
Gm7120	633640	-1.6358	-5.50205	0.00005	0.000323529	YES
Shisa4	77552	-1.63896	-9.13131	0.00005	0.000323529	YES
Hist1h4h	69386	-1.64235	-7.01139	0.00005	0.000323529	YES
2610528E23Rik	66497	-1.643	-2.77882	0.0007	0.00340476	YES
Adssl1	11565	-1.64348	-7.38959	0.00005	0.000323529	YES
C1ql3	227580	-1.64776	-3.4504	0.00005	0.000323529	YES
Phf7	71838	-1.65189	-5.02311	0.00005	0.000323529	YES
Apobr	171504	-1.65347	-2.86078	0.00005	0.000323529	YES
2310069B03Rik	69652	-1.65508	-2.75114	0.0002	0.0011411	YES
Gm5523	433273	-1.65614	-3.73654	0.00005	0.000323529	YES
2810405K02Rik	66469	-1.65684	-9.9611	0.00005	0.000323529	YES
Pgm2	72157	-1.66327	-7.14571	0.00005	0.000323529	YES

Tbc1d1	57915	-1.66497	-7.59064	0.00005	0.000323529	YES
Sorl1	20660	-1.66504	-6.86148	0.00005	0.000323529	YES
9230115E21Rik	408028	-1.66572	-1.33566	0.0103	0.0339591	YES
2310042D19Rik	74183	-1.66936	-7.95033	0.00005	0.000323529	YES
Lmod3	320502	-1.67594	-7.42905	0.00005	0.000323529	YES
Th	21823	-1.68314	-2.35451	0.002	0.00841627	YES
Lrtm1	319476	-1.6841	-7.60754	0.00005	0.000323529	YES
Synm	233335	-1.68509	-6.50593	0.00005	0.000323529	YES
Atp1b1	11931	-1.68791	-7.93663	0.00005	0.000323529	YES
Pla2g12a	66350	-1.69485	-7.57711	0.00005	0.000323529	YES
Fmn2	54418	-1.69512	-4.5863	0.00005	0.000323529	YES
Pitx3	18742	-1.69964	-4.30858	0.00005	0.000323529	YES
Apln	30878	-1.70376	-3.69004	0.00005	0.000323529	YES
Ldlr	16835	-1.70385	-6.90088	0.00005	0.000323529	YES
Bpgm	12183	-1.70704	-8.24841	0.00005	0.000323529	YES
Ckm	12715	-1.70907	-4.16522	0.00005	0.000323529	YES
Tnni2	21953	-1.71368	-3.94399	0.00005	0.000323529	YES
Il15	16168	-1.71789	-3.90618	0.00005	0.000323529	YES
Mad2l1bp	66591	-1.71906	-7.996	0.00005	0.000323529	YES
Ube2t	67196	-1.72591	-4.55063	0.00005	0.000323529	YES
Ntf5	78405	-1.72604	-3.73058	0.00005	0.000323529	YES
Parm1	231440	-1.73056	-6.16726	0.00005	0.000323529	YES
Nepn	66650	-1.73146	-1.8102	0.00885	0.0297586	YES
Gm608	207806	-1.73476	-8.00462	0.00005	0.000323529	YES
Ppp1r32	67752	-1.73639	-2.28573	0.0015	0.00658526	YES
Pfkfb3	170768	-1.73804	-7.21024	0.00005	0.000323529	YES
Rorc	19885	-1.7411	-5.82389	0.00005	0.000323529	YES
Slc16a1	20501	-1.74241	-8.38769	0.00005	0.000323529	YES
Cited1	12705	-1.7451	-2.61469	0.004	0.0152681	YES
Tmie	20776	-1.74641	-2.68184	0.00025	0.00138761	YES
Ccdc57	71276	-1.7469	-4.13315	0.00005	0.000323529	YES
2010300C02Rik	72097	-1.75808	-3.5488	0.00005	0.000323529	YES
Gapdh	14433	-1.76405	-5.1992	0.00005	0.000323529	YES
Pdzrn3	55983	-1.76639	-7.77586	0.00005	0.000323529	YES
Gm15856		-1.76663	-2.86888	0.00005	0.000323529	YES
Abcb4	18670	-1.76916	-8.15812	0.00005	0.000323529	YES
F730035M05Rik	414124	-1.76935	-2.00217	0.0017	0.00733233	YES
Gm20594	100463512	-1.77121	-12.2033	0.00005	0.000323529	YES
Egfm1	75740	-1.77766	-1.74158	0.00435	0.0164445	YES
