

Supplementary Material

Aberrant Expression of GABA-Related Genes in the Hippocampus of 3xTg-AD Model Mice from the Early to End Stages of Alzheimer's Disease

Supplementary Table 1. The Prime-Time qPCR Assays (Integrated DNA Technologies, Inc.) of each gene used in this study.

Gene name	Probe number
Gabrg3	Mm.PT.58.7872090
Gabrr2	Mm.PT.58.6928777
Gabrr1	Mm.PT.58.6391807
Gabra1	Mm.PT.58.32797820
Gapdh	Mm.PT.39a.1

Supplementary Table 2. RNA integrity number (RIN) of each sample subjected to microarray analysis.

Sample	RIN
WT1 (12 weeks)	9.5
WT2 (12 weeks)	9.5
WT3 (12 weeks)	9.4
WT4 (12 weeks)	9.4
WT5 (12 weeks)	9.1
WT6 (12 weeks)	9.2
WT7 (12 weeks)	9.1
WT8 (12 weeks)	9.1
3xTg1 (12 weeks)	8.8
3xTg2 (12 weeks)	9.3
3xTg3 (12 weeks)	9.2
3xTg4 (12 weeks)	9.3
3xTg5 (12 weeks)	9.3
3xTg6 (12 weeks)	9.2
3xTg7 (12 weeks)	9.4
3xTg8 (12 weeks)	9.2
WT1 (52 weeks)	9.4
WT2 (52 weeks)	9.3
WT3 (52 weeks)	9.4
WT4 (52 weeks)	9.3
WT5 (52 weeks)	9.5
WT6 (52 weeks)	9.3
WT7 (52 weeks)	9.2
WT8 (52 weeks)	9.5
3xTg1 (52 weeks)	9.0
3xTg2 (52 weeks)	9.1
3xTg3 (52 weeks)	9.2
3xTg4 (52 weeks)	9.2
3xTg5 (52 weeks)	9.3
3xTg6 (52 weeks)	9.2
3xTg7 (52 weeks)	9.2
3xTg8 (52 weeks)	9.0

Supplementary Table 3. The gene list of 923 upregulated genes in 12 weeks according to the results of microarray data.

Gene symbol	Average of normalized data in WT mice	Average of normalized data in 3xTg mice	Log2FC	p	q
Cxcl13	0.050409	2.820469	5.806111	0.003446	0.024497
Oasl2	0.5844	9.366225	4.00244	0.009011	0.044883
Ccl5	0.541774	8.160814	3.912951	0.005021	0.030657
Ifit1	0.539964	6.762052	3.646525	0.003314	0.024004
Cxcl10	0.401585	4.578948	3.511237	0.004222	0.027862
Usp18	0.517532	5.865509	3.502538	0.001379	0.014514
Kcne2	0.46881	3.762288	3.004535	0.000802	0.010736
Oasl1a	0.515906	3.879199	2.910579	0.001487	0.014895
Plac8	0.583951	4.173327	2.837279	0.002003	0.017678
Slc4a5	0.5362	3.766389	2.812338	0.001113	0.012888
1500015O10Rik	0.658377	4.134218	2.650629	0.000862	0.011198
Ttr	0.501253	3.016359	2.589197	0.00127	0.013737
Ifit3	0.566477	3.197226	2.49673	0.001724	0.016252
Oasl1f	0.65641	3.560649	2.439472	0.0021	0.018186
Clic6	0.718742	3.858544	2.42451	0.001188	0.013371
F5	0.590049	3.135085	2.409599	0.001618	0.0157
Rtp4	0.676692	3.577672	2.402451	0.001031	0.012308
Kcnj13	0.648412	3.406932	2.39349	0.001347	0.014302
Isg15	0.695041	3.607293	2.375747	0.004171	0.027638
Ctse	0.299145	1.547027	2.37058	0.002078	0.018038
Phf11a	0.663883	3.265191	2.298166	0.002003	0.017678
Aqp1	0.687029	3.315077	2.2706	0.003389	0.024272
Wfdc2	0.613052	2.958004	2.270543	0.001994	0.017641
Ifit3b	0.633436	2.839682	2.164459	0.002605	0.020838
Steap1	0.731172	3.239048	2.147288	0.0013	0.013974
C430049E01Rik	0.351253	1.507324	2.101406	0.00133	0.0142
Oasl1	0.689071	2.891501	2.069095	0.001674	0.016029
Trim12a	0.381988	1.591501	2.05879	7.41E-06	0.000687

Gbp6	0.659963	2.749488	2.058707	0.000847	0.011069
Phf11d	0.616457	2.568019	2.058585	0.001248	0.013676
Col8a1	0.703417	2.920174	2.053602	0.001379	0.014514
Lgals3bp	0.704773	2.924832	2.053123	0.001066	0.012544
Wdr86	0.735291	3.037697	2.046592	0.002173	0.018711
Lmx1a	0.55384	2.231216	2.010289	0.000597	0.009157
Lbp	0.625589	2.384505	1.930404	0.000374	0.007137
Col8a2	0.702903	2.613028	1.894326	0.001441	0.014732
Krt18	0.649373	2.409331	1.891514	0.002193	0.018839
Prr32	0.981098	3.600995	1.875926	0.008198	0.042078
Tgtp2	0.640059	2.317351	1.8562	0.000279	0.006027
Irgm2	0.595973	2.144511	1.847331	1.74E-06	0.000368
Bst2	0.799765	2.859455	1.838092	0.002957	0.022405
Ifi44	0.579643	2.066968	1.83428	0.003622	0.025291
Fcgr4	0.731015	2.595686	1.828144	0.004666	0.029282
Abca4	0.718883	2.536392	1.818948	0.000267	0.005922
Igtp	0.674017	2.345125	1.798809	6.19E-05	0.00243
Trpv4	0.679871	2.319858	1.770704	0.00207	0.017995
Nlrc5	0.573115	1.949742	1.766388	0.001458	0.014781
Lgr6	0.378016	1.260296	1.737245	4E-06	0.000545
Slc13a4	0.776732	2.571186	1.726945	0.000312	0.006389
Phf11b	0.731786	2.376475	1.69933	0.001401	0.014531
Cd209f	0.516883	1.67048	1.692353	5.14E-05	0.002112
Sfrp5	0.640386	2.067077	1.690579	0.001727	0.016252
Krt8	0.689764	2.21208	1.681228	0.002491	0.020365
Trim30a	0.538217	1.71962	1.675829	0.000285	0.006117
H2-Ab1	0.536508	1.678289	1.645321	0.003867	0.026388
Sostdc1	0.853711	2.663824	1.641679	0.002222	0.018991
Ifitm3	0.688873	2.103539	1.61051	0.00039	0.007283
Gbp2	0.701865	2.075678	1.564316	0.000201	0.004986
Zic2	0.423219	1.215397	1.521952	0.000343	0.006781
Trim34a	0.6786	1.940424	1.515739	0.000573	0.008908
Kl	0.928248	2.628933	1.501895	0.000516	0.008389

Ifi204	0.69562	1.963088	1.496755	0.004819	0.029817
Slc2a12	0.884544	2.452351	1.47116	0.002507	0.02042
Cnn2	0.660866	1.826697	1.466808	5.77E-10	7.64E-07
Wfikkn2	0.608181	1.616475	1.410278	0.002511	0.020444
Fap	0.791382	2.097871	1.406479	0.000468	0.007954
H2-Eb1	0.605143	1.60248	1.404959	0.003074	0.023007
Rnf213	0.792192	2.096329	1.403944	0.000917	0.011621
Klk1b22	0.618074	1.629153	1.398271	0.001633	0.015766
Rsad2	0.810365	2.112048	1.381998	0.003181	0.023365
Omd	0.629431	1.625587	1.36884	0.003279	0.023818
Pdgfd	0.481014	1.233912	1.359088	0.000174	0.004543
Klk1b27	0.711811	1.796616	1.335716	0.007613	0.040042
Casp4	0.641232	1.61661	1.334053	0.004789	0.029701
Ddx58	0.8067	2.011182	1.31794	0.000652	0.009555
Col6a4	0.659945	1.635829	1.309605	0.007518	0.039761
Ccl9	0.77637	1.919638	1.306018	0.004617	0.029114
Parp14	0.753142	1.861824	1.305723	0.00037	0.007075
Myo1g	0.614145	1.509595	1.297512	4.59E-05	0.00202
Cd52	0.678094	1.644863	1.278411	0.002217	0.018978
Foxd1	0.681986	1.629842	1.256918	0.000389	0.007283
A2m	0.73354	1.750334	1.254682	0.002757	0.021487
Lyve1	0.673735	1.605297	1.252588	0.000505	0.008279
Zfp963	0.455839	1.085504	1.251769	4.95E-06	0.000586
Eif2ak2	0.766502	1.814375	1.243111	0.001457	0.014781
Foxc2	0.754659	1.770522	1.230277	4.95E-05	0.002083
Bub1b	0.628426	1.473253	1.229191	0.003575	0.025109
Samd9l	0.791224	1.852646	1.22743	0.000453	0.007826
H2-Q8	0.734035	1.717257	1.226186	0.000743	0.010352
H2-T23	0.735814	1.720658	1.225547	0.000248	0.005675
Ifitm7	0.775888	1.80394	1.217231	0.000592	0.009115
Ccl4	0.752552	1.745548	1.213818	0.000997	0.012167
Gm45935	0.802799	1.84518	1.200652	0.000454	0.007826
Tmem212	0.664806	1.522582	1.195515	0.001622	0.015704

Rem1	0.559275	1.276925	1.191043	0.000477	0.00805
H2-T-ps	0.711438	1.624074	1.190808	0.000367	0.007065
Arsk	0.470587	1.072681	1.188687	5.61E-06	0.000619
H2-Q2	0.691236	1.571769	1.185139	0.000423	0.00758
Colla1	1.070733	2.433769	1.184594	8.14E-05	0.0028
Pcolce	0.747826	1.694109	1.179752	0.000329	0.006597
Slc39a4	0.750485	1.688568	1.169906	0.005605	0.032822
Myoc	0.706492	1.586979	1.167539	0.000136	0.003876
Irgm1	0.812382	1.824388	1.167183	0.001095	0.012784
Sgms2	0.715617	1.601931	1.162553	2.69E-05	0.001439
Gm11127	0.713283	1.593495	1.159648	0.000222	0.005271
Colla2	0.8717	1.94555	1.158274	0.000145	0.004064
H2-D1	0.719616	1.604285	1.156631	0.000864	0.011208
C4b	0.515758	1.148195	1.1546	0.000346	0.006839
Defb9	0.679404	1.510235	1.152432	0.0016	0.015602
Tmem37	0.678923	1.505393	1.148821	2.62E-05	0.001424
H2-L	0.714245	1.580044	1.145473	0.000263	0.005861
Bcl2a1d	0.605366	1.330355	1.135933	9.57E-05	0.003151
Vpreb1	0.767004	1.682129	1.132983	0.002479	0.020333
Hba-a1	0.759123	1.664775	1.132921	0.01025	0.048741
Hba-a2	0.760581	1.66642	1.131578	0.010216	0.048622
Psemb8	0.704581	1.541605	1.129597	0.002043	0.017855
Inmt	0.588985	1.285119	1.1256	0.005394	0.031983
Prdm6	0.616354	1.332279	1.112066	0.001809	0.016677
Mrgprf	0.841793	1.811474	1.105626	0.000297	0.006199
Aldh1a2	0.713133	1.532985	1.104102	0.001141	0.013125
Sv2c	0.49099	1.052417	1.09994	0.003092	0.023007
Msl3	0.710019	1.510607	1.0892	6.93E-14	3.67E-10
Uba7	0.841696	1.779575	1.080162	0.000841	0.011014
Ccdc153	0.678628	1.422351	1.067585	0.00064	0.009464
8030411F24Rik	0.672699	1.406212	1.06378	2.23E-06	0.000423
Tor3a	0.883073	1.835705	1.05573	4.87E-05	0.002073
Rdh5	0.864045	1.789273	1.050196	0.005281	0.031604

Klk1b24	0.743975	1.539337	1.048983	0.007127	0.038327
Spaca9	0.733502	1.516436	1.047811	0.003112	0.023036
LOC547349	0.788736	1.619761	1.038167	0.000529	0.008507
Mycbpap	0.837582	1.703376	1.024095	0.000613	0.00926
Procr	0.586003	1.190579	1.022683	7.07E-05	0.002621
Ripk4	0.669417	1.356759	1.019187	0.000627	0.009384
Mdfic	0.951949	1.926437	1.016978	0.001842	0.016857
Fam46c	0.7052	1.426215	1.016088	1.85E-05	0.001198
Unc5cl	0.724122	1.456387	1.008088	0.003044	0.022897
Ccl3	0.609622	1.222106	1.003382	0.003537	0.024942
Col9a3	0.868649	1.739791	1.002068	0.001577	0.01542
Parp9	0.860589	1.718794	0.998	0.000408	0.00742
Perp	0.90833	1.804245	0.990107	0.000507	0.008279
Scube3	0.847198	1.680746	0.98833	0.004982	0.030508
Lrguk	0.678171	1.342484	0.985183	0.000981	0.012078
Stbd1	0.535015	1.049729	0.972365	0.002245	0.019143
Slc2a5	0.626985	1.22779	0.969561	0.000283	0.0061
Tgds	0.590236	1.153195	0.966272	6.8E-05	0.002566
Col3a1	1.023596	1.995255	0.962926	0.004378	0.028329
Mxl1	0.865041	1.68593	0.962705	0.001965	0.017469
Pon3	0.757914	1.476961	0.962525	3.86E-05	0.001778
Ccdc146	0.726261	1.414956	0.962197	0.003349	0.024066
Itih2	0.716606	1.390355	0.9562	0.000999	0.012167
Tgfb1	0.812132	1.574577	0.955178	5.87E-05	0.002334
Gpr65	0.529655	1.026571	0.954709	0.003189	0.023394
Lvrn	0.809932	1.564042	0.949407	0.004143	0.027547
Cfap126	0.747938	1.431164	0.936197	0.000775	0.010553
Sod3	0.720639	1.37602	0.933154	0.000458	0.007849
Ifi35	0.847483	1.617475	0.932486	0.000445	0.007799
Dnah11	0.793913	1.509837	0.927339	0.005923	0.034099
Mia	0.832716	1.576908	0.921202	0.000623	0.009368
Cd14	0.703757	1.331384	0.919778	0.000119	0.003563
Dynlrb2	0.771783	1.458838	0.918552	0.004137	0.027539

Vat1l	0.808953	1.518376	0.908402	0.002858	0.021979
Psemb9	0.747178	1.397988	0.903829	0.000236	0.00553
4833427G06Rik	0.81756	1.528743	0.902949	0.005475	0.032291
Ofd1	0.776639	1.451413	0.902142	3.44E-09	3.04E-06
Tsnaxip1	0.813602	1.519899	0.901581	0.010011	0.048116
Nek11	0.798963	1.488228	0.897395	2.68E-05	0.001439
Cthrc1	0.582253	1.079026	0.890013	0.001852	0.016914
B2m	0.777937	1.437056	0.885391	0.000302	0.00627
Rab9	0.750777	1.383537	0.881906	5.12E-13	1.36E-09
Cst7	0.739441	1.362568	0.881822	4.51E-05	0.002018
Sh3bgr	0.759939	1.393431	0.874686	3.03E-06	0.00051
Piezo2	0.79833	1.461737	0.872626	2.74E-05	0.00145
Gbp5	0.797201	1.458749	0.871715	3.12E-06	0.000517
Mgp	0.716669	1.310835	0.871108	0.000627	0.009384
Bmp6	0.79126	1.443977	0.867823	0.010403	0.049268
Vwf	0.718665	1.311421	0.86774	0.00214	0.018459
Mmp2	1.014439	1.847267	0.864711	0.009421	0.046291
Cfap69	0.662015	1.203042	0.86175	1.58E-05	0.001074
Apobec2	0.766026	1.389277	0.858869	0.002864	0.021999
Erich2	0.790717	1.426324	0.851069	0.009254	0.045748
Dera	0.662842	1.192682	0.847472	5.71E-05	0.002301
Ly86	0.713104	1.282528	0.846806	2.39E-06	0.000436
Lpl	0.671874	1.208125	0.846507	7.57E-05	0.002664
Drc7	0.937431	1.68387	0.844996	0.003782	0.026047
Spata511	0.573042	1.027487	0.842407	0.001866	0.016963
Thy1	0.739236	1.325463	0.842389	5.1E-13	1.36E-09
Dnali1	0.834066	1.49027	0.83734	0.00405	0.027191
Ddr2	0.744586	1.328842	0.835659	0.001148	0.013169
Cbr2	0.804998	1.435592	0.834589	0.00095	0.011851
Cfap52	0.854458	1.521279	0.832203	0.003072	0.023007
Slc6a13	1.03231	1.834136	0.829224	0.006041	0.034554
Zfp933	0.66081	1.167106	0.820629	0.001064	0.012542
Fbln5	0.707944	1.249572	0.819728	0.002248	0.019145

Maats1	0.788844	1.388974	0.816207	0.00223	0.019034
Slc22a6	0.891811	1.569237	0.815253	0.009441	0.046349
Tceanc	0.703492	1.233452	0.810097	4E-06	0.000545
Lrrc34	0.750236	1.313282	0.80776	0.008042	0.041636
Snai1	0.738511	1.292274	0.807221	0.001787	0.016543
Gpx8	1.01997	1.784418	0.806927	0.001031	0.012308
Tlr2	0.702112	1.227735	0.806227	0.007437	0.039465
Parp12	0.795585	1.384285	0.799053	0.000387	0.007267
Ccdc38	0.697431	1.212805	0.798225	0.000506	0.008279
Pirb	0.695266	1.209024	0.798206	0.00038	0.007198
C2	0.871623	1.51111	0.793832	0.00353	0.024924
Wnt6	0.853305	1.477144	0.791676	0.010037	0.048158
Adgrg6	0.807886	1.394991	0.788032	0.00033	0.006613
Dydc2	0.815438	1.406493	0.786456	0.001414	0.014598
Ms4a6d	0.760045	1.310465	0.785922	0.000824	0.01088
Tmem88	0.661902	1.137748	0.781492	0.000284	0.006103
Fibin	0.763873	1.30834	0.776333	9.11E-05	0.003016
Zfp982	0.810183	1.384766	0.773324	0.004907	0.030205
Grem1	0.678264	1.157223	0.770747	1.81E-05	0.001178
Cfap65	0.82204	1.399655	0.767791	0.001555	0.015257
Dtx3l	0.817669	1.390721	0.766244	0.000973	0.01201
Gstm2	0.809419	1.374381	0.763823	0.010575	0.049736
1700012B09Rik	0.782373	1.328301	0.763654	0.004629	0.029133
Slc16a9	0.893903	1.517342	0.763356	0.000621	0.009346
Fcgr1	0.848175	1.437958	0.761587	0.002768	0.021555
Cd274	0.808618	1.36669	0.757155	0.001047	0.01238
5730508B09Rik	0.724544	1.223815	0.75624	0.000149	0.004109
Ptgis	0.6537	1.103417	0.755278	0.010125	0.048407
Dnaaf3	0.802073	1.352124	0.753423	0.001154	0.013218
Iqub	0.771352	1.297491	0.750263	0.001665	0.015988
Tex13d	0.721694	1.208132	0.743319	0.000454	0.007826
AA467197	0.709882	1.185862	0.740285	0.000571	0.008908
Mrc1	0.890575	1.487109	0.739701	0.004157	0.027589

Aldob	0.80291	1.337008	0.735699	0.006486	0.036142
Alx4	0.860557	1.432008	0.734697	0.003937	0.026711
Pawr	0.661667	1.098385	0.731206	0.000163	0.004363
Asb2	0.813499	1.346284	0.726771	8.11E-05	0.0028
Tspo	0.754907	1.248745	0.726108	0.000253	0.005715
Nat8f5	0.723206	1.196144	0.725914	5.84E-06	0.000625
Crybg1	0.836382	1.381524	0.724026	0.000897	0.011524
Nlrp1a	0.77185	1.270972	0.71954	3.68E-08	2.78E-05
Ptgr1	0.909783	1.496754	0.718243	0.000332	0.006639
Rsph1	0.866736	1.425337	0.717639	0.005134	0.031132
Lrrc23	0.804223	1.321375	0.716373	0.003179	0.023365
Jag1	0.720262	1.182313	0.715019	0.000405	0.007397
Elovl7	0.840271	1.377826	0.713467	5.37E-06	0.000599
Tnfsf10	0.840407	1.376982	0.712349	0.001004	0.012167
Ccdc113	0.853015	1.39696	0.711649	0.002291	0.019336
Insrr	0.827401	1.354894	0.711521	0.000628	0.009384
Rbp7	0.83603	1.368952	0.711445	0.005369	0.031971
Tmsb4x	0.792481	1.292459	0.705671	1.11E-11	1.97E-08
Gm5458	0.661	1.077472	0.704927	0.002215	0.018978
Gm3636	0.633471	1.028172	0.698732	0.003071	0.023007
Dhx58	0.849701	1.378965	0.698559	0.001525	0.015135
Dlx4	0.798917	1.29297	0.694572	0.006933	0.037761
Zfp236	0.681794	1.103314	0.694436	0.001684	0.016091
Themis2	0.80572	1.303856	0.694434	7.48E-05	0.002664
Col12a1	0.739824	1.19688	0.694025	0.00019	0.004768
Dock8	0.691599	1.118861	0.694024	0.00166	0.015948
Ogn	0.719038	1.158393	0.687984	0.002964	0.022425
Tcaf2	0.77272	1.242867	0.685654	6.46E-05	0.002481
H2-DMb1	0.726238	1.16759	0.68502	7.61E-05	0.002664
Lum	0.756632	1.215499	0.683885	0.001935	0.017351
Serping1	0.851994	1.362716	0.67757	0.001654	0.015912
Mndal	0.782406	1.250834	0.676901	2.59E-05	0.001424
Ptgds	0.937868	1.499163	0.6767	0.010508	0.049587

Uox	0.793709	1.267452	0.675249	0.001974	0.017512
H2-M3	0.850812	1.352681	0.66891	0.001471	0.01482
Dppa5a	0.854995	1.357595	0.667064	0.000134	0.003825
Pm20d1	0.688963	1.092847	0.665593	0.000213	0.005121
Nid1	0.852918	1.349899	0.662373	4.59E-05	0.00202
Ccdc24	0.831951	1.314746	0.660214	0.000774	0.010553
Gm10413	0.723085	1.141634	0.658864	0.004622	0.029124
Tnfrsf1b	0.714349	1.126795	0.657523	0.001195	0.013374
Cd59b	0.687044	1.082793	0.656284	0.002879	0.022046
Casp12	0.771557	1.215618	0.655844	4.42E-05	0.001987
Fzd10	0.831008	1.308035	0.654467	0.007467	0.039588
H2-T9	0.785255	1.235547	0.653917	0.010015	0.048116
Gpr39	0.698941	1.098789	0.652673	0.000486	0.008135
Arhgef5	0.807121	1.265417	0.648756	0.004401	0.028354
Fbln7	0.792842	1.241286	0.646731	0.000233	0.005505
Npas4	0.816422	1.277677	0.646135	0.006367	0.035783
Gm5797	0.770085	1.203181	0.643764	0.004704	0.029379
Ak8	0.81668	1.273769	0.641261	0.00122	0.013553
Ifi30	0.775269	1.208042	0.639903	0.000111	0.003427
Mrc2	0.754911	1.174972	0.638248	0.00035	0.006899
LOC102634132	0.778682	1.21193	0.638199	2.87E-06	0.000499
Pld4	0.86836	1.349315	0.635861	0.000287	0.006129
Loxl1	0.863847	1.339451	0.632795	0.000237	0.005535
Tmco5	0.790912	1.219518	0.624721	0.002636	0.020905
Zfp979	0.84719	1.303545	0.621683	0.002257	0.019186
Zfp52	0.759691	1.167088	0.619429	0.000785	0.010629
Cep76	0.7073	1.086588	0.61941	0.000358	0.006942
Gm10406	0.697515	1.07105	0.61873	0.005881	0.033971
Cmtm8	0.875261	1.342433	0.617065	0.00013	0.003772
Tns4	0.851078	1.30449	0.616122	0.00019	0.004766
Pih1d2	0.910125	1.393487	0.614564	0.001041	0.012368
Iqcg	0.874207	1.337294	0.61327	0.00395	0.026788
Adi1	0.727419	1.112237	0.612606	0.003459	0.024543

Cacng1	0.824427	1.259386	0.611258	0.009414	0.046278
Ccl6	0.672787	1.027496	0.610911	0.005865	0.033912
Sp5	0.903209	1.379258	0.61076	0.008076	0.041715
Fcer1g	0.83536	1.274933	0.609952	0.000102	0.003291
Foxj1	0.813536	1.241457	0.609756	0.004049	0.027191
Stxbp2	0.905111	1.380468	0.60899	0.000552	0.008731
Sfil	0.746503	1.137374	0.607487	0.000234	0.00552
Slc11a1	0.81364	1.239566	0.607373	0.002445	0.020185
Tmem25	0.690279	1.048986	0.603745	0.001026	0.012308
Mast4	0.642745	0.974521	0.600446	0.001741	0.016308
Hey2	0.669375	1.014075	0.599279	0.000608	0.009245
Anxa1	0.783387	1.186197	0.598546	6.39E-05	0.002464
Anxa2	0.748647	1.128601	0.592179	2.37E-05	0.001344
Slc13a3	0.857776	1.292745	0.591764	0.00098	0.012074
Acot12	0.73941	1.114093	0.591423	0.000954	0.011852
Synpo2	0.71558	1.077704	0.590777	0.008606	0.043393
Agpat2	0.794509	1.1965	0.590685	0.000294	0.006164
Mss51	0.723707	1.088088	0.588318	0.000718	0.010154
Ccbe1	0.838795	1.258939	0.585819	0.000598	0.009157
Gm3317	0.677584	1.015855	0.584224	0.006379	0.035809
Svep1	0.794991	1.191757	0.58408	0.000552	0.008731
Ang4	0.79902	1.196981	0.583096	7.05E-05	0.002621
Csrp2	0.91722	1.373816	0.58285	0.000586	0.009064
Akr1c14	0.952289	1.424976	0.581467	0.001777	0.016513
Fam32a	0.700247	1.047544	0.581076	2.27E-05	0.001344
Tigd4	0.712918	1.064794	0.578767	0.004284	0.027958
Cyp1b1	0.888458	1.32424	0.575788	0.003719	0.025794
Myl9	0.931432	1.387252	0.574708	0.004051	0.027191
Ccdc81	0.81961	1.219575	0.573369	0.004758	0.029611
Cntnap5c	0.785651	1.167989	0.572066	0.001316	0.014077
Prss16	0.820121	1.21919	0.572015	0.001991	0.017634
Naip6	0.748173	1.1109	0.570285	0.004986	0.03051
Chil1	0.722777	1.071003	0.567339	4.69E-05	0.002038

Mylk	0.876036	1.297756	0.566957	0.000103	0.003323
Gm5431	0.791396	1.171946	0.566433	0.000467	0.007948
Maf	0.710941	1.051461	0.564595	5.24E-06	0.000599
Il12rb1	0.768536	1.135681	0.563372	0.007402	0.039335
Fam92b	0.883139	1.303749	0.561954	0.009702	0.047147
Tyms	0.786871	1.161432	0.561706	4.67E-05	0.002036
Clic3	0.914611	1.348184	0.559787	0.008304	0.042478
Sec14l4	0.749881	1.102933	0.556612	0.000814	0.010795
Actc1	1.011994	1.488368	0.556531	0.003932	0.026695
Mpeg1	0.82779	1.214629	0.553179	0.001883	0.017058
Elmo3	0.876134	1.2844	0.551871	0.000353	0.006901
Dock5	0.832062	1.217754	0.54946	0.000274	0.005955
Tagln	0.950913	1.3915	0.549255	0.009512	0.046545
Acadl	0.761175	1.113524	0.548833	0.000224	0.005301
Dnah2	0.890708	1.299399	0.544819	0.009951	0.047971
Adora3	0.772546	1.126984	0.544774	0.001272	0.013747
Arsj	0.76129	1.11028	0.544405	0.006219	0.035137
Cab39l	0.856964	1.248876	0.543323	0.003485	0.024655
Eno4	0.849166	1.235628	0.541126	0.000466	0.007946
Ehd2	0.873751	1.270974	0.540642	7.46E-06	0.000687
Gm5796	0.711838	1.034958	0.539951	0.009696	0.047141
Bco2	0.793063	1.15123	0.537669	0.005636	0.032983
Vim	0.787907	1.143129	0.536891	1.32E-05	0.000977
Gm5741	0.860465	1.247684	0.536065	0.005527	0.032454
Vcam1	0.880608	1.276603	0.535738	0.001961	0.017455
C1s2	0.830511	1.201567	0.532847	0.003976	0.026874
Olfrl484	0.81896	1.183821	0.531586	0.001419	0.014627
Fam161a	0.921393	1.331549	0.531216	0.001904	0.017157
Glb1l	0.925987	1.337814	0.530813	0.003849	0.026301
Sowahe	0.882129	1.270522	0.526361	0.005167	0.03126
Nptx2	0.825605	1.189077	0.526318	0.000439	0.007732
Dusp23	0.903268	1.300355	0.52568	0.006882	0.037635
Tyropb	0.796626	1.143278	0.521202	1.7E-05	0.001136

Tusc1	0.788792	1.130976	0.519851	0.000178	0.004548
Cfh	0.819421	1.17364	0.518314	0.000828	0.010905
Plvap	0.734389	1.05165	0.518038	0.000283	0.006103
Ccdc173	0.825822	1.182221	0.517598	0.000604	0.009199
Ccdc102a	0.911645	1.304169	0.516586	3.65E-05	0.001719
Pmch	0.849805	1.214752	0.515459	0.00048	0.008065
Klk1b8	0.89465	1.276511	0.512811	0.004211	0.027806
Tpmt	0.734085	1.047335	0.512704	0.000123	0.003653
Zfp87	0.782244	1.114926	0.511258	1.19E-05	0.000924
Manba	0.709775	1.01121	0.510648	0.000668	0.00971
Cavin1	0.845335	1.203816	0.510019	0.000145	0.004064
Asap3	0.89582	1.275414	0.509685	0.001217	0.01353
Ugt1a6b	0.798342	1.136092	0.509001	3.68E-05	0.001725
Scpep1	0.768099	1.093038	0.50898	6.39E-06	0.000651
Pdlim3	0.891413	1.266044	0.506162	0.000937	0.011734
Kctd11	0.840036	1.192432	0.505383	6.79E-06	0.000666
Tap2	0.892891	1.262987	0.500285	0.001972	0.017509
Zfp367	0.810102	1.1455	0.499802	6.66E-08	4.41E-05
Tm4sf1	0.880989	1.245721	0.499785	0.000252	0.005702
Ankrd29	0.844069	1.19301	0.499173	0.00093	0.011717
Il3ra	0.76224	1.073537	0.494054	0.000488	0.008163
Amacr	0.720865	1.014519	0.492994	0.007159	0.038418
Ptpn18	0.810331	1.139576	0.491914	0.000242	0.005579
Six5	0.880893	1.235823	0.488434	2.21E-05	0.001332
1700029J07Rik	0.897478	1.255776	0.484632	3.32E-05	0.001599
Cdr2	0.794903	1.112057	0.48438	0.000507	0.008279
Drc3	0.816357	1.142001	0.484291	0.000118	0.003562
Abhd14b	0.788133	1.099844	0.480788	0.001176	0.013301
Sncg	0.789285	1.099096	0.477699	0.006578	0.036442
Anpep	0.891834	1.240693	0.476299	0.007899	0.041121
Sdc4	0.719712	0.999419	0.473669	0.008772	0.043966
Pot1b	0.783195	1.087333	0.473351	0.002589	0.020786
Msrb3	0.805251	1.117826	0.473185	0.001616	0.0157

Dennd1c	0.87515	1.214246	0.472458	0.000737	0.010288
Uggt2	0.753293	1.044521	0.471559	0.001949	0.017414
Tnfaip8l2	0.77866	1.077847	0.469086	0.000206	0.00501
Stat2	0.898129	1.242893	0.468708	0.000104	0.003339
Susd3	0.822678	1.135327	0.464708	0.007939	0.041249
Tbxas1	0.858679	1.184126	0.463631	0.00011	0.003417
Tpm4	0.793876	1.094374	0.46312	1.7E-07	9.01E-05
Parp4	0.87198	1.199103	0.459588	1.54E-06	0.000347
Ccdc88c	0.806352	1.107974	0.458442	3.26E-05	0.001584
Tsc22d1	0.778206	1.067626	0.456183	0.004174	0.027638
Hcls1	0.828102	1.135678	0.455673	2.33E-05	0.001344
Ren2	0.842947	1.153862	0.452957	0.001175	0.013301
Gsdmd	0.83275	1.139271	0.452155	0.000525	0.008462
Hdhd3	0.778726	1.063343	0.449419	0.000556	0.008763
Nxn	0.805327	1.098627	0.448055	0.000143	0.004033
Wdr78	0.856393	1.167503	0.447081	0.000731	0.010251
Nexn	0.936904	1.277174	0.446981	0.00072	0.010181
Cdc42ep1	0.817382	1.113614	0.446167	0.003474	0.02461
Nme6	0.810248	1.103885	0.446154	0.000176	0.004548
Cetn4	0.857369	1.167381	0.445288	0.000913	0.011609
Vwa3a	0.982394	1.337357	0.445012	0.008843	0.044209
Chrm3	0.91251	1.242033	0.444792	0.000519	0.008428
Aaed1	0.76283	1.038098	0.444509	0.000292	0.006155
Hemk1	0.927677	1.262074	0.444103	0.001702	0.016153
Tppp3	0.832628	1.132746	0.44408	3.7E-05	0.001725
Myo1f	0.789164	1.070716	0.440178	0.001216	0.01353
Map3k14	0.879077	1.192425	0.439836	0.00358	0.025128
Hapln4	0.802863	1.08559	0.435255	0.000295	0.006174
Trib3	0.850507	1.149801	0.434989	0.001245	0.013673
Myl12a	0.903027	1.220684	0.434849	8.63E-07	0.000247
Sned1	0.962024	1.300075	0.434451	0.010118	0.048407
Layn	0.753271	1.017404	0.433652	0.001778	0.016513
Rtfdc1	0.812906	1.097737	0.433371	6.69E-06	0.000663