Hlx	15284	-1.78517	-8.08361	0.00005	0.000323529	YES
Tnnt3	21957	-1.78531	-3.7743	0.00005	0.000323529	YES
Ephb1	270190	-1.78539	-3.45997	0.00005	0.000323529	YES
Gm17179		-1.78681	-1.92239	0.00225	0.00928693	YES
Tekt1	21689	-1.78729	-4.11329	0.00005	0.000323529	YES
Sln	66402	-1.79031	-10.0047	0.00005	0.000323529	YES
Smad3	17127	-1.79288	-8.42596	0.00005	0.000323529	YES
Klhd3	71765	-1.79513	-2.34139	0.0023	0.00946104	YES

Smox	228608	-1.80228	-1.67535	0.01465	0.0454346	YES
Rab3b	69908	-1.80286	-1.62994	0.01495	0.046192	YES
Vldlr	22359	-1.80518	-8.07365	0.00005	0.000323529	YES
Kctd15	233107	-1.80692	-8.72341	0.00005	0.000323529	YES
St3gal5	20454	-1.80834	-8.78574	0.00005	0.000323529	YES
E030003E18Rik	320092	-1.81052	-5.95248	0.00005	0.000323529	YES
Kcnb2	98741	-1.81105	-2.89348	0.00005	0.000323529	YES
Prkd1	18760	-1.82454	-5.6768	0.00005	0.000323529	YES
Cxcr5	12145	-1.82736	-1.81058	0.0161	0.0490705	YES
Slc38a3	76257	-1.82886	-8.28334	0.00005	0.000323529	YES
Ccdc136	232664	-1.8292	-5.39606	0.00005	0.000323529	YES
Myo5a	17918	-1.83278	-6.18069	0.00005	0.000323529	YES
Ccrn4l	12457	-1.84042	-8.24851	0.00005	0.000323529	YES
Nog	18121	-1.84181	-4.21473	0.00005	0.000323529	YES
Ly6g6e	70274	-1.84408	-4.11429	0.00005	0.000323529	YES
S100a8	20201	-1.84833	-3.32456	0.0132	0.041694	YES
Ldha	16828	-1.85569	-5.59609	0.00005	0.000323529	YES
Asb11	68854	-1.85589	-9.87714	0.00005	0.000323529	YES
Smtnl2	276829	-1.85861	-8.96842	0.00005	0.000323529	YES
Myot	58916	-1.85971	-8.307	0.00005	0.000323529	YES
Naa50	72117	-1.86184	-9.26299	0.00005	0.000323529	YES
Cnksr1	194231	-1.86308	-7.27445	0.00005	0.000323529	YES
Agbl1	244071	-1.86636	-3.67773	0.00005	0.000323529	YES
Orm1	18405	-1.87686	-3.74943	0.00005	0.000323529	YES
Fgf2	14173	-1.87761	-2.61606	0.00025	0.00138761	YES
Gm9766	100038725	-1.87876	-1.69538	0.0051	0.0188096	YES
2610019F03Rik	72148	-1.89228	-8.37762	0.00005	0.000323529	YES
Efr3b	668212	-1.89503	-6.23808	0.00005	0.000323529	YES
2310015D24Rik	70100	-1.89731	-7.98375	0.00005	0.000323529	YES
Clec2d	93694	-1.89747	-9.17845	0.00005	0.000323529	YES
Gm973	381260	-1.90009	-3.29558	0.00005	0.000323529	YES
Sgk1	20393	-1.90049	-8.6137	0.00005	0.000323529	YES
Kcna7	16495	-1.90189	-9.03926	0.00005	0.000323529	YES
Col13a1	12817	-1.90529	-3.69957	0.00005	0.000323529	YES
Ccdc146	75172	-1.90561	-1.88	0.0056	0.0203155	YES
2310040G24Rik	381792	-1.90764	-7.2914	0.00005	0.000323529	YES
Tpm2	22004	-1.9079	-4.99204	0.00005	0.000323529	YES
Avil	11567	-1.9106	-4.11055	0.00005	0.000323529	YES
4933406C10Rik	74076	-1.91418	-2.28137	0.00015	0.000880082	YES
Ampd1	229665	-1.91775	-8.65284	0.00005	0.000323529	YES
Gm26813		-1.91871	-2.64842	0.00005	0.000323529	YES
Gm12319		-1.92014	-5.53618	0.00005	0.000323529	YES
Gm27002		-1.9211	-1.42247	0.0079	0.027186	YES