F11r	0.975121	1.31585	0.432342	0.003408	0.024389
1700028P14Rik	0.890254	1.201088	0.432052	0.002636	0.020905
Fa2h	0.896593	1.209425	0.431797	0.000403	0.007392
Tgfbr3	0.798085	1.076503	0.431739	0.000887	0.011446
Rps13	0.770607	1.039218	0.431431	0.001303	0.013984
Ang6	0.833716	1.12385	0.430821	0.008466	0.042996
Ldlrap1	0.86891	1.167321	0.425922	0.000602	0.009178
C1qb	0.891634	1.196104	0.423819	0.00447	0.028611
Wdr31	0.906245	1.214016	0.421814	9.04E-06	0.000773
1700020N15Rik	0.894243	1.197901	0.42177	8.75E-06	0.000767
Slc12a7	0.891348	1.192934	0.420454	0.006717	0.036962
Ppcdc	0.770374	1.029143	0.417813	0.001182	0.013342
Cds1	0.802735	1.072347	0.417777	0.000376	0.007149
Tagap	0.812342	1.084168	0.416429	0.000906	0.011538
Atp10b	0.90904	1.212967	0.416125	0.001785	0.016543
Lpxn	0.83712	1.116966	0.416079	0.000674	0.009736
Lrrc46	0.899254	1.199286	0.415376	0.003925	0.026669
Plscr1	0.8131	1.082676	0.413096	0.0031	0.023007
Rbpms2	0.884829	1.176655	0.411221	7.02E-05	0.00262
Msn	0.857352	1.139366	0.410272	6.66E-05	0.00253
Serhl	0.874046	1.160682	0.409192	0.00232	0.019534
Rassf4	0.763841	1.014243	0.40906	4.76E-06	0.00058
Snx20	0.800228	1.06239	0.408831	1.91E-05	0.001228
1700016K19Rik	0.938608	1.246074	0.408794	0.005514	0.032425
Anln	0.760775	1.009736	0.408437	0.001423	0.01464
Neurl2	0.920938	1.221507	0.407487	0.003083	0.023007
Map3k15	0.912715	1.209412	0.406069	0.000443	0.007791
Clic1	0.939625	1.24473	0.405675	2.32E-06	0.000431
Kctd15	0.850837	1.126889	0.40539	6.15E-05	0.002421
Ssbp4	0.874117	1.156941	0.404417	6.96E-06	0.000673
Prosl	0.875293	1.158467	0.404379	5.27E-07	0.000199
Zfp97	0.774782	1.025223	0.404075	3.04E-05	0.001525
Ppp1r14c	0.76683	1.013792	0.402783	0.000636	0.009448

Clqc	0.907942	1.199213	0.401416	0.002281	0.019292
Rsl1	0.846023	1.116064	0.399651	0.000156	0.004244
Vamp8	0.941563	1.241252	0.398666	0.009112	0.045197
Pkn3	0.866741	1.142182	0.39812	0.000156	0.004244
Hspb3	0.815381	1.071474	0.394051	0.000223	0.005291
Dnaic1	0.930119	1.22213	0.393912	0.000111	0.003427
Mmp15	0.892203	1.170381	0.391534	0.000937	0.011734
Psg23	0.868583	1.139214	0.391304	3.98E-06	0.000545
Serinc3	0.803954	1.052739	0.388963	0.000325	0.006544
Cbx8	1.061312	1.389293	0.388502	0.003608	0.025261
Snopc3	0.784055	1.025846	0.387787	0.000294	0.006164
Tnfaip6	0.846487	1.106586	0.386556	0.002489	0.020365
Spata6	0.898637	1.173826	0.385408	0.005342	0.031832
Lama5	0.937206	1.222149	0.382982	0.001984	0.017585
Usp25	0.796087	1.037358	0.381916	0.000806	0.010749
Hspg2	0.967377	1.259058	0.380195	0.002793	0.021659
Apbb1ip	0.925276	1.203707	0.379529	0.002138	0.018456
Vasn	0.952431	1.238944	0.379425	0.01035	0.049106
Cyp51	0.838908	1.090702	0.378672	5.13E-05	0.002112
Fam167a	0.837029	1.087849	0.378128	0.000355	0.006907
Fam129b	0.864413	1.122546	0.376983	2.03E-05	0.001271
Foxc1	0.973938	1.264473	0.376635	0.008601	0.043389
Ptprb	0.911906	1.1831	0.375615	0.000677	0.009756
Ift27	0.822833	1.067196	0.375153	0.001706	0.016171
Wdfy4	0.869805	1.127268	0.374067	0.008383	0.04274
Napepld	0.856452	1.109752	0.373793	0.000317	0.006453
Lysmd3	0.818026	1.059463	0.373113	5.86E-07	0.000201
Mgl2	0.91474	1.184499	0.372844	1.58E-05	0.001074
Cd99	0.937775	1.212499	0.37067	6.68E-05	0.00253
Slc38a11	0.759524	0.981516	0.369917	0.005918	0.034091
Zfp58	0.865118	1.117906	0.36983	5.33E-06	0.000599
Naaladl2	0.898388	1.159525	0.368123	0.000944	0.011801
Dapk2	0.778062	1.003132	0.366554	0.000754	0.010448

Aif1	0.906684	1.168427	0.365895	0.003643	0.025365
Slc5a11	0.837409	1.078388	0.364873	0.008527	0.043142
Tmem140	0.93698	1.205278	0.363277	0.005946	0.034173
Casp6	0.882169	1.134426	0.362836	0.000128	0.003753
Ino80	0.836697	1.075386	0.362077	0.002927	0.022261
Rsb11	0.801285	1.029577	0.361664	1.48E-05	0.00104
Uaca	0.936655	1.202974	0.361017	0.004627	0.029133
Adgr14	0.859114	1.102713	0.360137	0.008128	0.041904
Glr3	0.765063	0.981519	0.359438	0.001234	0.0136
Zfp3611	0.953062	1.222443	0.359126	0.000565	0.008848
Snx29	0.843586	1.081571	0.358521	0.004333	0.028178
Clmp	0.89808	1.151288	0.358333	0.003376	0.024208
N4bp1	0.801105	1.026957	0.358313	0.000239	0.00555
Cep126	0.772434	0.989627	0.357474	0.001701	0.016151
Sap130	0.836359	1.069717	0.355036	1.01E-09	1.07E-06
Selp1g	0.828105	1.058162	0.353675	0.000105	0.003366
Nckap11	0.877792	1.11874	0.349923	4.87E-05	0.002073
Was	0.899002	1.14477	0.348662	0.001257	0.013695
Abhd2	0.876895	1.116599	0.348636	0.002039	0.01784
Mthfd2	0.827458	1.05295	0.347679	0.002447	0.020187
Ecm2	1.008376	1.281889	0.346239	0.003016	0.022734
Rbks	0.871257	1.107154	0.345686	0.000512	0.008336
Tax1bp3	0.938474	1.191837	0.344798	0.001117	0.012899
Itgb3bp	0.879322	1.116015	0.343892	0.000446	0.007802
Mccc1	0.940156	1.19305	0.343684	0.000669	0.00971
Aim2	0.84003	1.065532	0.343062	0.003319	0.024004
Sema3e	0.953134	1.208692	0.342696	0.000339	0.006745
Pcdha12	0.824371	1.045328	0.342589	0.000147	0.004074
Rnf169	0.876261	1.11034	0.341568	0.003435	0.024455
Cpt2	0.906317	1.147968	0.340995	0.001828	0.016762
Vamp3	0.866609	1.097176	0.340343	0.00049	0.008169
Ncf2	0.881754	1.116304	0.340282	1.08E-05	0.000856
Rrm2b	0.786053	0.993853	0.338405	0.002401	0.019934

A430078G23Rik	0.908846	1.149054	0.338339	4.42E-05	0.001987
Ccdc141	0.823486	1.040962	0.338101	0.001692	0.016124
Fam173b	0.826295	1.044347	0.337873	0.010001	0.048116
Rccd1	0.878358	1.109704	0.337294	0.008005	0.041552
Gm40824	0.852863	1.077348	0.3371	0.002359	0.019704
Dstn	0.909733	1.14782	0.33538	6.08E-06	0.000641
Tagln2	0.891284	1.124439	0.335248	0.000658	0.009608
Scarfl	0.908368	1.145096	0.334119	0.001497	0.014931
Fam177a	0.954621	1.203066	0.333716	0.005461	0.032266
Antxr2	0.884622	1.11479	0.33364	0.005099	0.031022
Zfp677	0.843709	1.063224	0.333628	0.000304	0.006287
Myh9	0.866979	1.092029	0.332942	6.06E-07	0.000201
Vangl1	0.952757	1.199106	0.331779	0.003958	0.026805
Timp3	0.810379	1.019614	0.331356	0.000191	0.004768
Tmem243	0.797235	1.002621	0.330701	0.003173	0.023342
Rbm12b1	0.866967	1.089605	0.329756	0.00633	0.035631
Ttf2	1.003059	1.259198	0.328099	0.006456	0.03606
Syng2	0.86171	1.081571	0.327853	0.000836	0.010995
Pcdhb10	0.899376	1.128805	0.327801	0.005319	0.031743
Socs4	0.854744	1.069952	0.323981	0.004009	0.027051
Ltbr	0.918737	1.148366	0.321858	0.000214	0.005121
Ptch1	0.876523	1.095442	0.321648	2.08E-05	0.001283
Mmrn2	0.923225	1.153611	0.321402	0.00175	0.016338
Gosr1	0.808885	1.009765	0.320013	0.000793	0.01068
Arhgap29	0.991322	1.237076	0.319509	0.007539	0.039814
Rbm48	0.767644	0.957066	0.318181	1.95E-05	0.001243
D8Ert738e	0.883118	1.100959	0.318082	3.41E-06	0.000519
Ugt8a	0.873873	1.089415	0.318058	0.00955	0.046664
Kcnh5	0.979124	1.220621	0.318051	0.008496	0.043084
Adcy4	0.89119	1.110707	0.317674	0.000556	0.008763
Cd48	0.89462	1.113889	0.316258	0.001766	0.016438
Arhgef18	0.935433	1.164353	0.315823	5.82E-05	0.002327
Rrnad1	0.82204	1.023176	0.315773	0.001167	0.013289

Mygl	0.884908	1.100692	0.314812	1.06E-05	0.000848
Bok	0.912538	1.134927	0.314643	0.002918	0.022254
Matn2	0.852197	1.059294	0.313844	6.11E-06	0.000641
Ube2j1	0.849559	1.056012	0.313841	6.26E-05	0.00244
Zfp433	0.870604	1.082118	0.31377	0.001697	0.016151
Trhde	0.944168	1.173246	0.313391	0.00257	0.020689
Mob1a	0.785834	0.975767	0.312313	0.006253	0.03529
Mkx	0.903591	1.121008	0.311055	0.001459	0.014781
Ntn3	0.954649	1.182468	0.308758	0.00851	0.043113
Ezr	0.918259	1.137006	0.308266	0.002669	0.021082
Tln1	0.90802	1.124037	0.307894	1.81E-05	0.001178
Dnajc25	0.882853	1.092839	0.307835	0.001093	0.012778
Cyb561	0.906712	1.122004	0.307362	0.001265	0.013721
Tram2	0.841369	1.040523	0.306498	0.000811	0.010778
Miip	0.812764	1.003488	0.304116	0.010324	0.049047
Trp53inp2	0.878237	1.08417	0.303909	8.91E-06	0.000773
Ncoa3	0.890047	1.098627	0.303748	0.002013	0.017726
Ift22	0.86531	1.067993	0.303613	9.18E-08	5.72E-05
Atp6v1g1	0.869236	1.072721	0.303455	3.3E-05	0.001595
Crtap	0.931216	1.149011	0.303204	0.003073	0.023007
Scrg1	0.866871	1.069456	0.302988	8.79E-05	0.00293
Ift52	0.895133	1.103905	0.302443	0.008994	0.044819
Tnfrsf1a	0.928791	1.145263	0.302253	0.001106	0.012839
Acaa2	0.942916	1.16073	0.299831	0.001048	0.01238
Sft2d2	0.947596	1.166453	0.299783	0.001162	0.013255
4930579G24Rik	0.895308	1.101295	0.298745	0.006172	0.035004
Ogfod3	0.902061	1.109525	0.298646	0.000168	0.004424
Trf	0.851236	1.046968	0.298586	0.010402	0.049268
Cenpj	0.885621	1.089068	0.298332	0.000293	0.006164
Prss23	0.939928	1.155196	0.297516	0.000362	0.007
1700094D03Rik	0.901651	1.107531	0.296707	0.007755	0.04067
Pnp	0.921808	1.132239	0.296641	7.62E-05	0.002664
Rnaseh2a	0.870567	1.069232	0.296548	0.00065	0.009554

Rbms1	0.867084	1.063685	0.294828	0.000798	0.010718
Vps33a	0.83148	1.019368	0.293922	0.005235	0.031471
Acta2	0.92053	1.128393	0.293733	0.000567	0.008869
Plau	0.8628	1.057017	0.292901	0.00428	0.027958
Prodh	0.896628	1.097313	0.291395	0.001561	0.015295
Cyth4	0.927217	1.132674	0.288754	0.001367	0.014419
Rock1	0.936258	1.143603	0.288607	4.76E-05	0.002056
Il13ra1	0.870363	1.062889	0.288302	0.002018	0.017733
Lyar	0.723686	0.883741	0.288259	5.06E-06	0.00059
Prdm15	0.902892	1.102449	0.288086	0.006293	0.035461
Btk	0.86853	1.05981	0.287159	0.007207	0.038581
Lyl1	0.895884	1.092845	0.286705	0.000682	0.009792
Rmnd1	0.900736	1.098735	0.286668	0.003851	0.026301
Ptges3l	0.947537	1.154928	0.285549	0.000945	0.011801
Slc12a2	0.903367	1.10049	0.284761	0.000504	0.008279
Coq9	0.885801	1.078534	0.284018	0.000213	0.005121
Ivd	0.858983	1.045069	0.282897	0.001384	0.014528
Fhod1	0.920815	1.119934	0.28243	0.003913	0.02663
Reep4	0.893347	1.085361	0.280882	0.001005	0.012167
Laptm5	0.747698	0.907957	0.280168	0.007246	0.038721
Myo1e	0.901314	1.093544	0.278909	0.002726	0.021293
Pgpep1	0.868261	1.052739	0.277946	0.00457	0.028936
Phlda3	0.886754	1.074882	0.277573	2.23E-05	0.001335
Lgals1	0.883706	1.070833	0.277094	0.002098	0.018182
Chrm4	0.880222	1.06656	0.277026	0.004546	0.028848
Mamdc4	0.896124	1.085225	0.276224	0.009783	0.047412
Rnaset2a	0.926709	1.121707	0.275508	0.005973	0.034274
Sil1	0.959936	1.161813	0.275368	0.00162	0.0157
Kcne1l	0.916388	1.109018	0.275252	0.010003	0.048116
Gm12250	0.960607	1.162219	0.274864	0.006856	0.037534
Slc35a5	0.838667	1.01462	0.274769	0.000894	0.011505
Ptpn13	0.938245	1.135019	0.274681	0.001098	0.012784
Rhoh	0.895518	1.080893	0.271429	0.002792	0.021659

Isyna1	0.939597	1.133526	0.270702	0.006504	0.036205
Gm46139	0.948319	1.143254	0.269701	0.009391	0.046226
Psme2b	0.904148	1.089435	0.268949	0.000302	0.00627
Sall1	0.854983	1.030164	0.268905	0.000253	0.005715
Slc7a10	0.942404	1.134694	0.267886	0.001049	0.012385
Mtrf11	0.840557	1.011821	0.267536	0.000482	0.008086
Nhlrc1	0.887027	1.066031	0.265199	0.001169	0.013289
Csflr	0.913782	1.098087	0.265071	0.00073	0.010251
Rtkn2	0.875424	1.051892	0.264932	0.003874	0.026388
Krt85	0.842887	1.012494	0.264502	0.004236	0.027862
Trmt11	0.869958	1.044609	0.263944	0.000601	0.009178
Meltf	1.001361	1.202004	0.26348	0.010577	0.049736
Cpt1a	0.93564	1.123056	0.263404	0.003345	0.024066
Lpar6	0.931781	1.117619	0.262365	0.001912	0.017205
Fkbp9	0.955302	1.145532	0.26199	0.001225	0.013573
Arf5	0.863904	1.035602	0.261528	2.04E-05	0.001271
Carns1	0.894962	1.072612	0.26123	0.008129	0.041904
Igflr1	0.915287	1.096398	0.260474	0.005569	0.032664
St3gal6	0.934418	1.118371	0.259259	0.002812	0.021753
Ppox	0.919516	1.100498	0.25921	0.001698	0.016151
Arid4a	0.86094	1.030124	0.258834	0.006554	0.036352
Ocln	0.989275	1.182881	0.257861	0.007535	0.039814
Rdh10	0.930364	1.112381	0.257784	0.000123	0.003653
Adgra2	0.917728	1.097051	0.257493	0.00342	0.024446
Dnaaf5	0.959573	1.146864	0.25723	0.001685	0.016091
Ap4m1	0.964695	1.15274	0.256923	2.79E-05	0.001463
Cldn11	0.945677	1.12903	0.255664	0.003151	0.02321
Zfp462	0.837069	0.996663	0.251759	0.000764	0.010496
Arl6ip5	0.889315	1.058458	0.251197	0.003192	0.023401
Bend4	0.877081	1.04358	0.250759	0.009596	0.046808
Pgghg	0.932486	1.109098	0.250232	0.00316	0.023257
Elavl1	0.905767	1.07684	0.249593	0.002477	0.020333
Fdxacb1	1.001562	1.188592	0.247001	0.009488	0.04645