Ubxn10	212190	-1.92435	-4.15394	0.00005	0.000323529	YES
Serpina1b	20701	-1.92605	-1.78744	0.0102	0.0336506	YES
2310050B05Rik	69678	-1.92792	-6.76511	0.00005	0.000323529	YES
Efcab6	77627	-1.92961	-2.9359	0.00005	0.000323529	YES

Tmem100	67888	-1.93012	-7.01384	0.00005	0.000323529	YES
Map2k6	26399	-1.93501	-6.63884	0.00005	0.000323529	YES
Gnao1	14681	-1.93564	-7.90303	0.00005	0.000323529	YES
Mylpf	17907	-1.93725	-6.1976	0.00005	0.000323529	YES
Csrp3	13009	-1.94379	-7.1149	0.00005	0.000323529	YES
Pdp1	381511	-1.95332	-8.8012	0.00005	0.000323529	YES
Eno3	13808	-1.9545	-3.81347	0.00005	0.000323529	YES
Hist1h1e	50709	-1.95917	-4.03482	0.00005	0.000323529	YES
Lzts1	211134	-1.96149	-3.79017	0.00005	0.000323529	YES
Riad1	66353	-1.97083	-6.39989	0.00005	0.000323529	YES
Klhl34	245683	-1.97422	-3.63707	0.00005	0.000323529	YES
Cd55	13136	-1.97843	-9.03131	0.00005	0.000323529	YES
Myh3	17883	-1.98471	-2.62377	0.00005	0.000323529	YES
Zdhhc23	332175	-1.98686	-2.80815	0.00085	0.00404799	YES
Mmp8	17394	-1.98969	-1.9703	0.0068	0.0239668	YES
Pfn2	18645	-1.99158	-10.6762	0.00005	0.000323529	YES
Gdnf	14573	-1.99985	-2.23306	0.0026	0.0105407	YES
Abra	223513	-2.00395	-9.05279	0.00005	0.000323529	YES
Mreg	381269	-2.00502	-9.61757	0.00005	0.000323529	YES
Glp2r	93896	-2.01324	-2.78073	0.0001	0.000610637	YES
Kcnk2	16526	-2.0162	-5.60483	0.00005	0.000323529	YES
Nek6	59126	-2.03405	-5.73917	0.00005	0.000323529	YES
Mfsd7a	243197	-2.03642	-8.50275	0.00005	0.000323529	YES
Frat2	212398	-2.03708	-7.49255	0.00005	0.000323529	YES
Car14	23831	-2.04308	-5.71685	0.00005	0.000323529	YES
6030408B16Rik	77717	-2.04505	-2.57523	0.0018	0.00770449	YES
Gm15635		-2.05773	-2.45545	0.00025	0.00138761	YES
Catsper4	329954	-2.06383	-1.90912	0.0019	0.00807975	YES
Susd4	96935	-2.06464	-3.84188	0.00005	0.000323529	YES
Mttp	17777	-2.06502	-6.12691	0.00005	0.000323529	YES
Afap1l2	226250	-2.07138	-5.12905	0.00005	0.000323529	YES
Pvalb	19293	-2.07413	-9.8904	0.00005	0.000323529	YES
Hbegf	15200	-2.07641	-5.26593	0.00005	0.000323529	YES
Uts2r	217369	-2.08039	-4.6881	0.00005	0.000323529	YES
Dazl	13164	-2.08498	-2.74516	0.0001	0.000610637	YES
Golt1a	68338	-2.09506	-3.91265	0.00005	0.000323529	YES
1100001G20Rik	66107	-2.09691	-4.17615	0.00125	0.00562912	YES
Myo5c	208943	-2.10638	-8.11904	0.00005	0.000323529	YES
Myh13	544791	-2.10779	-2.94402	0.00005	0.000323529	YES
Rprml	104582	-2.10916	-2.96207	0.00255	0.0103674	YES
Fam129a	63913	-2.11109	-8.69991	0.00005	0.000323529	YES
Gnal	14680	-2.11216	-3.08486	0.00005	0.000323529	YES
Gm514	208080	-2.11374	-2.15255	0.0085	0.0287538	YES
Dcpp2	630537	-2.12019	-3.8209	0.0009	0.00424116	YES
Rasgef1b	320292	-2.12113	-4.1956	0.00005	0.000323529	YES
Myl1	17901	-2.12215	-4.26322	0.00005	0.000323529	YES
Sh2d7	244885	-2.12363	-4.24041	0.00005	0.000323529	YES