Cnksr3	0.995866	1.181821	0.246988	0.00432	0.028127
Tmed10	0.937878	1.112828	0.246758	0.001206	0.01345
Plxnd1	0.911059	1.080725	0.246382	0.001465	0.014784
Tmem38b	0.956163	1.133442	0.245382	0.001862	0.016943
1810037I17Rik	0.897714	1.063401	0.244358	0.004483	0.02863
Hexb	0.887672	1.049902	0.242156	0.001114	0.012888
Sh3tc1	0.878142	1.037307	0.240317	0.0102	0.048588
Ctsd	0.932335	1.101172	0.240119	0.00061	0.009258
Rnd3	0.973621	1.149222	0.239225	0.001544	0.015221
Hist3h2a	0.98408	1.161536	0.239187	0.003433	0.024455
Ltbp3	0.935532	1.103811	0.238634	0.003965	0.026833
Arpc1b	0.921977	1.087473	0.238176	6.51E-05	0.00249
Svil	0.871921	1.027227	0.236487	0.001246	0.013673
Cdc23	0.888848	1.046713	0.235858	0.001882	0.017058
Ipo9	0.867409	1.02136	0.235707	0.002697	0.02122
Nme5	0.935455	1.1014	0.235598	0.005316	0.031743
Prrg2	0.918795	1.081573	0.235316	0.001878	0.01704
Mctp1	0.884015	1.040177	0.234687	0.006328	0.035631
Acad8	0.954235	1.122611	0.234442	0.006526	0.036273
Zfp729a	0.951692	1.119382	0.234136	0.000107	0.003374
Nos3	0.95756	1.126193	0.23402	0.004152	0.02758
Epha5	0.947673	1.114531	0.233975	0.002365	0.019718
Cetn2	0.941958	1.107759	0.233909	0.007802	0.040836
Gcfc2	0.918024	1.079603	0.233897	0.004231	0.027862
Micall1	0.944153	1.109763	0.233158	0.000547	0.008689
Tmtc4	0.963582	1.132591	0.233148	0.006655	0.0367
Tmem119	0.885512	1.040436	0.232605	0.004687	0.029337
Bloc1s6	0.951997	1.118355	0.232349	0.001003	0.012167
Tradd	0.941356	1.105183	0.231473	0.002262	0.019198
Pcdhb12	0.902108	1.058886	0.231175	0.001304	0.013984
1700029I15Rik	0.971697	1.13947	0.229785	0.000174	0.004543
Mrpl48	0.915731	1.07375	0.229663	0.008167	0.041994
Lrig3	0.870215	1.020274	0.229514	0.001721	0.016252

Laptn4b	0.908412	1.064982	0.229411	9.83E-05	0.003192
AA414768	1.027753	1.202849	0.226962	0.0017	0.016151
Sc1t1	0.880897	1.029629	0.225079	0.007238	0.038704
Ccdc191	0.964554	1.127271	0.224901	0.000274	0.005955
Lman2	0.933451	1.090408	0.224221	0.001845	0.01687
Gng11	0.924367	1.079587	0.223943	0.003261	0.023723
Abrac1	0.927978	1.083476	0.223505	0.001711	0.016206
Eif4ebp1	0.90364	1.054647	0.222941	0.004133	0.027539
Rgl3	0.888139	1.036147	0.222372	0.000699	0.00995
Arfgap3	0.903766	1.053602	0.221308	0.000396	0.007321
Erb2	0.960887	1.118821	0.219541	0.006872	0.037601
Myo10	0.938846	1.092483	0.218651	0.001195	0.013374
Dpp7	0.973751	1.132999	0.218522	2.33E-05	0.001344
Il10rb	0.982952	1.143321	0.218036	0.000525	0.008462
Farsa	0.928526	1.079248	0.217013	0.000699	0.00995
Gng5	0.950001	1.103164	0.215646	0.000436	0.007701
Mfng	0.935577	1.085688	0.214681	2.15E-05	0.001304
Srf	0.89947	1.043759	0.214642	0.005395	0.031983
Snrpf	0.968567	1.123584	0.214185	0.003459	0.024543
Kbtbd2	0.902074	1.046159	0.213786	0.000127	0.003743
N4bp2	0.819297	0.949328	0.212521	0.008433	0.042878
Ankrd44	0.983636	1.139374	0.212044	0.002057	0.017908
Hsd17b12	0.829357	0.960463	0.211738	0.009017	0.044893
Parva	0.958001	1.109177	0.211391	8.54E-05	0.002882
Abcg2	0.940788	1.089162	0.211278	0.004761	0.029611
Pde4d	0.870577	1.007567	0.210831	0.006449	0.036053
Rgs2	0.894417	1.034434	0.209823	0.000187	0.004726
Stk39	0.815637	0.942142	0.208017	0.008575	0.043299
Idi1	0.937643	1.082086	0.206704	0.001796	0.016579
Eny2	0.950471	1.096192	0.205787	0.006147	0.034907
Ube2d3	0.934546	1.077728	0.205655	0.000216	0.005159
Mvb12a	0.871265	1.003947	0.2045	0.005724	0.033295
Vwal	0.924321	1.065	0.204388	0.005315	0.031743

Katna1	0.891446	1.026761	0.203881	0.004713	0.029417
Tsen54	0.901432	1.038149	0.203723	0.004153	0.02758
Mitd1	0.929468	1.070046	0.203196	0.005472	0.032291
Snrpc	0.94831	1.09163	0.203054	0.003102	0.023007
E330021D16Rik	1.06131	1.220177	0.201245	0.003201	0.023433
BC005561	0.877651	1.008564	0.200583	0.001499	0.014931
Asah1	0.925998	1.063944	0.200341	1.01E-05	0.000829
Actg2	0.994303	1.141228	0.19883	0.000901	0.011524
Micu3	0.896018	1.028369	0.198758	0.003151	0.02321
Mtmr11	0.985646	1.13102	0.198483	0.000474	0.008012
Oxnad1	0.924242	1.060378	0.198235	0.001351	0.01432
Daam2	0.891614	1.022743	0.197952	0.007536	0.039814
Tmem35b	0.959705	1.099709	0.196459	0.004696	0.029362
Csad	0.995277	1.139614	0.195375	2.59E-05	0.001424
Cat	0.97906	1.120405	0.194552	0.009376	0.046176
Krtap4-6	0.904085	1.034434	0.194311	0.001654	0.015912
Nalcn	0.884141	1.011254	0.193798	0.00428	0.027958
Taf15	0.891933	1.019891	0.193408	0.00139	0.014528
Wdpcp	1.021028	1.167499	0.193399	0.006145	0.034907
Scrn2	0.956416	1.093542	0.193299	0.008427	0.042877
Pcdha8	0.909711	1.040109	0.193255	0.001588	0.015497
Trp53i13	0.938154	1.072453	0.193017	0.004477	0.02863
Gcm1	0.919053	1.050388	0.192703	0.006747	0.037091
Aasdh	0.96496	1.102713	0.192516	0.001256	0.013695
Rsu1	0.943474	1.078085	0.192416	0.000444	0.007791
Stam2	0.809388	0.924281	0.1915	0.007618	0.040046
Fat1	0.958123	1.093846	0.191126	0.000454	0.007826
Ino80b	0.857014	0.978296	0.190952	0.002003	0.017678
Tesk2	0.948664	1.082776	0.190766	0.009248	0.045738
Cypr1	0.965715	1.101729	0.190099	0.005836	0.033762
Tmed3	0.944231	1.076639	0.189323	0.000419	0.007549
Iars2	0.900388	1.026411	0.188991	0.003033	0.022829
Zbtb12	0.913146	1.040779	0.188746	0.000588	0.009085

Cavin3	0.980544	1.116581	0.187433	0.005065	0.03089
Tpp1	0.958739	1.091665	0.187319	0.000816	0.010806
Lgmn	0.924351	1.051797	0.186344	0.004893	0.030153
Ptgs1	0.911952	1.037142	0.185584	0.003823	0.026213
Ctnna1	0.972986	1.106495	0.185507	0.002622	0.020895
Rsph3b	0.930316	1.056562	0.183583	0.006416	0.035942
Efcab14	0.918203	1.042641	0.183358	0.001009	0.012176
Mrpl9	0.879996	0.998956	0.182924	0.005153	0.03119
Afap111	0.967682	1.098446	0.18286	0.007897	0.041121
Tbc1d15	0.898573	1.019966	0.182814	0.00915	0.045316
Ppp1r12a	0.909604	1.031884	0.18197	0.001336	0.014219
Snpc2	0.948497	1.075809	0.181706	0.000931	0.011717
Cep290	0.970757	1.100693	0.181231	0.00045	0.007826
Gatb	0.945937	1.071685	0.180066	0.006972	0.037897
Rhox8	0.936543	1.060894	0.179864	0.008145	0.041928
Map2k3	0.937956	1.062428	0.179772	0.00226	0.019194
Alg8	0.917754	1.039306	0.179442	0.009553	0.046664
Mcur1	0.930183	1.052873	0.178744	0.000572	0.008908
Ccnyl1	0.991938	1.122008	0.177761	0.002468	0.020294
Ankhd1	0.869056	0.982964	0.17769	0.001075	0.012638
Fbxo42	0.904439	1.022752	0.177361	0.007387	0.039284
Zbed6	0.898079	1.015455	0.177211	0.006476	0.036134
Yme111	0.937646	1.060077	0.177054	0.007048	0.038057
Dalrd3	1.013016	1.145051	0.176756	0.001474	0.014829
Zfp579	0.962068	1.087264	0.176491	0.002057	0.017908
Ddhd2	0.887349	1.002475	0.175993	0.007383	0.039284
Abraxas2	0.866633	0.979033	0.175937	0.002718	0.02129
Itfg2	0.917871	1.036889	0.175898	0.000533	0.008549
Chmp3	1.000293	1.12982	0.17567	0.005099	0.031022
Nfatc3	0.903856	1.020603	0.175257	0.004465	0.028593
Gcn111	0.941034	1.062287	0.174855	0.010438	0.049367
Ercc8	0.962907	1.086845	0.174677	0.004437	0.028505
Hexa	0.951934	1.074031	0.174102	0.002537	0.020584

Rpn1	0.973751	1.0984	0.173779	0.010436	0.049367
6330403K07Rik	0.911165	1.027781	0.173749	0.004164	0.027617
Taf8	0.958915	1.081481	0.173533	0.002702	0.021229
Psph	0.946023	1.066687	0.17319	0.000684	0.009809
Ilkap	0.936291	1.054381	0.171368	0.003102	0.023007
Zfp800	0.864023	0.972846	0.171142	0.002571	0.020689
Cbx4	0.996509	1.121943	0.171045	0.00163	0.015762
Wasf2	0.913429	1.027631	0.169957	0.000641	0.009464
Slc35e1	0.911303	1.024955	0.169558	0.002701	0.021229
Ubald1	1.016909	1.142764	0.168337	0.009617	0.046888
Grin2c	0.984881	1.105902	0.167202	0.008819	0.044155
Plekho1	0.935476	1.050289	0.167013	0.007484	0.039625
Scand1	0.958796	1.076083	0.166494	0.00459	0.02902
Cnn3	0.945276	1.060248	0.165593	0.000216	0.005159
Eogt	0.948135	1.062876	0.164809	0.008775	0.043966
Nabp2	0.931555	1.044017	0.164432	0.002053	0.017908
Wdr1	0.914946	1.024059	0.162541	0.000674	0.009736
Cebpg	0.937548	1.048586	0.161481	0.001505	0.014979
Scamp2	0.890239	0.995336	0.16099	0.001925	0.017288
Cope	0.945598	1.056328	0.159758	7.51E-05	0.002664
Nr2f6	0.921693	1.029154	0.1591	0.00204	0.01784
Arhgap31	0.898829	1.003584	0.159043	0.002752	0.021465
Ndufc2	0.943118	1.052993	0.158986	0.001391	0.014528
Plod3	0.938809	1.047577	0.158152	0.007611	0.040042
Stx4a	0.946619	1.056289	0.158148	0.000398	0.007328
Ebpl	1.008335	1.124024	0.156697	0.002631	0.020905
Hacd2	0.880498	0.981348	0.156445	0.006904	0.037643
Mrpl42	0.942019	1.049663	0.156098	0.006457	0.03606
Secisbp2l	0.91262	1.016896	0.156085	0.002605	0.020838
Rab29	0.98268	1.09411	0.154964	0.004137	0.027539
Lmf2	0.972694	1.082718	0.1546	0.004228	0.027862
Tpsb2	0.934078	1.03933	0.154039	0.004497	0.028678
Tmem109	0.962453	1.06986	0.152634	0.000106	0.003374

Mcm4	0.916122	1.01776	0.151786	1.38E-05	0.001003
Glis2	0.991064	1.100538	0.151159	0.004248	0.027896
Aprt	0.970877	1.078091	0.151118	0.00694	0.037761
Fbxl14	0.908694	1.008908	0.150927	0.004122	0.02751
Slc16a7	1.01495	1.126349	0.150246	0.006512	0.036214
Rnfl66	0.955272	1.059937	0.149994	0.008045	0.041636
Csgalnact2	0.904705	1.003665	0.149758	0.004902	0.030189
Smurf2	0.868246	0.963152	0.149659	0.006999	0.037985
Gstk1	0.968875	1.074743	0.149609	0.009113	0.045197
Zfp689	0.955802	1.059943	0.149202	0.003549	0.024982
Gtpbp3	0.957302	1.061037	0.148429	0.008519	0.043139
Herc1	0.845447	0.937051	0.148412	0.006642	0.036683
Gm5481	1.016679	1.126458	0.147929	0.007978	0.041429
Tbck	0.894069	0.990513	0.147789	0.004612	0.029096
Leprot	1.0087	1.117161	0.147339	0.008597	0.043389
Prr14	0.936086	1.036691	0.147273	0.000995	0.012167
Washc2	0.970157	1.074095	0.14683	0.007248	0.038721
Casp2	0.992459	1.098371	0.146286	0.008906	0.044465
Zfp64	0.96947	1.072889	0.146233	0.002538	0.020584
Dok2	0.93946	1.039034	0.145339	0.009829	0.04757
Oat	0.944422	1.044328	0.145072	0.000273	0.005952
Eif3a	0.95634	1.056715	0.143992	0.004339	0.028198
Ube2f	0.925587	1.022265	0.143329	0.001721	0.016252
Actb	0.935727	1.033302	0.143103	0.000248	0.005675
Ldlrad4	0.907876	1.002322	0.142779	0.006559	0.036357
3300002I08Rik	0.941429	1.039291	0.142675	0.01052	0.049599
Zfp449	0.970943	1.071048	0.141564	0.00694	0.037761
Ncstn	0.967836	1.067299	0.14113	0.000462	0.007885
Rgs10	0.951979	1.049628	0.140877	0.000938	0.011734
Tmem167b	0.891538	0.982583	0.140283	0.003626	0.025299
Cnih4	0.924951	1.018525	0.139033	0.002598	0.020822
Elofl	0.951482	1.047616	0.138862	0.003481	0.024646
Lrrc8b	0.912261	1.003782	0.137927	0.002928	0.022261

Tex261	0.991271	1.090703	0.137907	0.004678	0.029302
Rplp1	0.928873	1.021743	0.137479	0.004742	0.029547
Cd80	0.963165	1.059194	0.137113	0.006827	0.037413
Paxbp1	0.953956	1.049057	0.137098	0.004487	0.02863
Cdkn1b	0.972371	1.067846	0.135124	0.004457	0.028563
0610030E20Rik	0.950656	1.043932	0.135033	0.004427	0.028455
Smc4	0.992513	1.089114	0.133997	0.000132	0.003787
Oser1	0.942765	1.03433	0.133726	0.006989	0.037968
Pex11a	0.991329	1.087228	0.133218	0.001386	0.014528
Polr2i	0.993805	1.089661	0.132845	0.001192	0.013374
Ptma	0.945105	1.035386	0.131622	0.003306	0.023968
Gtf3c6	1.012143	1.108535	0.131241	0.004885	0.030117
Rab8a	0.8931	0.977518	0.130301	0.004965	0.030472
Map3k1	0.922964	1.009542	0.129354	0.010369	0.049173
Zfp114	0.940824	1.028436	0.128455	0.002268	0.019202
Baz2a	0.920615	1.006325	0.128428	0.001753	0.016354
Abcc1	0.846164	0.92443	0.127628	0.010431	0.049367
Rela	0.933532	1.018459	0.125617	0.009554	0.046664
Ckap4	1.040946	1.134186	0.123762	0.006653	0.0367
Bcas2	0.959947	1.045634	0.123351	0.009733	0.047257
Ptges3	0.925154	1.007333	0.122776	0.00706	0.038098
Ift88	0.961326	1.046413	0.122356	0.009828	0.04757
Glmp	0.968225	1.053786	0.122167	0.00464	0.029171
2810428I15Rik	0.954122	1.038299	0.121977	0.00039	0.007283
Ccdc66	0.917922	0.99857	0.121491	0.003357	0.024093
Lsg1	0.969159	1.0542	0.121344	0.000163	0.004375
Dpm3	0.957253	1.041122	0.121167	0.001044	0.012374
H2-Ke6	0.962864	1.046332	0.119937	0.002444	0.020185
Anp32b	0.937908	1.018926	0.119531	0.000651	0.009554
Simc1	0.958289	1.040904	0.119305	0.007306	0.03893
Slirp	1.003561	1.089213	0.118159	0.001581	0.015445
Zechc11	0.953751	1.034659	0.117471	0.002267	0.019202
Tepsin	0.944539	1.02421	0.116829	0.003847	0.026301

Txnl4b	0.986043	1.069164	0.11676	0.00126	0.013695
Sgcb	0.984518	1.066908	0.115947	0.007844	0.040952
Tpt1	0.958032	1.03773	0.115286	0.003201	0.023433
Mcoln1	0.979185	1.059597	0.113863	0.00406	0.027219
Usp21	0.96174	1.040622	0.113727	0.008777	0.043966
Acaa1a	0.959539	1.038223	0.113704	0.003616	0.025279
G3bp1	0.956256	1.034318	0.113212	0.010138	0.048424
Fnta	0.964104	1.042648	0.112992	0.003069	0.023007
Letmd1	1.002807	1.083888	0.112172	0.000186	0.004726
Setd4	0.971841	1.050373	0.112109	0.006423	0.035961
Dnajc15	0.97866	1.057717	0.112075	0.008336	0.042543
Ufc1	0.967283	1.044727	0.111115	0.009208	0.045561
Smim11	0.950186	1.025979	0.110719	0.010535	0.049599
Zfp263	0.973216	1.050826	0.110692	0.000275	0.005955
Ctdspl	0.965094	1.041854	0.110413	0.01011	0.0484
Mrpl51	0.942809	1.012276	0.102565	0.0071	0.038218
Zfp457	0.945379	1.013274	0.10006	0.010531	0.049599
Sys1	0.967001	1.036075	0.099539	0.008571	0.043299
Casc3	0.975266	1.044701	0.099222	0.001749	0.016338
Bcl10	0.9315	0.997048	0.098107	0.004451	0.028538
Gigyf1	0.955464	1.0222	0.097404	0.00403	0.027172
Tor1b	0.930721	0.994931	0.096247	0.000308	0.006323
Slc39a1	0.983453	1.051227	0.096147	2.71E-05	0.001443
Rbm42	0.968104	1.034161	0.095227	0.010172	0.048543
Mydgf	0.996544	1.061355	0.090901	0.002721	0.021293
Ilf2	0.902626	0.961243	0.090772	0.003976	0.026874
Pigu	0.950021	1.011415	0.090343	0.002632	0.020905
Tmed9	0.99451	1.056707	0.087517	0.008308	0.042478
Ufsp2	0.991522	1.052861	0.086598	0.006544	0.036334
Med31	0.971488	1.029118	0.083141	0.002885	0.02205
Acadv1	0.984014	1.04006	0.079916	0.004674	0.029297
Zfp511	1.003809	1.058988	0.077201	0.006909	0.037648
Nup85	0.957748	1.01002	0.076665	0.007069	0.038109

Trir	0.980858	1.032736	0.074356	0.005475	0.032291
Gkap1	0.956833	1.006098	0.072432	0.003235	0.023618
Coasy	1.003874	1.054503	0.070985	0.009476	0.046411
Enho	1.006071	1.055995	0.069872	0.008714	0.043751

Supplementary Table 4. The gene list of 1332 downregulated genes in 12 weeks.