Adrbk2	320129	-2.12503	-5.85369	0.00005	0.000323529	YES
Atp7b	11979	-2.12728	-2.76429	0.0001	0.000610637	YES
Pfkfb1	18639	-2.12904	-9.6757	0.00005	0.000323529	YES
Hk2	15277	-2.14158	-9.7735	0.00005	0.000323529	YES
Acta1	11459	-2.14369	-4.34625	0.00005	0.000323529	YES
Magix	54634	-2.15611	-6.27444	0.00005	0.000323529	YES
Nrg2	100042150	-2.1563	-2.48384	0.00105	0.00485494	YES
Ankrd23	78321	-2.16123	-9.33452	0.00005	0.000323529	YES
Cd24a	12484	-2.1635	-9.90513	0.00005	0.000323529	YES
Nt5c1a	230718	-2.16379	-4.72142	0.00005	0.000323529	YES
Ptpn3	545622	-2.16623	-9.56868	0.00005	0.000323529	YES
Tbc1d10c	108995	-2.17123	-3.79609	0.00005	0.000323529	YES
Alpl	11647	-2.17667	-7.87854	0.00005	0.000323529	YES
4930513N10Rik	319960	-2.18088	-2.23544	0.0015	0.00658526	YES
Hs3st3a1	15478	-2.18394	-2.77056	0.0002	0.0011411	YES
Lgi1	56839	-2.18611	-4.57687	0.00005	0.000323529	YES
Gprc5b	64297	-2.18857	-7.80382	0.00005	0.000323529	YES
Myoz1	59011	-2.20128	-8.50492	0.00005	0.000323529	YES
Rrm2	20135	-2.20541	-5.55334	0.00005	0.000323529	YES
Ces1d	104158	-2.20725	-8.5566	0.00005	0.000323529	YES
Zp2	22787	-2.20885	-3.6365	0.00005	0.000323529	YES
Slc2a4	20528	-2.21054	-11.0128	0.00005	0.000323529	YES
Fam124b	241128	-2.21928	-3.05247	0.00005	0.000323529	YES
Lgi2	246316	-2.22423	-5.94955	0.00005	0.000323529	YES
Tph2	216343	-2.22513	-3.06439	0.0001	0.000610637	YES
2310075C17Rik	70194	-2.22795	-5.57202	0.002	0.00841627	YES
Phlda3	27280	-2.22992	-10.6651	0.00005	0.000323529	YES
9030617O03Rik	217830	-2.23204	-9.57433	0.00005	0.000323529	YES
C330018A13Rik	320805	-2.23657	-3.82252	0.00005	0.000323529	YES
Serpine1	18787	-2.23717	-6.05306	0.00005	0.000323529	YES
Wipf3	330319	-2.23794	-7.01809	0.00005	0.000323529	YES
P2ry6	233571	-2.24712	-5.61255	0.00005	0.000323529	YES
Mid1ip1	68041	-2.25093	-7.6229	0.00005	0.000323529	YES
MLf1	17349	-2.25185	-8.8521	0.00005	0.000323529	YES
Spock1	20745	-2.25908	-4.28915	0.00005	0.000323529	YES
Ky	16716	-2.26141	-10.0122	0.00005	0.000323529	YES
Snai3	30927	-2.27102	-8.33879	0.00005	0.000323529	YES
Tpm1	22003	-2.27532	-5.52181	0.00005	0.000323529	YES
Ppp1r3c	53412	-2.2789	-10.627	0.00005	0.000323529	YES
Cacna1i	239556	-2.28895	-3.27813	0.00005	0.000323529	YES
Gm17518	100503390	-2.29317	-2.24984	0.0009	0.00424116	YES
Myoz3	170947	-2.302	-10.5485	0.00005	0.000323529	YES
Mchr1	207911	-2.30698	-7.68886	0.00005	0.000323529	YES
Gcgr	14527	-2.30711	-2.35717	0.0018	0.00770449	YES
Apoa1	11806	-2.31014	-2.53474	0.0027	0.0108761	YES
Tmod4	50874	-2.31257	-10.7658	0.00005	0.000323529	YES
Tfrc	22042	-2.31964	-11.0287	0.00005	0.000323529	YES

Gm14493		-2.32721	-5.39651	0.00005	0.000323529	YES
Kcnc4	99738	-2.33685	-8.29693	0.00005	0.000323529	YES
Gm12781	102639020	-2.33945	-1.67105	0.00135	0.00601572	YES
4430402I18Rik	381218	-2.34337	-5.13385	0.00005	0.000323529	YES
4931413K12Rik	70987	-2.35019	-1.78685	0.005	0.0184972	YES
Aqp4	11829	-2.36673	-10.9472	0.00005	0.000323529	YES
2310001H17Rik	76432	-2.37016	-2.75244	0.00165	0.00715394	YES
Cklf	75458	-2.37699	-4.1276	0.00005	0.000323529	YES
Gm5105	329763	-2.37909	-8.98716	0.00005	0.000323529	YES
Tcap	21393	-2.37974	-10.0877	0.00005	0.000323529	YES
Gm13883		-2.39181	-1.61099	0.0052	0.0191112	YES
Slc16a3	80879	-2.39374	-11.1088	0.00005	0.000323529	YES
Sar1b	66397	-2.39511	-12.9123	0.00005	0.000323529	YES
Golm1	105348	-2.39597	-9.169	0.00005	0.000323529	YES
Serpina1d	20703	-2.40336	-2.10684	0.0084	0.0285321	YES
Thpo	21832	-2.43996	-5.06902	0.00005	0.000323529	YES
Rasl2-9-ps	19428	-2.44752	-3.29216	0.00025	0.00138761	YES
Gm3510	100041781	-2.44837	-1.68557	0.00785	0.0270376	YES
Gm8579	667335	-2.46101	-2.51467	0.0059	0.0212324	YES
Ccdc155	384619	-2.47548	-3.09477	0.00005	0.000323529	YES
Slc40a1	53945	-2.47965	-8.93502	0.00005	0.000323529	YES
Treh	58866	-2.48874	-2.59469	0.0019	0.00807975	YES
Cib2	56506	-2.50498	-13.9284	0.00005	0.000323529	YES
E330011O21Rik	100503619	-2.51584	-5.20478	0.00005	0.000323529	YES
Aldoa	11674	-2.51907	-7.89768	0.00005	0.000323529	YES
2310020H05Rik	69603	-2.52254	-6.35674	0.00005	0.000323529	YES
4930509E16Rik	75115	-2.52558	-1.63616	0.01565	0.0479592	YES
Piwil2	57746	-2.53288	-4.12584	0.00005	0.000323529	YES
9130230L23Rik	231253	-2.5594	-3.67388	0.00005	0.000323529	YES
2310001H17Rik	76432	-2.56126	-3.41278	0.00005	0.000323529	YES
Esr2	13983	-2.56144	-2.21372	0.0028	0.0112271	YES
Prnd	26434	-2.57428	-4.2461	0.00005	0.000323529	YES
Ntsr2	18217	-2.57985	-3.66028	0.00005	0.000323529	YES
Gm19689	100503434	-2.58725	-3.48404	0.0001	0.000610637	YES
Car3	12350	-2.59258	-10.2736	0.00005	0.000323529	YES
Gm15915	100504069	-2.60242	-1.85841	0.0082	0.0280222	YES
Lhb	16866	-2.60328	-4.26913	0.0014	0.00620513	YES
Shroom1	71774	-2.61297	-4.46528	0.00005	0.000323529	YES
Cck	12424	-2.61837	-3.57744	0.0021	0.00876905	YES
Ahsg	11625	-2.62058	-2.42365	0.00655	0.0231896	YES
Mylk4	238564	-2.64517	-11.3639	0.00005	0.000323529	YES
Fhl1	14199	-2.64575	-7.58059	0.00005	0.000323529	YES
Gm16268		-2.65026	-2.87456	0.00005	0.000323529	YES
Cdh3	12560	-2.66183	-4.05755	0.00005	0.000323529	YES
Mybpc2	233199	-2.67652	-6.41687	0.00005	0.000323529	YES
Clec18a	353287	-2.6916	-4.06835	0.00005	0.000323529	YES
Fam131a	78408	-2.70038	-12.3897	0.00005	0.000323529	YES

Gm21747	105246366	-2.70199	-3.6643	0.00005	0.000323529	YES
Fhl3	14201	-2.70567	-14.0374	0.00005	0.000323529	YES
H19	14955	-2.71426	-10.1958	0.00005	0.000323529	YES
Apoa2	11807	-2.72148	-5.26914	0.00005	0.000323529	YES
Scn4b	399548	-2.72294	-11.961	0.00005	0.000323529	YES
Sbk2	381836	-2.72767	-14.6804	0.00005	0.000323529	YES
Spns2	216892	-2.74048	-13.3098	0.00005	0.000323529	YES