Gene symbol	Average of normalized data in WT mice	Average of normalized data in 3xTg mice	Log2FC	p	q
Ccl21a	25.37164	0.627859	-5.33663	9.67E-06	0.000807
Zfp874a	43.45222	1.27646	-5.08921	1.02E-05	0.000829
Rbbp9	27.01882	0.848187	-4.99344	0.001396	0.014531
Ttl2	3.555112	0.334358	-3.41043	1.45E-05	0.00103
Fam205a2	8.84413	0.879448	-3.33005	0.000149	0.004109
Gm1987	6.864877	0.972504	-2.81946	1.02E-05	0.000829
Mylk3	3.570625	0.57938	-2.6236	1.31E-05	0.000977
Gm20878	2.461181	0.472694	-2.38037	2.33E-15	2.47E-11
Sugct	1.31212	0.259291	-2.33926	9.77E-05	0.003185
Xlr3b	3.076304	0.68718	-2.16244	0.001823	0.016748
Adat2	3.939933	0.945365	-2.05923	0.000143	0.004029
Xlr4a	3.44787	0.87313	-1.98144	0.002996	0.022632
D130040H23Rik	2.496753	0.681145	-1.87402	2.75E-06	0.000485
Pla2g4e	2.659214	0.762998	-1.80125	0.001439	0.014732
Gm17660	2.200675	0.636698	-1.78927	0.005911	0.034066
Shank2	3.017189	0.88388	-1.77128	0.000387	0.007267
Serpina3n	2.544049	0.77816	-1.70899	0.001841	0.016857
Slc5a5	2.439118	0.774266	-1.65546	7.26E-05	0.00266
Hddc3	2.826107	0.90116	-1.64896	0.000178	0.004548
Krt12	1.516287	0.490086	-1.62944	0.003828	0.026228
Alpk1	2.086945	0.712828	-1.54977	0.003925	0.026669
Zfp429	2.537123	0.888568	-1.51364	1.95E-06	0.00039
Col11a1	2.191879	0.773038	-1.50356	0.000106	0.003374
Nepn	1.857648	0.704	-1.39983	3.2E-05	0.001578
Fn3krp	2.421797	0.918204	-1.39919	0.001354	0.014336
Gm42035	1.921452	0.735213	-1.38596	0.002771	0.021563
Eri2	2.663745	1.023519	-1.37992	0.006408	0.035919
Exd1	2.133951	0.821675	-1.37689	0.002008	0.017705
Olfir339	3.009579	1.188286	-1.34068	0.00043	0.007629

Serpina3j	1.955117	0.834111	-1.22894	0.002651	0.020965
Mbl1	1.315915	0.575748	-1.19256	0.003027	0.022799
Jaml	1.693272	0.745895	-1.18277	0.00728	0.038852
C1ql2	1.875042	0.830258	-1.17529	2.84E-05	0.001477
P2rx5	1.517516	0.672089	-1.17499	7.43E-06	0.000687
Cts7	1.991616	0.89035	-1.16149	3.52E-05	0.001678
Prim2	1.483047	0.683993	-1.11651	0.00197	0.017503
Nlrp2	1.708615	0.790356	-1.11225	0.005988	0.034344
Ccdc171	2.007042	0.957361	-1.06794	2.61E-05	0.001424
Palm2	1.953095	0.937174	-1.05937	9.02E-06	0.000773
Syce1	1.452698	0.699882	-1.05355	0.001806	0.016655
Zfp972	1.527357	0.741823	-1.04189	0.000108	0.003414
Frrs11	1.851077	0.907576	-1.02828	6.63E-07	0.000207
Adgrg3	1.366936	0.67036	-1.02794	0.002787	0.021643
Gpr101	1.248564	0.613808	-1.02441	0.000208	0.00503
Glrp1	1.480063	0.736029	-1.00782	0.001259	0.013695
Zfp330	1.934989	0.964516	-1.00445	4.17E-06	0.00056
Tmem132d	1.313679	0.656717	-1.00027	6.59E-06	0.000659
E230025N22Rik	0.918641	0.459462	-0.99956	0.000268	0.005944
Ero11b	1.154486	0.579813	-0.99359	0.001956	0.017433
Madcam1	1.450081	0.74216	-0.96633	0.002726	0.021293
Krt9	1.235236	0.635537	-0.95874	2.47E-07	0.000119
Spdl1	1.611342	0.83129	-0.95484	0.001441	0.014732
Spatc1	1.359	0.705978	-0.94485	0.005904	0.034044
Krtap11-1	1.693692	0.886162	-0.93453	0.002352	0.019662
Adcy10	1.311024	0.688207	-0.92978	0.000206	0.005009
Chrna5	1.565729	0.836642	-0.90415	0.003323	0.024004
Lyplal1	1.425762	0.768639	-0.89135	0.000792	0.01068
Rpe65	1.165552	0.630212	-0.8871	0.000262	0.00584
Has1	1.345632	0.730096	-0.88213	0.000208	0.005032
Map1s	1.789212	0.971599	-0.88089	1.21E-06	0.000305
Zfp951	1.338999	0.72733	-0.88047	0.001454	0.014781
Oosp3	1.37209	0.751917	-0.86773	0.007012	0.037985

Rnase1	1.642097	0.906423	-0.85728	0.008435	0.042878
Pgpep11	1.236981	0.683441	-0.85594	0.001172	0.013301
Fpr2	1.521957	0.844493	-0.84977	0.001421	0.014635
Dio3	1.234297	0.685511	-0.84844	0.001146	0.013159
Ctf2	1.443689	0.802765	-0.84671	0.000847	0.011069
4930452B06Rik	1.449918	0.808461	-0.84272	6.84E-05	0.002572
Wfs1	1.460849	0.81539	-0.84125	4.29E-07	0.000168
Wnt2	1.44408	0.80661	-0.84021	0.000188	0.004745
Rbm20	1.369325	0.764926	-0.84007	0.000861	0.011198
Prr15	1.629355	0.923845	-0.81858	0.000187	0.004726
Mettl24	1.42798	0.813	-0.81265	0.00052	0.008428
Cd276	1.665683	0.950958	-0.80866	0.000601	0.009178
Gipr	1.150687	0.657007	-0.80851	0.004205	0.027783
Nanos2	1.376441	0.786978	-0.80655	0.003322	0.024004
Dmrt2	1.415911	0.809711	-0.80625	0.003647	0.025367
Calcoco2	1.184973	0.685161	-0.79034	0.002014	0.017726
Atp1a2	1.664836	0.964126	-0.78809	0.005718	0.033295
4930447C04Rik	1.213711	0.70335	-0.78711	1.26E-05	0.000961
Gadd45gip1	1.607736	0.940674	-0.77326	3.53E-06	0.000519
Card10	1.590906	0.931939	-0.77154	0.007299	0.038913
Ccdc80	1.740236	1.019801	-0.77099	0.000751	0.010439
Olf1r703	1.287577	0.757027	-0.76624	0.000544	0.008663
Grp	1.355192	0.798126	-0.76381	0.000204	0.005009
Spag4	1.437418	0.846678	-0.76359	0.0009	0.011524
Tacstd2	1.121253	0.662352	-0.75944	0.002034	0.01784
Fbp1	1.501266	0.889559	-0.75502	4.81E-05	0.002063
Gm6588	1.328361	0.787416	-0.75445	0.000541	0.008643
Pdhb	1.60404	0.951291	-0.75375	3.24E-05	0.001582
Kiss1	1.239778	0.736083	-0.75214	0.007404	0.039335
Tm4sf19	1.405049	0.834449	-0.75172	0.004479	0.02863
Neb	1.326977	0.792038	-0.7445	0.00523	0.031471
Entpd4	1.473616	0.880523	-0.74293	0.000453	0.007826
Klhl14	1.156981	0.692236	-0.74103	0.000314	0.006421

Arhgap36	1.271854	0.761157	-0.74067	0.004106	0.027473
Msi1	1.480945	0.890056	-0.73455	0.00343	0.024455
Ttc34	1.310979	0.788706	-0.73309	0.008572	0.043299
Xirp1	1.346646	0.811471	-0.73076	0.003621	0.025291
Olfml1	1.504189	0.917392	-0.71337	0.003098	0.023007
Nmnat3	1.435555	0.875709	-0.71309	0.001042	0.012371
Iqcf3	1.171761	0.715068	-0.71253	0.005779	0.033528
Ndnf	1.342122	0.819465	-0.71176	2.13E-06	0.000418
Pgm2	1.545017	0.944173	-0.7105	3.11E-05	0.001549
Prrx2	1.409839	0.863085	-0.70796	7.59E-05	0.002664
Cmya5	1.552739	0.951259	-0.7069	6.23E-05	0.002435
Apold1	1.35037	0.828521	-0.70475	0.004326	0.028145
Gm6583	1.278096	0.785069	-0.7031	0.000422	0.007576
Cptp	1.424887	0.881023	-0.6936	0.00704	0.038057
Olfir699	1.432062	0.885985	-0.69274	0.000193	0.004814
Tmem245	1.437041	0.889483	-0.69206	3.61E-07	0.000147
Fam217a	1.457131	0.906159	-0.68529	7.52E-05	0.002664
Mri1	1.423562	0.888403	-0.68022	0.001205	0.01345
3110079O15Rik	1.352906	0.845258	-0.6786	0.007658	0.040203
Cend1	1.627014	1.019095	-0.67494	0.00234	0.019604
Creb3	1.573494	0.985835	-0.67455	2.37E-10	3.59E-07
Slc25a46	1.377778	0.864569	-0.67229	5.09E-12	1.08E-08
Dpysl4	1.311127	0.82335	-0.67123	1.41E-09	1.36E-06
Tmem221	1.190279	0.750046	-0.66625	0.007637	0.04011
Pgam2	1.359376	0.856622	-0.66621	0.000987	0.012128
Nppc	1.307928	0.826511	-0.66218	0.000238	0.005535
Rif1	1.453733	0.919433	-0.66095	2.8E-05	0.001464
Nyap2	1.323749	0.840084	-0.65602	0.002249	0.019145
Rnf150	1.474871	0.936378	-0.65543	8.57E-06	0.000757
Olfir161	1.207565	0.766956	-0.65488	0.004832	0.029878
Gml2	1.866246	1.186378	-0.65358	0.003133	0.023123
Adam26b	1.359555	0.864869	-0.65258	0.002336	0.019588
Kcnj5	1.250028	0.800174	-0.64358	0.006553	0.036352

Mc4r	1.190843	0.764086	-0.64018	0.000496	0.008211
Me3	1.357639	0.875053	-0.63366	2.39E-05	0.001349
P4ha3	1.194122	0.770787	-0.63155	0.003349	0.024066
Tcf15	1.368162	0.883302	-0.63126	0.002364	0.019718
Susd1	1.283122	0.829148	-0.62996	0.005493	0.032378
Magea3	1.087344	0.704564	-0.62601	0.006781	0.037259
Rhobtb3	1.294575	0.844812	-0.61578	4.56E-06	0.000575
Lin28b	0.962895	0.62996	-0.61212	0.00474	0.029547
Clcnkb	1.293331	0.848391	-0.60829	0.000158	0.004279
Tmem156	1.182798	0.776205	-0.60769	0.00058	0.008988
Pkd2l1	1.099786	0.723193	-0.60477	0.004091	0.027408
Olf197	1.239985	0.817764	-0.60057	0.00027	0.005944
Nsun2	1.44144	0.952007	-0.59847	6.27E-06	0.000645
Ces5a	1.307051	0.86573	-0.59433	0.001229	0.01358
Lonrf2	1.281567	0.84903	-0.59402	0.0005	0.008247
Wars2	1.457108	0.968599	-0.58914	0.002592	0.020796
Olf1168	1.474363	0.980693	-0.58822	0.001092	0.012769
Olf1415	1.577413	1.049624	-0.58769	0.001539	0.015212
Ide	1.46922	0.9789	-0.58582	0.002104	0.018207
Dgke	1.33126	0.887407	-0.58512	4.57E-05	0.00202
Hist1h2ba	1.216767	0.812845	-0.582	7.16E-05	0.002646
Atp6v1g3	1.287938	0.860933	-0.58109	0.010538	0.049599
Cldnd2	1.275639	0.85394	-0.57901	0.008472	0.043004
Olf282	1.089757	0.732386	-0.57333	0.005392	0.031983
Iws1	1.381779	0.93202	-0.56809	0.000706	0.010033
Col15a1	1.008285	0.680208	-0.56786	0.006885	0.037635
Mios	1.398417	0.945023	-0.56537	0.000159	0.004303
Ppan	1.378518	0.932031	-0.56467	0.001923	0.017288
Zcchc4	1.134276	0.767584	-0.56338	0.001432	0.014689
Ankrd2	1.247487	0.845386	-0.56134	0.002501	0.02039
Olf885	1.28069	0.868058	-0.56106	0.000177	0.004548
Arrdc2	1.240031	0.841082	-0.56006	0.000161	0.004336
Trim62	1.309004	0.88983	-0.55687	0.004116	0.02751

Slc38a6	1.486442	1.01153	-0.55532	0.002055	0.017908
Fxyd6	1.212416	0.82515	-0.55516	5.34E-05	0.002179
Rnf207	1.012426	0.691675	-0.54965	0.002926	0.022261
Crygd	1.371945	0.937505	-0.54932	0.001756	0.016366
Gm7827	1.227619	0.840067	-0.54729	0.001487	0.014895
Sugp1	1.394998	0.959478	-0.53994	0.000148	0.004089
Olfir845	1.242958	0.858105	-0.53455	0.000256	0.005751
Tmem163	1.404275	0.970238	-0.53341	0.004403	0.028354
Gm3448	1.20493	0.835527	-0.52819	0.007102	0.038218
Syt17	1.180037	0.820247	-0.5247	7.31E-05	0.00266
Capn13	1.208811	0.840545	-0.52419	0.001424	0.01464
Fgfbp3	1.533643	1.067224	-0.5231	0.010166	0.048537
Olfir128	1.207845	0.840736	-0.52271	0.002932	0.022263
Dtd1	1.359853	0.948387	-0.5199	0.000933	0.011734
Ankrd63	1.331965	0.929759	-0.51863	0.00804	0.041636
Fabp2	1.070682	0.747866	-0.51768	0.000922	0.011665
Armex3	1.259894	0.881009	-0.51607	0.001143	0.013142
Rasd1	1.247931	0.873904	-0.51399	5.73E-05	0.002302
Veph1	1.226113	0.858684	-0.51389	9.85E-05	0.003192
Ckmt1	1.276662	0.894433	-0.51333	4.06E-05	0.001863
Gm9	1.310381	0.918228	-0.51306	0.001096	0.012784
Amn	1.155112	0.809525	-0.51289	0.002549	0.020606
Grem2	1.298798	0.91057	-0.51234	4.85E-06	0.000584
Zfp985	1.386168	0.972369	-0.51153	0.00499	0.03052
Prr36	1.182813	0.831374	-0.50865	1.44E-06	0.000346
Olfir570	1.378314	0.969712	-0.50728	0.000122	0.003647
Necab1	1.146111	0.806728	-0.50659	0.001742	0.016308
Vmn2r1	1.109377	0.784114	-0.50062	0.007006	0.037985
Cdh18	1.238158	0.876117	-0.499	0.008685	0.043685
Catsper2	1.193852	0.845083	-0.49846	0.000902	0.011524
Sorl1	1.313425	0.930646	-0.49703	0.000192	0.004783
AW549877	1.33493	0.947159	-0.49509	0.002368	0.019718
A2ml1	1.175864	0.834348	-0.495	6.57E-06	0.000659