E230001N04Rik	320187	-2.74146	-2.53459	0.00105	0.00485494	YES
Rgn	19733	-2.75018	-2.44764	0.00425	0.0161129	YES
Ttc18	76670	-2.75953	-3.65276	0.00005	0.000323529	YES
Ppm1j	71887	-2.76256	-12.0528	0.00005	0.000323529	YES
Fbp1	14121	-2.76327	-2.42861	0.00705	0.0246931	YES
Aldoart1	353204	-2.77455	-3.47417	0.00005	0.000323529	YES
1700029J11Rik	76426	-2.77466	-3.0495	0.00565	0.0204591	YES
Grem2	23893	-2.78721	-4.60881	0.00005	0.000323529	YES
Slc24a2	76376	-2.81822	-11.8878	0.00005	0.000323529	YES
Gpr179	217143	-2.83821	-4.53407	0.00005	0.000323529	YES
Slc15a5	277898	-2.83838	-6.98385	0.00005	0.000323529	YES
Ccdc85a	216613	-2.86082	-10.7868	0.00005	0.000323529	YES
Opcml	330908	-2.86451	-6.46197	0.00005	0.000323529	YES
Gpd1	14555	-2.86919	-11.9563	0.00005	0.000323529	YES
Phyhd1	227696	-2.8777	-10.6207	0.00005	0.000323529	YES
Fkbp5	14229	-2.88121	-12.0114	0.00005	0.000323529	YES
Sspo	243369	-2.90257	-4.33022	0.00005	0.000323529	YES
Fam40b	320609	-2.91679	-8.46026	0.00005	0.000323529	YES
Ivns1abp	117198	-2.9239	-11.8874	0.00005	0.000323529	YES
Slc38a2	67760	-2.93325	-14.2122	0.00005	0.000323529	YES
Pkdcc	106522	-2.94586	-15.0104	0.00005	0.000323529	YES
Aldoart2	79459	-2.95155	-5.0988	0.00005	0.000323529	YES
Phf19	74016	-2.98067	-4.73084	0.00005	0.000323529	YES
Zmynd17	74843	-3.00014	-13.1999	0.00005	0.000323529	YES
2410127L17Rik	67383	-3.02622	-14.6995	0.00005	0.000323529	YES
Atp1a4	27222	-3.03762	-3.27658	0.00025	0.00138761	YES
Ybx2	53422	-3.03901	-6.91871	0.00005	0.000323529	YES
Myh2	17882	-3.04693	-11.5207	0.00005	0.000323529	YES
Etnk2	214253	-3.05578	-3.95301	0.00005	0.000323529	YES
Actn3	11474	-3.06496	-7.92203	0.00005	0.000323529	YES
9630001P10Rik	319251	-3.07358	-3.00588	0.00045	0.00232845	YES
1700113H08Rik	76640	-3.08971	-5.08414	0.00005	0.000323529	YES
Car9	230099	-3.09358	-3.39834	0.00005	0.000323529	YES
Gm15675	105246705	-3.11834	-10.8532	0.00005	0.000323529	YES
Hr	15460	-3.13305	-11.1629	0.00005	0.000323529	YES
Kiss1	280287	-3.15474	-4.69679	0.00125	0.00562912	YES
Rasl11b	68939	-3.16051	-10.0893	0.00005	0.000323529	YES
Gabbr2	14409	-3.21208	-15.245	0.00005	0.000323529	YES
Serpina3k	20714	-3.21897	-3.71292	0.00005	0.000323529	YES
Glb1l2	244757	-3.22785	-10.6968	0.00005	0.000323529	YES

Pla2g2c	18781	-3.2463	-3.39173	0.00055	0.00276141	YES
Tmem232	381107	-3.2546	-2.80882	0.002	0.00841627	YES
Aldob	230163	-3.25698	-2.92221	0.00065	0.00319117	YES
2310008N11Rik	72316	-3.26231	-3.9475	0.00205	0.00859219	YES
4933406C10Rik	74076	-3.26684	-2.83507	0.00035	0.00186438	YES
2310010M20Rik	69576	-3.28843	-11.0221	0.00005	0.000323529	YES
Ntm	235106	-3.32444	-4.8422	0.00005	0.000323529	YES
Gpr151	240239	-3.33315	-3.24893	0.00155	0.00678017	YES
Sh2d4b	328381	-3.33855	-2.66744	0.006	0.0215283	YES
Sox2ot	320478	-3.35328	-1.40065	0.0002	0.0011411	YES
Tph1	21990	-3.36073	-3.9481	0.00005	0.000323529	YES
Spag4	245865	-3.36797	-5.68117	0.00005	0.000323529	YES
Gm15674	102640368	-3.38022	-4.20023	0.00005	0.000323529	YES
D430041D05Rik	241589	-3.38775	-10.5679	0.00005	0.000323529	YES
Mup3	17842	-3.45318	-4.87171	0.00005	0.000323529	YES
Cd27	21940	-3.45525	-2.85393	0.0017	0.00733233	YES
Greb1	268527	-3.46021	-9.26711	0.00005	0.000323529	YES
Slc30a2	230810	-3.46354	-10.9126	0.00005	0.000323529	YES
Calb2	12308	-3.47521	-2.99628	0.00025	0.00138761	YES
Sema4f	20355	-3.48282	-6.14021	0.00005	0.000323529	YES
Gm12590		-3.49583	-2.69839	0.00595	0.021383	YES
4933415F23Rik	66755	-3.50869	-3.7969	0.00005	0.000323529	YES
Apoh	11818	-3.52868	-2.97633	0.0055	0.0200127	YES
Stab2	192188	-3.58228	-7.33236	0.00005	0.000323529	YES
Alb	11657	-3.60321	-6.94458	0.00005	0.000323529	YES
Gm5860	545641	-3.63065	-2.85901	0.00005	0.000323529	YES
Gm1078	381835	-3.64398	-5.06093	0.00005	0.000323529	YES
Gm12541		-3.64607	-2.75537	0.00005	0.000323529	YES
Tcf23	69852	-3.70721	-11.3049	0.00005	0.000323529	YES
Muc4	140474	-3.71715	-3.49614	0.00005	0.000323529	YES
Kcnc1	16502	-3.7854	-11.9981	0.00005	0.000323529	YES
4933408N05Rik	71122	-3.8424	-2.50445	0.0011	0.0050638	YES
Trpm1	17364	-3.84254	-3.68319	0.00005	0.000323529	YES
Slc47a1	67473	-3.90406	-13.2844	0.00005	0.000323529	YES
Serpina1e	20704	-3.92836	-2.93502	0.00785	0.0270376	YES
Ppp1r27	68701	-3.94184	-19.877	0.00005	0.000323529	YES
Kcnq5	226922	-4.00082	-13.2552	0.00005	0.000323529	YES
Kcng4	66733	-4.05456	-16.6478	0.00005	0.000323529	YES
Fabp1	14080	-4.05667	-5.57637	0.00005	0.000323529	YES
Gm4980	100503386	-4.0887	-13.1066	0.00005	0.000323529	YES
Gm11755	105243637	-4.09501	-1.39826	0.001	0.00465385	YES
Gm14154	102633439	-4.11953	-1.7806	0.00135	0.00601572	YES
Dgat2l6	668257	-4.13921	-4.58163	0.00005	0.000323529	YES
Cyp3a11	13112	-4.14851	-3.35445	0.0003	0.00163174	YES
Gm10605	100038557	-4.15567	-6.37194	0.00005	0.000323529	YES
Cdhr3	68764	-4.17611	-7.71271	0.00005	0.000323529	YES
A530098C11Rik	433294	-4.22818	-21.0383	0.00005	0.000323529	YES

Gm15676	100503974		-4.28007	-4.95789	0.00005	0.000323529	YES
Gna14	14675		-4.28257	-9.68603	0.00005	0.000323529	YES
Gm12708	105244624		-4.39535	-1.41956	0.00005	0.000323529	YES
Bmp8a	12163		-4.39596	-4.07866	0.00025	0.00138761	YES
2310065F04Rik	74184		-4.39877	-8.29427	0.00005	0.000323529	YES
B3gat1	76898		-4.43682	-5.80803	0.00005	0.000323529	YES
Spink5	72432		-4.44039	-2.96378	0.001	0.00465385	YES
Myl3	17897		-4.44288	-16.2506	0.00005	0.000323529	YES
Snph	241727		-4.47675	-9.03306	0.00005	0.000323529	YES
Fam57b	68952		-4.47771	-11.7565	0.00005	0.000323529	YES
Aim1l	230806		-4.5693	-5.30132	0.00005	0.000323529	YES
Kcnf1	382571		-4.57668	-9.74688	0.00005	0.000323529	YES
Myh1	17879		-4.60263	-8.59252	0.00005	0.000323529	YES