Tenm2	1.166609	0.828396	-0.49393	0.000535	0.008561
Chrm5	1.223011	0.868506	-0.49383	0.00366	0.025436
Npas2	1.106963	0.786135	-0.49376	0.007013	0.037985
Mt3	1.226687	0.871627	-0.49298	7.79E-07	0.000236
Crym	1.270059	0.902866	-0.49231	0.000512	0.008336
Tmem74b	1.245017	0.886756	-0.48956	0.000153	0.004188
Rprm	1.119602	0.797872	-0.48876	0.0025	0.02039
Rex2	1.291076	0.92035	-0.48832	0.001886	0.017058
Foxm1	1.265614	0.902235	-0.48826	0.000323	0.006513
Gpc4	1.237394	0.88247	-0.48769	5.6E-07	0.000201
4930563D23Rik	1.12947	0.80578	-0.48719	0.009837	0.047588
Olf46	1.150526	0.820866	-0.48707	0.009054	0.045013
Sstr1	1.177296	0.840079	-0.48688	0.000967	0.011958
Krt6a	1.377843	0.983562	-0.48632	0.001945	0.017414
Ocm	1.234454	0.883124	-0.48319	0.001186	0.013354
Necab2	1.242663	0.889577	-0.48224	0.000368	0.007074
Fibcd1	1.242827	0.889809	-0.48206	5.2E-05	0.002127
Moxd1	1.263483	0.90737	-0.47764	0.004522	0.028782
Pcsk9	1.224957	0.87979	-0.4775	0.006227	0.035165
Chst4	1.139032	0.818234	-0.47722	2.31E-05	0.001344
Agpat5	1.354058	0.974475	-0.47459	4.54E-06	0.000575
Ppp1r26	1.276924	0.921218	-0.47106	0.00173	0.016256
Pm20d2	1.254088	0.904776	-0.47101	0.003112	0.023036
Cda	1.205495	0.870793	-0.46922	0.00235	0.019662
Sbk1	1.242554	0.898385	-0.4679	0.004139	0.027539
Hrg	1.168546	0.845357	-0.46708	8.36E-05	0.00284
Stox1	1.284595	0.929651	-0.46655	0.005897	0.034023
Prune2	1.214112	0.879896	-0.4645	0.000952	0.011852
Olf190	1.224465	0.887812	-0.46383	0.001332	0.014201
Arhgap22	1.130432	0.820066	-0.46306	0.003093	0.023007
Tex48	1.109296	0.805761	-0.46122	0.001166	0.013285
Gm9112	1.129794	0.820855	-0.46086	0.000629	0.009385
Shank3	1.330738	0.968499	-0.4584	0.001716	0.016239

Pthlh	1.164247	0.847708	-0.45776	0.004043	0.027191
Zfp9	1.22289	0.891262	-0.45637	0.000749	0.010423
Id4	1.177197	0.858618	-0.45527	2.47E-05	0.001385
Fbxw20	1.164092	0.850042	-0.4536	0.008406	0.042791
Cachd1	1.250131	0.913672	-0.45233	0.000252	0.005702
Slc25a18	1.294779	0.948957	-0.44829	1.38E-05	0.001003
Exoc3l2	1.174337	0.860813	-0.44808	0.000115	0.003509
Grip2	1.053371	0.77241	-0.44757	0.001078	0.01265
Mrpl33	1.26349	0.926559	-0.44746	1.16E-06	0.000305
Gm5093	1.375852	1.010255	-0.44561	0.007918	0.04118
Ttn	1.184493	0.870386	-0.44454	0.000554	0.008745
Tmem100	1.147511	0.843658	-0.44378	0.000778	0.010558
Atp2c2	1.004577	0.738764	-0.4434	0.009783	0.047412
Unc13b	1.199909	0.882881	-0.44263	0.000306	0.006293
Kcnj10	1.327583	0.977091	-0.44224	0.006654	0.0367
Olfrl377	1.340414	0.986969	-0.4416	0.007069	0.038109
1700019N19Rik	1.235423	0.910015	-0.44104	0.001874	0.017022
Gm5617	1.236113	0.911051	-0.44021	0.002823	0.021791
Tubb1	1.251551	0.923132	-0.43911	0.001826	0.016754
Myoz3	1.243915	0.91754	-0.43904	0.000117	0.003551
Nkpd1	1.066619	0.787216	-0.43821	0.007136	0.038354
Bnip3	1.115915	0.82445	-0.43672	6.97E-10	8.21E-07
Ksr2	1.281647	0.947147	-0.43634	0.005267	0.03156
Efcab3	1.179998	0.872359	-0.43579	0.00063	0.009398
Myh8	1.119685	0.827959	-0.43546	0.005826	0.033723
Tmem202	1.067051	0.789058	-0.43543	0.005237	0.031471
Scn4a	1.16302	0.860617	-0.43443	0.002679	0.021114
Prkag3	1.230388	0.910959	-0.43366	4.63E-05	0.002026
Wbp11	1.270135	0.940499	-0.43348	0.002352	0.019662
Wdr92	1.275331	0.945512	-0.4317	7.98E-05	0.002781
Lctl	1.338261	0.993509	-0.42975	0.007822	0.040918
Rnf157	1.277191	0.949418	-0.42786	0.000358	0.006942
Tmem81	1.291959	0.961038	-0.42689	7.56E-05	0.002664

Vmn2r60	1.132688	0.843746	-0.42487	0.005722	0.033295
Imp4	1.151265	0.857684	-0.4247	0.006347	0.035691
Igsf21	1.306476	0.974324	-0.42321	0.001785	0.016543
Bpifb4	1.10691	0.826273	-0.42185	0.001395	0.014531
Olf149	1.315554	0.982303	-0.42143	0.001085	0.012723
Cd47	1.240454	0.926799	-0.42054	0.000692	0.009887
Tmem591	1.300182	0.97264	-0.41874	8.2E-06	0.000741
Fam196a	1.166582	0.873467	-0.41746	0.000611	0.00926
2310022B05Rik	1.245209	0.933195	-0.41614	0.000931	0.011717
Padi1	1.285734	0.963778	-0.41582	0.002874	0.022025
Rdh19	1.155639	0.867531	-0.4137	0.004772	0.029648
Plppr1	1.352707	1.015795	-0.41324	0.001231	0.013591
A430033K04Rik	1.181114	0.887057	-0.41305	0.001184	0.013348
Olf1026	1.200103	0.901421	-0.41289	0.00025	0.005691
Adam1a	1.305255	0.980666	-0.4125	0.002921	0.02226
Rbm11	1.265342	0.95169	-0.41096	0.004726	0.02948
Cdk17	1.05872	0.797256	-0.40921	4.97E-05	0.002083
4930563E22Rik	1.250566	0.942328	-0.40828	0.00132	0.0141
BC027072	1.265136	0.953358	-0.4082	0.005379	0.031983
Cttnbp2	1.261829	0.95087	-0.4082	1.8E-06	0.000375
Nrsn1	1.176013	0.886376	-0.40791	2.18E-06	0.000421
Arl9	1.227973	0.926625	-0.40622	0.008943	0.044625
Cmb1	1.188851	0.897728	-0.40522	0.006433	0.035998
Rgs4	1.154239	0.872142	-0.40431	0.000235	0.005523
Ifna1	1.176162	0.889501	-0.40302	0.000387	0.007267
Olf1914	1.14746	0.868544	-0.40177	0.006815	0.037367
Tcte1	1.154514	0.874643	-0.40052	9.05E-07	0.000247
B3gnt11	1.191474	0.902678	-0.40046	0.005238	0.031471
Gsg11	1.072812	0.812995	-0.40008	0.002266	0.019202
Aldh3b2	1.260901	0.957057	-0.39778	0.006482	0.036138
Myl2	1.168254	0.887063	-0.39724	0.007485	0.039625
Pacrg	1.186185	0.900755	-0.39712	0.000658	0.009608
Rb1	1.222499	0.92845	-0.39694	7.98E-06	0.00073

Gm39115	1.13086	0.859443	-0.39595	0.00296	0.022413
Spatc11	1.263508	0.960259	-0.39594	0.00568	0.033178
Klhl40	1.021072	0.77644	-0.39514	0.007145	0.038362
Prss12	1.172813	0.892029	-0.39481	3.23E-06	0.000519
Tmod1	1.199544	0.912476	-0.39463	0.00024	0.00555
Rap2b	1.184079	0.900856	-0.3944	0.003207	0.023458
Olf1143	1.198763	0.91219	-0.39414	0.004537	0.028826
Zbtb16	1.092682	0.831556	-0.39399	0.002482	0.020333
Dnajc17	1.245734	0.948206	-0.39372	0.003081	0.023007
Zfp456	1.162576	0.884935	-0.39368	0.001553	0.015257
Zcchc13	1.071828	0.816042	-0.39336	0.010095	0.048394
Ndst4	1.161357	0.884822	-0.39235	0.009566	0.046682
Azgp1	1.106194	0.842902	-0.39217	0.000404	0.007397
Cyp2d40	1.161057	0.885746	-0.39047	0.005195	0.031394
Glod5	1.060517	0.809058	-0.39045	0.004392	0.028354
Clec2e	1.396032	1.065194	-0.39022	0.001725	0.016252
Tpbgl	1.222723	0.933458	-0.38944	1.16E-05	0.00091
Armex6	1.264536	0.966561	-0.38768	0.001009	0.012176
Abhd3	1.177238	0.899935	-0.38751	0.00093	0.011717
Parm1	1.138356	0.870659	-0.38677	0.000318	0.006453
Mlap	1.226266	0.938301	-0.38615	0.005139	0.031144
Npr2	1.252772	0.958836	-0.38577	0.008337	0.042543
Fah	1.115671	0.855527	-0.38303	0.001934	0.017351
Apoh	1.167234	0.895292	-0.38266	0.00497	0.030483
Ppl	1.10319	0.846401	-0.38227	0.002885	0.02205
Fam210b	1.224869	0.940275	-0.38147	0.000736	0.010288
Mn1	1.123829	0.863033	-0.38093	9.08E-07	0.000247
Wdr83os	1.263893	0.971056	-0.38025	3E-05	0.001525
Afg3l2	1.220082	0.937397	-0.38025	0.000418	0.007549
Tmem200c	1.134824	0.872167	-0.37979	0.000565	0.008848
Agmat	1.226873	0.943655	-0.37865	0.000408	0.00742
Pxt1	1.223891	0.941728	-0.37809	0.001014	0.012228
Sim2	1.205203	0.927378	-0.37805	0.000173	0.004528

Wdr6	1.094646	0.842953	-0.37694	0.010136	0.048424
E330017A01Rik	1.266708	0.975863	-0.37633	0.0012	0.013416
Ube2l3	1.223262	0.942836	-0.37565	9.21E-06	0.000781
Osbpl10	1.064039	0.820601	-0.3748	8.01E-05	0.002782
Pcdha9	1.120855	0.864669	-0.37438	0.001362	0.01439
Mpc2	1.097424	0.846734	-0.37414	0.000493	0.008199
Shc3	1.199459	0.925956	-0.37337	2.25E-07	0.000113
Sema4g	1.224139	0.945402	-0.37277	0.000685	0.009813
Lrrc3b	1.133136	0.875982	-0.37135	5.65E-05	0.002287
Alg1	1.045224	0.808538	-0.37043	0.001397	0.014531
Samd8	1.089976	0.843549	-0.36975	0.000437	0.007701
Abca17	1.262281	0.976966	-0.36965	0.004282	0.027958
Krt31	1.19362	0.924584	-0.36847	0.000478	0.00806
Pragl	1.153804	0.894399	-0.36741	0.006178	0.035015
Tbc1d17	1.151297	0.892633	-0.36712	0.000376	0.00715
Pcdhb15	1.153593	0.895431	-0.36548	0.007439	0.039465
Plpp6	1.257617	0.976738	-0.36465	0.002178	0.018726
Prdm13	1.153375	0.895898	-0.36446	0.005452	0.032266
Kif26b	1.167046	0.907661	-0.36264	0.000648	0.009547
Dest1	1.189022	0.924772	-0.36261	0.002525	0.020526
Apol8	1.093154	0.850983	-0.36129	8.74E-05	0.00293
Cfap54	1.19238	0.92881	-0.36039	2.34E-05	0.001344
Cdh22	1.041828	0.811634	-0.36022	2.91E-05	0.001498
2810021J22Rik	1.21732	0.949048	-0.35915	0.004881	0.030117
Trim72	1.118307	0.872549	-0.35801	0.005221	0.031471
Olfrl1093	1.25009	0.976476	-0.35638	0.00046	0.007874
Slc22a16	1.186301	0.926819	-0.35611	0.000299	0.006224
Dtx3	1.252418	0.979106	-0.35518	1.48E-05	0.00104
Jph3	1.160268	0.907271	-0.35485	6.49E-07	0.000207
Crlfl	1.25938	0.984778	-0.35484	0.001814	0.016701
Kcnk15	1.0113	0.791269	-0.35397	0.007663	0.040209
Rnf224	1.193026	0.934818	-0.35187	7.33E-05	0.00266
Rit2	1.152988	0.903648	-0.35155	1.81E-05	0.001178

Ddn	1.228532	0.963234	-0.35098	4.12E-05	0.001873
Srd5a1	1.291631	1.012827	-0.35081	0.000402	0.007392
Ift46	1.220164	0.956896	-0.35064	0.000827	0.010905
Ido2	1.159341	0.909198	-0.35064	0.002882	0.02205
2310079G19Rik	1.245787	0.977063	-0.35053	0.001819	0.016735
Cic	1.115459	0.875375	-0.34966	0.002639	0.020905
Epha3	1.210206	0.950644	-0.34828	0.005391	0.031983
Cyp2t4	1.151059	0.90427	-0.34814	0.002828	0.021814
Timm17a	1.179032	0.926533	-0.34769	3.08E-07	0.000131
Agt	1.172579	0.921868	-0.34705	0.00261	0.02086
Fam84a	1.151351	0.905317	-0.34683	0.000176	0.004548
Hapln3	1.185773	0.932704	-0.34634	0.003217	0.023496
Drc1	1.264525	0.995532	-0.34506	0.009874	0.047723
Zfp503	1.037563	0.817122	-0.34458	0.003792	0.02608
Zfp983	1.182291	0.931313	-0.34425	0.006191	0.035067
Sorcs3	1.1362	0.89522	-0.3439	0.000342	0.006776
Ttll1	1.282318	1.010461	-0.34374	0.000255	0.005743
LOC102635566	1.118984	0.881816	-0.34364	0.001336	0.014219
Uchl1	1.213179	0.956144	-0.34349	0.002704	0.021229
Lhx8	1.239918	0.977401	-0.34322	0.000204	0.005009
Spaca6	1.0551	0.83221	-0.34236	0.005231	0.031471
Chst8	1.151701	0.908531	-0.34216	0.003613	0.025277
Bid	1.14164	0.900642	-0.34208	0.000131	0.003777
Rhox7a	1.113056	0.879195	-0.34027	0.004754	0.029605
Gmpr	1.11065	0.877497	-0.33994	0.000116	0.003529
Fam189a1	1.149077	0.908058	-0.33962	1.58E-07	8.81E-05
Cryga	1.207224	0.9552	-0.33782	0.005798	0.033599
Aadacl4	1.093245	0.865382	-0.33721	0.003302	0.023956
Gpr137b	1.065507	0.844002	-0.33622	3.17E-05	0.00157
Hsf5	1.109377	0.878964	-0.33587	0.001889	0.017063
Prss50	0.945157	0.748926	-0.33573	0.003117	0.023057
N4bp2l1	1.163328	0.921833	-0.33568	0.000143	0.004029
Xxylt1	1.177929	0.933953	-0.33483	0.004401	0.028354

Rab40b	1.166888	0.925531	-0.33431	0.000238	0.005535
Odf3l2	1.153691	0.915292	-0.33395	0.000429	0.007628
Neto1	1.196423	0.949848	-0.33296	0.008851	0.044229
Gabra3	1.128032	0.895613	-0.33286	0.001194	0.013374
Slc34a1	1.136161	0.902657	-0.33192	0.003843	0.026298
Chrna1	1.233454	0.980052	-0.33177	0.001308	0.014022
Adam12	1.234324	0.980785	-0.33171	0.000564	0.008848
Riok3	1.212172	0.963597	-0.33109	8.61E-05	0.002897
Tlnrd1	1.205112	0.958436	-0.33041	0.000921	0.011656
Sohlh2	1.153896	0.918322	-0.32944	0.006173	0.035004
Pygb	1.143582	0.910372	-0.32903	0.010211	0.04862
Kcnc4	1.176247	0.936389	-0.32901	0.004256	0.027896
Kras	1.090826	0.869951	-0.32641	0.001413	0.014598
Lelp1	1.14946	0.916963	-0.32602	0.001908	0.017186
Frg2f4	1.133853	0.905048	-0.32517	0.009064	0.045039
Krt83	1.175057	0.937984	-0.3251	0.002619	0.020892
Olfrl22	1.086199	0.867297	-0.32469	0.005021	0.030657
Ryr2	1.042474	0.832547	-0.32441	0.00138	0.014514
Slpr1	1.115759	0.89108	-0.3244	0.005749	0.033392
Gm4736	1.186389	0.948048	-0.32355	0.007566	0.039939
Zfp346	1.208194	0.965602	-0.32335	0.00359	0.025166
Gstm1	1.132472	0.905226	-0.32313	0.002706	0.021232
Shb	1.18661	0.948681	-0.32285	6.91E-05	0.002588
Pcdhb14	1.094436	0.875139	-0.3226	0.003352	0.024072
Gpr25	1.201557	0.961844	-0.32103	2.37E-05	0.001344
1700001C02Rik	1.162756	0.931118	-0.32051	0.004883	0.030117
Ccdc124	1.21137	0.971012	-0.31908	5.94E-07	0.000201
Hcn4	1.133542	0.909095	-0.31833	0.001357	0.014355
Cplx1	1.16667	0.935879	-0.318	3.24E-06	0.000519
Htr4	1.14212	0.916263	-0.31788	0.008697	0.043687
Qtrt1	1.068464	0.857513	-0.31731	0.00196	0.017455
Mppel	1.123881	0.902021	-0.31726	0.000766	0.010496
1700019D03Rik	1.107655	0.889296	-0.31677	0.001028	0.012308

Olf1272	1.163839	0.934531	-0.31658	0.001493	0.014924
Tspear	1.30143	1.045307	-0.31617	0.003335	0.024043
F12	1.136099	0.912659	-0.31594	0.004953	0.030429
Zcchc3	1.161134	0.933335	-0.31507	3.85E-05	0.001778
BC024139	1.063858	0.855256	-0.31488	0.007793	0.040807
Rsg1	1.219354	0.980504	-0.31452	0.000289	0.006129
Cplx4	1.186472	0.954346	-0.31409	0.006626	0.036674
Rpa3	1.113235	0.895553	-0.31391	7.04E-06	0.000673
Olf1745	1.180365	0.949842	-0.31347	0.000494	0.008199
E2f7	1.193132	0.960465	-0.31295	0.010125	0.048407
Amz1	1.066879	0.859252	-0.31224	0.003785	0.026047
Necab3	1.176941	0.948239	-0.31172	0.009946	0.047971
Gabbr2	1.161184	0.935782	-0.31135	5.88E-05	0.002334
Hrh4	1.141822	0.920925	-0.31018	0.005584	0.032719
Ctrb1	1.117736	0.901721	-0.30983	0.00439	0.028354
Sertm1	1.135555	0.916215	-0.30964	2.96E-05	0.001517
Lrig1	1.116935	0.901212	-0.30961	2.98E-06	0.00051
Olf1704	1.228099	0.991402	-0.30889	0.004558	0.028895
Chst5	1.096945	0.886626	-0.30709	0.000591	0.009111
Gm2696	1.214897	0.983066	-0.30547	0.001458	0.014781
Apol7b	1.20304	0.973734	-0.30509	0.002554	0.02063
Fhl5	1.183564	0.959347	-0.30301	3.71E-05	0.001725
Npy1r	1.130647	0.916556	-0.30285	6.61E-05	0.002518
Rida	1.169607	0.948312	-0.30259	0.009996	0.048116
Pamr1	1.136213	0.9213	-0.30249	0.003263	0.023723
Rad23b	1.152857	0.935005	-0.30217	2.08E-05	0.001283
Polg	1.132055	0.918277	-0.30194	0.005235	0.031471
St6galnac5	1.143915	0.92937	-0.29965	0.000352	0.006901
L3mbtl1	1.140655	0.926887	-0.2994	0.008174	0.041994
Cdo1	1.101619	0.896322	-0.29754	8.19E-05	0.002802
Slc36a1	1.085678	0.883508	-0.29728	0.002418	0.020037
Slc5a10	1.078844	0.878179	-0.2969	0.001389	0.014528
Hmgb2	1.181203	0.96185	-0.29637	0.008685	0.043685

Gins3	1.148712	0.935509	-0.29619	4.99E-05	0.002083
Gabrg3	1.200583	0.977823	-0.29609	0.002677	0.021114
Olf933	1.225876	0.998444	-0.29606	0.006504	0.036205
Gabra1	1.142472	0.931409	-0.29467	1.36E-06	0.000335
Nisch	1.112348	0.906984	-0.29446	0.002497	0.02039
Gipc1	1.153559	0.940757	-0.2942	4.77E-05	0.002056
Ydjc	1.107576	0.903391	-0.29398	0.000793	0.01068
Grasp	1.130389	0.922001	-0.29398	3.46E-05	0.001658
Nav1	1.192568	0.973122	-0.29338	0.000417	0.007546
Gpd1	1.145064	0.934434	-0.29326	0.000771	0.010537
Serpini1	1.089337	0.889153	-0.29295	0.000115	0.003509
Fstl4	1.140861	0.931457	-0.29256	0.001528	0.015135
Chp1	1.194833	0.975578	-0.29248	0.001639	0.015803
Zswim4	1.134085	0.926686	-0.29138	7.58E-05	0.002664
Cabp7	1.113037	0.909511	-0.29134	0.001351	0.01432
Ankrd35	1.177987	0.962929	-0.29082	4.27E-06	0.00056
Galnt11	1.151033	0.94096	-0.29072	4.34E-05	0.001964
Tonsl	1.070236	0.875008	-0.29056	0.0099	0.047825
Fto	1.13925	0.931533	-0.29041	0.000167	0.004415
Cdcp1	1.210211	0.990628	-0.28884	0.002563	0.020674
Alg6	1.245703	1.020465	-0.28773	0.001485	0.014895
Kntc1	1.19809	0.981608	-0.28752	0.007375	0.03926
Rap1gap2	1.131764	0.927494	-0.28716	8.42E-05	0.002852
Ass1	1.107669	0.907772	-0.28713	0.000985	0.012117
Rarres1	1.093225	0.897354	-0.28484	0.000714	0.010133
Smyd5	1.080955	0.887464	-0.28455	0.001099	0.012792
Cep44	1.069763	0.878825	-0.28364	0.004124	0.02751
Erich5	1.10068	0.904339	-0.28346	0.002081	0.018048
Lims2	1.129039	0.927677	-0.2834	0.004407	0.028361
Zfp831	1.090063	0.895846	-0.28309	0.000317	0.006453
Trib1	1.098203	0.902715	-0.2828	0.007601	0.040042
Mgst3	1.112305	0.91431	-0.2828	5.02E-05	0.002086
Ras10b	1.114648	0.91723	-0.28123	7.13E-06	0.000674

Fam110b	1.10334	0.908031	-0.28106	4.54E-05	0.00202
Slc22a28	1.139494	0.938209	-0.28041	0.000403	0.007392
Prpmp5	1.11722	0.920374	-0.27962	5.83E-06	0.000625
Dusp12	1.111451	0.915782	-0.27937	0.009134	0.045282
Rab39b	1.073116	0.884257	-0.27927	0.001853	0.016914
Slc6a11	1.205944	0.993939	-0.27893	0.005149	0.031184
Usp11	1.169559	0.964012	-0.27884	1.88E-06	0.000382
Actl6b	1.152745	0.950241	-0.27871	0.000839	0.011014
Kcng1	0.996421	0.82163	-0.27827	0.006897	0.037643
Dnajc27	1.131911	0.9335	-0.27804	2.34E-05	0.001344
Olfir521	1.139277	0.939732	-0.2778	0.00355	0.024982
Jcad	1.097302	0.905142	-0.27775	0.000306	0.006293
Gm4559	1.172149	0.966931	-0.27767	3.6E-05	0.001703
B3galt2	1.072234	0.884561	-0.27759	0.00747	0.039588
Stab2	1.138711	0.939439	-0.27753	0.006096	0.034813
Aqp11	1.158844	0.956165	-0.27735	0.001528	0.015135
Hkdc1	1.138227	0.939223	-0.27725	0.007176	0.038473
Olfir1444	1.141429	0.942036	-0.27699	0.000168	0.004424
Ncan	1.171481	0.967349	-0.27623	0.000304	0.006287
Smad3	1.081464	0.893115	-0.27607	0.000392	0.007293
Pcdhb16	1.098478	0.907411	-0.27568	0.003325	0.024004
Tcl1b5	1.108533	0.915771	-0.27559	0.003635	0.025337
Adgral	1.076041	0.88915	-0.27523	0.000803	0.010736
Arhgdig	1.168293	0.965418	-0.27518	0.000259	0.005795
Gngl3	1.096426	0.906252	-0.27482	4.01E-06	0.000545
Rhou	1.118975	0.925127	-0.27445	0.006581	0.036442
Med10	1.224107	1.012723	-0.27349	1.42E-05	0.001018
Sprr2b	1.176913	0.973721	-0.27343	0.009286	0.045863
Rab3gap1	1.097673	0.908245	-0.27329	0.000178	0.004548
Ggt7	1.103908	0.913816	-0.27264	7.05E-06	0.000673
Proca1	1.08499	0.898183	-0.2726	0.005949	0.034173
Rogdi	1.10481	0.915184	-0.27166	0.000818	0.010821
Scg5	1.137437	0.94227	-0.27157	0.000131	0.003777

Gsr	1.097687	0.909728	-0.27096	0.004403	0.028354
Dnah8	1.124812	0.932231	-0.27092	0.004264	0.027897
Prox1	1.092345	0.905496	-0.27065	0.006027	0.034512
Scel	1.009719	0.837113	-0.27046	0.003472	0.02461
Nop16	1.179913	0.978409	-0.27017	0.001037	0.012346
C330021F23Rik	1.141974	0.947032	-0.27004	0.001794	0.016579
Jpt1	1.156717	0.959431	-0.26978	0.000739	0.0103
Sst	1.141542	0.946976	-0.26958	0.001399	0.014531
Lcat	1.211811	1.005325	-0.2695	0.006032	0.034519
Bcl2l13	1.124841	0.93404	-0.26816	0.000165	0.004409
Cyp2c67	1.140087	0.947095	-0.26756	0.000802	0.010736
Krtap10-4	1.209438	1.004724	-0.26754	0.001616	0.0157
Kcnq3	1.054751	0.87667	-0.2668	0.0005	0.008247
Acacb	1.135646	0.944055	-0.26657	0.002143	0.018462
Lmcd1	1.19541	0.994015	-0.26617	0.00146	0.014781
Dyrk3	1.077268	0.896662	-0.26474	0.008142	0.041928
Slc1a6	1.151165	0.95829	-0.26456	0.002942	0.022324
Pitx3	1.109072	0.923539	-0.26411	0.007286	0.038867
Atrip	1.137616	0.94767	-0.26356	0.004701	0.029377
Mfap1a	1.112505	0.926761	-0.26354	0.009476	0.046411
Srrm4	1.059958	0.883273	-0.26308	0.000805	0.010748
C7	1.136968	0.947466	-0.26305	0.001858	0.016943
Gng3	1.132712	0.943999	-0.26292	8.79E-05	0.00293
Cyp2d26	1.145809	0.955004	-0.26279	0.00025	0.005691
Arxes2	1.145857	0.955597	-0.26195	1.5E-06	0.000346
Olfir60	1.125408	0.938548	-0.26195	0.00118	0.013339
Camk1g	1.120325	0.934701	-0.26134	0.001948	0.017414
Kctd8	0.977484	0.815711	-0.26102	0.008246	0.042303
Rnf180	1.169494	0.975986	-0.26095	0.00173	0.016256
Kcnv1	1.163822	0.971368	-0.26078	0.004255	0.027896
Stn1	1.147834	0.958179	-0.26055	0.003058	0.022988
Sgtb	1.12259	0.937138	-0.2605	0.000142	0.004016
Rapefl1	1.133098	0.947004	-0.25883	0.00189	0.017063

Ocstamp	1.218013	1.018239	-0.25845	0.007013	0.037985
Hcn2	1.148069	0.959805	-0.2584	0.002543	0.020588
Lsm8	1.072773	0.896988	-0.25818	0.000271	0.005951
Coil	1.127141	0.942761	-0.2577	3.36E-06	0.000519
Arl8a	1.177617	0.985016	-0.25765	3.85E-06	0.000545
Cblb	1.154419	0.965694	-0.25753	0.000777	0.010558
Cend1	1.1222	0.938991	-0.25715	0.000502	0.008256
Gabbr1	1.155878	0.967421	-0.25677	1.26E-08	1.03E-05
Sh2d5	1.126887	0.94321	-0.25669	0.000197	0.004894
Magee1	1.150032	0.962795	-0.25637	1.97E-05	0.001247
Olfir744	1.058061	0.886274	-0.2556	0.003124	0.023071
Smim10l2a	1.138998	0.954074	-0.25559	0.000392	0.007293
Nudt18	1.138041	0.953307	-0.25554	0.000427	0.007621
Clcn2	1.05274	0.88192	-0.25543	2.58E-05	0.001424
Slit3	1.058481	0.887322	-0.25447	0.001235	0.0136
Dph1	1.139478	0.955791	-0.25361	0.000727	0.010233
Lars	1.142216	0.958138	-0.25353	0.000269	0.005944
Jph4	1.164663	0.977199	-0.25319	1.69E-06	0.000366
Garem1	1.136134	0.953602	-0.25267	4.99E-05	0.002083
Ppp1r9b	1.149027	0.964638	-0.25235	1.36E-07	8.01E-05
Ostm1	1.094799	0.919332	-0.25201	1.2E-06	0.000305
S100b	1.004244	0.84335	-0.25191	0.00311	0.023036
Nfyb	1.026626	0.862275	-0.25169	0.003289	0.023878
1110032F04Rik	1.12024	0.940939	-0.25163	0.000687	0.009821
Adam23	1.115614	0.937122	-0.25153	0.000368	0.007074
Ifnl3	1.153409	0.969303	-0.25088	0.00127	0.013737
Ust	1.15768	0.972912	-0.25086	0.000394	0.007293
Ptprn	1.128906	0.949073	-0.25033	0.000597	0.009157
Uck1	1.125459	0.946192	-0.25031	0.007845	0.040952
Lypd5	1.193814	1.003928	-0.24992	9E-05	0.002989
Tgif2lx1	1.165319	0.980183	-0.2496	0.0084	0.042783
Cacng3	1.106302	0.930625	-0.24947	0.004048	0.027191
Slc9a5	1.160632	0.976366	-0.24942	0.000206	0.005009

Nme1	1.142017	0.960872	-0.24917	0.000258	0.00577
Acvr2a	1.057472	0.889938	-0.24884	0.001	0.012167
Smim24	1.049082	0.882935	-0.24875	0.009139	0.045284
Cideb	1.125013	0.947126	-0.24831	0.000574	0.008909
Fscn1	1.03724	0.873727	-0.2475	0.000409	0.007423
Git1	1.147137	0.966843	-0.24668	1.66E-06	0.000366
Dact3	1.072111	0.903727	-0.2465	6.24E-06	0.000645
Zfp931	1.034741	0.872421	-0.24617	0.001135	0.013078
Ccdc148	1.034675	0.872944	-0.24522	0.00153	0.015137
Pon2	1.127572	0.951354	-0.24516	0.006895	0.037643
Rnasel	1.134123	0.957043	-0.24492	0.005096	0.031022
Cyp2c70	1.112677	0.939158	-0.24459	0.001289	0.01387
Apba1	1.136411	0.959228	-0.24454	0.000323	0.006513
Mpped1	1.092951	0.922592	-0.24446	0.005073	0.030918
Slc6a7	1.098202	0.927036	-0.24445	0.001267	0.013726
Rnf121	1.080146	0.911933	-0.24423	0.002545	0.020588
Gm436	1.198426	1.012076	-0.24382	0.005688	0.033178
LOC102637615	1.144196	0.966405	-0.24363	0.001557	0.01527
Ube2e2	1.158848	0.979188	-0.24303	0.001488	0.014895
Apex2	1.030257	0.870787	-0.24261	0.000241	0.005571
Sec24d	1.055971	0.892699	-0.24233	0.00119	0.013374
Zfp39	1.099107	0.929198	-0.24227	0.009559	0.046667
Fkbp1b	1.104097	0.933781	-0.24171	0.000323	0.006513
Tex44	1.190181	1.006977	-0.24115	4.33E-06	0.00056
Prr14l	1.165321	0.98599	-0.24108	0.002779	0.021613
Mal2	1.083886	0.917488	-0.24045	7.21E-05	0.002652
Slc25a16	1.0287	0.870856	-0.24032	0.00048	0.008065
Gm14305	1.06343	0.900293	-0.24026	0.001758	0.016372
Fxyd7	1.110191	0.939894	-0.24024	0.004581	0.028989
Hipk4	1.139564	0.965442	-0.23922	0.00865	0.043574
At1l	1.071754	0.90821	-0.23888	2.96E-07	0.000131
Ggct	1.128777	0.956561	-0.23883	0.000168	0.004424
Pramef20	1.07456	0.910645	-0.23879	0.000419	0.007549