Neto2	74513		-4.65452	-10.3465	0.00005	0.000323529	YES
Gc	14473		-4.69648	-3.72176	0.00275	0.0110605	YES
Tmem132b	208151		-4.7584	-9.38314	0.00005	0.000323529	YES
Gm13187	100504349		-4.77957	-1.25125	0.00295	0.0117537	YES
Slc7a11	26570		-4.82318	-5.42816	0.00005	0.000323529	YES
Dnaic1	68922		-4.8896	-3.67965	0.0044	0.0165857	YES
Fam19a3	329731		-4.92599	-8.728	0.00005	0.000323529	YES
Nek5	330721		-4.93349	-5.25881	0.00005	0.000323529	YES
Gm12784	102638744		-4.96381	-1.16743	0.0004	0.00210083	YES
Gm13490	433426		-5.08412	-4.28599	0.00005	0.000323529	YES
1700112H15Rik	73590		-5.1015	-4.99041	0.0051	0.0188096	YES
Spns3	77577		-5.18297	-10.6354	0.00005	0.000323529	YES
9430073C21Rik			-5.28298	-3.62549	0.00005	0.000323529	YES
3830431G21Rik	217682		-5.34604	-6.3861	0.00005	0.000323529	YES
Alox12b	11686		-5.39736	-4.39975	0.00435	0.0164445	YES
5330437I02Rik	319888		-5.45813	-8.26879	0.00005	0.000323529	YES
2310065F04Rik	74184		-5.48133	-8.05337	0.00005	0.000323529	YES
Mb	17189		-5.71282	-14.0514	0.00005	0.000323529	YES
Gck	103988		-5.91486	-5.97436	0.00005	0.000323529	YES
Nek10	674895		-6.06658	-4.97761	0.0025	0.0101825	YES
Odf3l2	382384		-6.08214	-9.84916	0.00005	0.000323529	YES
Cacna1e	12290		-6.31713	-8.88779	0.00005	0.000323529	YES
Pde6a	225600		-6.81598	-5.35945	0.0027	0.0108761	YES
Gm12766			-6.89184	-5.96	0.00005	0.000323529	YES
4930473D10Rik	78012		-6.95189	-0.341113	0.0155	0.0476108	YES
Fscn2	238021		-6.9887	-7.9303	0.00005	0.000323529	YES
Cacna2d4	319734		-7.176	-7.26699	0.00005	0.000323529	YES
Otog	18419		-8.0057	-6.13869	0.00995	0.0329363	YES
Hamp2	66438		-8.99636	-10.6658	0.00475	0.0176888	YES
1700027J07Rik	69443	-inf		-nan	0.00005	0.000323529	YES
4930572O13Rik	75862	-inf		-nan	0.00005	0.000323529	YES
Aadac	67758	-inf		-nan	0.00005	0.000323529	YES

Supplemental Table 2: Ubiquitin-Proteasome System changes in AR113Q Muscle.

Psmc6	0.4512441
Psmc4	0.5099766
Psmc2	0.5536741
Psmc4	0.5699353
Psmc7	0.5721586
Psmc7	0.598038
Psmc12	0.6282954
Psmc3	0.6346891
Psmc6	0.643129
Psmc2	0.6551209
Psmc1	0.6563699
Psmc1	0.6593681
Psmc3	0.6654836
Psmc6	0.6725116
Psmc2	0.675976
Psmc6	0.6888702
Psmc3	0.7091354
Psmc7	0.7136779
Psmc4	0.7149484
Psmc1	0.7154808
Psmc4	0.7159199
Psmc3ip	0.7175792
Adrm1	0.723659
Psmc5	0.7314291
Psmc4	0.7400666
Psmc1	0.7546403
Psmc5	0.7588533
Psmc14	0.7848076
Psmc1	0.801632
Psmc3	0.8070786
Psmc11	0.8131216
Psmc4	0.8230084
Psmc3	0.8364673
Psmc2	0.8388763
Psmc9	0.8399731
Psmc1	0.8557617
Psmc8	0.8569554
Psmc8	0.8906336
Psmc8	0.9109773
Psmc13	0.9115281
Psmc2	0.9344267
Psmc2	0.9462983
Psmc10	0.9539043
Psmc5	0.9573967
Psmc9	0.9813138
Psmc5	1.0012721
Psmc10	1.0237538

Psmf1	1.0333204
Psmg3	1.086661
Ube2t	0.3023078
Ube2g1	0.4337904
Ube2d3	0.4544678
Cdc34	0.5262105
Ube2b	0.5275325
Ube2e1	0.5385566
Ube2q2	0.5847886
Ube2f	0.5873157
Ube2k	0.655442