Olf124	1.082216	0.917175	-0.23872	0.004418	0.028415
Rin1	1.073615	0.910072	-0.23842	8.17E-05	0.002801
Zfp712	1.10817	0.939479	-0.23825	0.00146	0.014781
Ripply1	1.046965	0.887625	-0.23819	0.004799	0.029727
Adgrl3	1.10704	0.938825	-0.23778	0.001886	0.017058
1810009N02Rik	1.176355	0.997614	-0.23777	0.007905	0.041129
Sult1c1	1.131924	0.960082	-0.23755	0.009446	0.046353
Atp7b	1.158188	0.982414	-0.23747	1.02E-05	0.000829
Lyst	1.01515	0.861134	-0.23738	0.007847	0.040952
Cecr6	1.101722	0.934764	-0.23709	0.001499	0.014931
Lrrn1	1.04236	0.884437	-0.23702	0.000205	0.005009
Slc7a14	1.068167	0.906335	-0.23702	0.000289	0.006129
Thumpd2	1.047699	0.889067	-0.23686	0.004263	0.027897
Rabepk	1.135317	0.963503	-0.23673	0.001005	0.012167
Ikzf3	1.08387	0.919892	-0.23666	0.00125	0.013676
Grm2	1.148224	0.974527	-0.23663	0.006376	0.035809
Adra2c	1.04929	0.89139	-0.23529	0.007046	0.038057
Tmem191c	1.136332	0.965346	-0.23527	0.001214	0.013527
Nap1l5	1.032337	0.877014	-0.23524	0.00382	0.026208
Emc10	1.11272	0.945382	-0.23512	0.002333	0.019588
Deps	1.128119	0.959243	-0.23395	2.68E-05	0.001439
Grid1	1.162325	0.988683	-0.23343	0.005311	0.031743
Il27	1.110736	0.945105	-0.23297	0.004376	0.028329
Nmrk1	1.098689	0.935679	-0.2317	0.001951	0.017422
Tmem150c	1.076243	0.916907	-0.23116	0.000109	0.003417
Mapkbp1	1.064859	0.907261	-0.23107	1.5E-05	0.001047
Epg5	1.088911	0.9278	-0.231	0.000186	0.004726
Ntng1	1.068738	0.910829	-0.23066	0.001496	0.014931
Nckap5l	1.167333	0.995125	-0.23027	0.004785	0.0297
Nsg1	1.080512	0.921347	-0.2299	2.87E-05	0.001481
Rpl21	1.115569	0.951494	-0.22951	0.000269	0.005944
Galnt18	1.132696	0.966342	-0.22916	0.000297	0.006199
Hdac11	1.078645	0.920298	-0.22905	0.00425	0.027896

Diras2	1.145719	0.977806	-0.22863	2.55E-05	0.001424
Prr7	1.103606	0.942125	-0.22824	0.002288	0.019319
Slc1a1	1.098955	0.938171	-0.22821	2.65E-06	0.000476
Rasd2	1.137098	0.971344	-0.2273	0.002251	0.019145
Ccdc42	1.126674	0.962498	-0.22721	0.000291	0.006149
Smpd3	1.06846	0.91286	-0.22707	8.27E-05	0.002819
Vgf	1.092342	0.933274	-0.22705	0.00308	0.023007
Drp2	1.120354	0.957369	-0.22681	5.84E-06	0.000625
Hist1h2bb	1.112639	0.951062	-0.22638	0.009453	0.046363
Oxa11	1.117214	0.955105	-0.22617	0.004234	0.027862
Prlhr	1.084039	0.92679	-0.2261	0.000545	0.008666
Lym9	1.110258	0.949356	-0.22587	0.002114	0.018273
Rapegf5	1.096813	0.938031	-0.22561	0.000393	0.007293
Rell2	1.112563	0.951633	-0.22541	9.72E-05	0.003185
Hist3h2ba	1.175033	1.005078	-0.22539	0.000115	0.003509
Entpd6	1.104045	0.944488	-0.2252	0.00011	0.003417
Kctd13	1.105088	0.945471	-0.22506	0.000204	0.005009
Sub1	1.119572	0.958091	-0.22471	3.48E-06	0.000519
Srp14	1.139469	0.97551	-0.22413	0.00032	0.006491
Manea	1.110341	0.950643	-0.22403	0.006136	0.034907
1700003F12Rik	1.106894	0.947705	-0.22401	0.005947	0.034173
Kidins220	1.091508	0.934563	-0.22396	0.000166	0.004409
Fdx11	1.074941	0.920516	-0.22374	1.28E-05	0.000964
Coro1c	1.083675	0.928371	-0.22316	0.007865	0.041003
Timp4	1.142057	0.978868	-0.22245	0.002646	0.020948
C1qtnf4	1.157111	0.992491	-0.2214	0.000408	0.00742
Mmd2	1.094223	0.93877	-0.22106	9.61E-06	0.000807
Zfp617	1.100919	0.944761	-0.22069	1.5E-06	0.000346
Pik3r3	1.069999	0.918555	-0.22017	0.008316	0.042479
2310011J03Rik	1.138095	0.977209	-0.21988	0.001174	0.013301
Efnb3	1.057864	0.908476	-0.21963	0.006194	0.035067
Fbxo2	1.09442	0.939972	-0.21948	0.010107	0.0484
Mettl7a3	1.155324	0.992501	-0.21916	7.32E-05	0.00266

Chst12	1.112635	0.955845	-0.21913	0.00073	0.010251
Ube2ql1	1.118638	0.961064	-0.21904	8.25E-06	0.000741
Dmwd	1.08631	0.933346	-0.21895	2.31E-05	0.001344
Chst7	1.099758	0.945121	-0.21862	0.009327	0.045957
Paqr9	1.107964	0.952328	-0.21838	4.91E-05	0.00208
Ly6g6d	1.072285	0.921691	-0.21833	0.006676	0.036795
Zfp648	1.123913	0.966082	-0.21831	0.000188	0.004739
Zfp566	1.086306	0.93396	-0.218	0.010179	0.048554
Angptl8	1.07717	0.926636	-0.21717	0.003714	0.02578
Fam213b	1.084406	0.932962	-0.21701	0.000363	0.007007
Bpifa5	1.167703	1.004746	-0.21684	0.002653	0.020965
Aqp2	1.091364	0.939084	-0.21681	0.004612	0.029096
Vbp1	1.083577	0.932446	-0.21671	0.000548	0.008692
Daglb	1.058633	0.911059	-0.21659	0.003756	0.026004
Sdsl	1.126891	0.969952	-0.21636	0.001018	0.012264
Aff3	1.08095	0.930534	-0.21617	0.000536	0.008573
Sema7a	1.156517	0.995609	-0.21614	0.000794	0.01068
Kalrn	1.138471	0.980181	-0.21598	0.009946	0.047971
Mettl22	1.071892	0.922881	-0.21594	0.002433	0.020128
Tpgs1	1.113559	0.958807	-0.21587	0.002019	0.017733
Tcea2	1.053196	0.906903	-0.21575	0.001254	0.013683
Tox2	1.093193	0.941385	-0.21569	0.010514	0.049592
Arxes1	1.121979	0.966276	-0.21554	0.00049	0.008169
BC051019	1.117889	0.963296	-0.21473	0.002176	0.018721
Mllt11	1.120598	0.96607	-0.21407	0.000125	0.003708
Twf2	1.053874	0.908555	-0.21406	0.00027	0.005944
Spr2a2	1.088266	0.938263	-0.21397	0.001112	0.012888
Prickle1	1.116254	0.962987	-0.21308	0.002479	0.020333
Tspan15	1.062668	0.916973	-0.21274	0.000633	0.009426
Gspt2	1.111775	0.95942	-0.21263	0.003726	0.025831
Mast3	1.130584	0.976105	-0.21196	0.000355	0.006907
Gda	1.124994	0.971281	-0.21196	0.004515	0.028777
Kbtbd11	1.092393	0.94328	-0.21173	0.003014	0.022734

Cdc26	1.156432	0.998707	-0.21155	0.004444	0.028511
Fam160b2	1.128875	0.975037	-0.21136	0.002988	0.022592
Ranbp9	1.070111	0.924574	-0.2109	0.005185	0.031351
Sec11c	1.100786	0.951176	-0.21075	1.34E-05	0.000983
Purb	1.085112	0.937988	-0.2102	4.31E-06	0.00056
Heatr1	1.036349	0.895874	-0.21014	0.008761	0.043945
Trmt1	1.065551	0.921164	-0.21007	0.008982	0.044781
Ubash3b	1.101218	0.952008	-0.21005	0.001617	0.0157
Wipi2	1.105727	0.956123	-0.20973	1.22E-05	0.000942
Irs2	1.024978	0.886495	-0.20941	0.004118	0.02751
4930432M17Rik	1.157764	1.001404	-0.20932	0.008741	0.043864
Kif5c	1.096803	0.948832	-0.20908	1.73E-05	0.001145
Ift57	1.124905	0.973248	-0.20892	9.46E-05	0.003123
Plxna2	1.081418	0.93569	-0.20882	0.000318	0.006453
Zfp970	1.114295	0.96414	-0.20882	0.000129	0.003755
Hpcal1	1.078393	0.933119	-0.20875	0.000453	0.007826
Mboat2	1.072803	0.928286	-0.20874	8.1E-05	0.0028
Rasgrp1	1.119254	0.968493	-0.20872	0.000207	0.005017
Dusp8	1.133926	0.981254	-0.20863	0.000638	0.009463
Rab2b	1.107546	0.958546	-0.20845	0.000288	0.006129
Gins4	1.151271	0.996525	-0.20825	0.008268	0.042374
Xk	1.120496	0.970453	-0.20741	0.006739	0.037066
Kcnn1	1.078926	0.934683	-0.20705	0.003801	0.026106
Olfir319	1.154304	1.000066	-0.20693	0.000432	0.007643
Sap30l	1.068381	0.925762	-0.20671	3.22E-05	0.00158
Dbpht2	1.135953	0.984638	-0.20624	0.001032	0.012308
Prps1	1.09784	0.951628	-0.2062	0.004444	0.028511
Sfxn4	1.097624	0.951703	-0.2058	0.002637	0.020905
Arhgef4	1.067516	0.925621	-0.20576	0.000598	0.009157
Rcc2	1.086333	0.941988	-0.20569	0.00664	0.036683
2410002F23Rik	1.1041	0.957445	-0.20561	0.002222	0.018991
Fam81a	1.07178	0.92963	-0.20528	0.005553	0.032592
Itga4	1.102047	0.956457	-0.20441	0.003873	0.026388

Syt16	1.114932	0.967796	-0.20418	0.000472	0.008003
Tefm	1.086251	0.943271	-0.20361	0.00125	0.013676
Nlgn2	1.102076	0.957063	-0.20354	6E-05	0.002371
Slc24a3	1.076029	0.934648	-0.20322	5.54E-05	0.002251
Csmd2	1.104138	0.959236	-0.20296	0.000453	0.007826
Sergef	1.071326	0.930817	-0.20283	0.003411	0.024393
St8sia3	1.111397	0.965699	-0.20273	0.000995	0.012167
Pnpo	1.078579	0.937234	-0.20265	0.002225	0.019005
Nudt5	1.063555	0.924506	-0.20214	0.000272	0.005952
Dsel	1.159599	1.008262	-0.20176	0.002675	0.021109
Rnf141	1.042724	0.906673	-0.2017	0.000965	0.011947
Gm14393	0.984899	0.856537	-0.20146	9.76E-05	0.003185
Diras1	1.112669	0.967782	-0.20127	0.001822	0.016748
Ppif	1.086636	0.945266	-0.20108	0.00538	0.031983
Apls1	1.046289	0.910387	-0.20073	3.48E-06	0.000519
Hlcs	1.016893	0.884894	-0.20059	0.007074	0.038116
Cdk5r2	1.142819	0.994603	-0.2004	0.005458	0.032266
Trpm2	1.107636	0.964049	-0.20031	0.000129	0.003755
Tspan17	1.1093	0.96553	-0.20026	0.004763	0.029611
Fam131a	1.084192	0.944034	-0.19971	0.00064	0.009464
Wdr89	1.054436	0.918568	-0.19901	0.000867	0.011231
Hypk	1.139586	0.992866	-0.19884	0.003871	0.026388
Hgsnat	1.075772	0.937577	-0.19836	0.000129	0.003755
Lrnf2	1.055208	0.92002	-0.19779	0.000496	0.008211
Tma16	1.074695	0.93707	-0.1977	0.001031	0.012308
Ptprn2	1.070119	0.933183	-0.19754	0.000246	0.005663
Gm11595	1.130122	0.985604	-0.1974	0.000771	0.010537
Mapre1	1.104806	0.963577	-0.19732	0.006342	0.035677
Ankrd46	1.100458	0.959918	-0.19712	0.001448	0.014772
Spred3	1.071267	0.934515	-0.19703	0.007103	0.038218
Gmn	1.079977	0.942131	-0.197	0.006134	0.034907
Brinp2	1.104595	0.963632	-0.19696	0.002058	0.017908
Rcll	1.056081	0.921404	-0.19682	0.000726	0.010233

4933440N22Rik	1.172264	1.022816	-0.19675	0.000499	0.008243
Thoc1	1.082457	0.944511	-0.19667	0.01025	0.048741
Med12l	1.091699	0.953334	-0.19552	0.000613	0.00926
Sorcs2	1.067543	0.932459	-0.19518	0.000871	0.011256
Clql3	1.036406	0.905308	-0.19511	0.001512	0.01503
Prkaa2	1.125952	0.983569	-0.19505	0.000791	0.01068
Ccer2	1.128989	0.986265	-0.19498	0.007827	0.040925
Erich6	1.092034	0.954513	-0.19418	0.006889	0.037638
2300009A05Rik	1.162532	1.016156	-0.19415	0.002038	0.01784
Krtap9-1	1.110279	0.970486	-0.19414	0.004539	0.028826
Sec14l2	1.084572	0.948118	-0.19399	0.000353	0.006901
Zcchc17	1.104741	0.965894	-0.19377	1.51E-05	0.001047
Cyp2j9	1.095268	0.957764	-0.19354	0.00714	0.038359
Hira	1.097521	0.960028	-0.1931	4.7E-06	0.00058
Fhl3	1.071997	0.937788	-0.19297	0.000759	0.010482
Tsn	1.085091	0.949346	-0.19281	0.007035	0.038057
Fam212a	1.091488	0.955105	-0.19256	0.001038	0.012346
Slc12a6	1.027136	0.89918	-0.19194	0.009728	0.047255
Izumo4	1.105141	0.967518	-0.19187	0.010193	0.048576
Tbc1d10a	1.108961	0.970904	-0.19181	0.000176	0.004548
Med18	1.069228	0.936301	-0.19153	0.000715	0.010133
Cmss1	1.103566	0.966726	-0.19099	0.004525	0.028782
Focad	1.105746	0.968737	-0.19084	0.007888	0.041101
Krt79	1.083196	0.949279	-0.19039	0.000809	0.010767
Slc6a16	1.102237	0.965999	-0.19034	0.009911	0.047856
Dhrs7	1.095474	0.960193	-0.19016	0.005804	0.033615
Rap2a	1.104987	0.968684	-0.18993	0.000522	0.00845
Trim23	1.02551	0.899038	-0.18989	4.01E-06	0.000545
Npy5r	1.076535	0.943835	-0.18979	0.004288	0.027968
Fam155a	0.992	0.86985	-0.18957	0.009426	0.046295
Uchl4	1.093387	0.958893	-0.18936	0.000766	0.010496
Plcl2	1.104166	0.968465	-0.18918	0.000169	0.004424
Cacna2d3	1.136138	0.996591	-0.18906	0.001632	0.015765

Nudcd3	1.095878	0.961461	-0.18879	0.006203	0.0351
Map3k10	1.081101	0.948611	-0.18861	0.002802	0.021691
Parn	1.076316	0.944542	-0.18841	0.009953	0.047971
Smdt1	1.07097	0.939887	-0.18836	0.000655	0.009594
Usp12	1.055644	0.92667	-0.188	0.000674	0.009736
Gba2	1.11882	0.982214	-0.18787	2.77E-05	0.001458
Apex1	1.087975	0.955176	-0.18781	0.00043	0.007629
Mrpl47	1.067173	0.936967	-0.18772	0.010006	0.048116
Timm21	1.088826	0.956097	-0.18754	0.002599	0.020822
9130011E15Rik	1.0945	0.961088	-0.18753	0.002576	0.020718
Wsb2	1.091142	0.958657	-0.18675	7.36E-05	0.002663
Mapk3	1.048777	0.921451	-0.18673	0.001446	0.01477
Slc22a13	1.151384	1.011883	-0.18633	0.004851	0.029982
D430019H16Rik	1.120378	0.984755	-0.18615	4.32E-08	3.05E-05
Habp4	1.035034	0.909823	-0.18602	1.66E-05	0.001115
Got2	1.072271	0.942556	-0.18602	0.000147	0.004074
Nt5dc3	1.117825	0.982687	-0.18589	0.002716	0.02129
Ube2e1	1.144586	1.006443	-0.18556	0.005944	0.034173
Pkia	1.101313	0.968472	-0.18544	0.000969	0.01197
Tmem240	1.123087	0.98792	-0.185	1.55E-05	0.001065
Ephb3	1.033309	0.909001	-0.18492	0.000762	0.010483
Asl	1.157202	1.018236	-0.18457	0.009685	0.047131
Galnt14	1.102705	0.970303	-0.18454	0.003954	0.026798
Pin1	1.054079	0.927579	-0.18444	8.69E-07	0.000247
Nup133	1.072295	0.943878	-0.18403	0.001282	0.013814
Myo18b	1.129448	0.994535	-0.18352	0.006086	0.034776
Zfp788	1.072644	0.944842	-0.18303	0.004664	0.029282
Brk1	1.12889	0.994426	-0.18297	1.08E-05	0.000856
Fads2	1.099669	0.968718	-0.18292	0.004121	0.02751
Sept5	1.090108	0.960309	-0.1829	0.000421	0.007571
Lsm4	1.127512	0.993608	-0.18239	2.14E-05	0.001304
Nkain1	1.108877	0.977407	-0.18207	0.000162	0.004354
Tubb3	1.065239	0.939088	-0.18184	0.002425	0.020084

Tmem35a	1.082348	0.954411	-0.18148	0.005123	0.031099
Cx3cl1	1.12314	0.990816	-0.18085	0.000119	0.003563
Rhbd11	1.098686	0.969259	-0.18082	0.001732	0.016256
Ly6g5b	1.108359	0.977877	-0.1807	0.002215	0.018978
Fam102a	1.068556	0.942916	-0.18046	0.00147	0.01482
Gli3	1.056174	0.931997	-0.18045	0.007165	0.038432
Cadm4	1.059782	0.93529	-0.18028	0.009308	0.045929
Pcsk2	1.084134	0.956982	-0.17998	0.000219	0.005214
Fndc4	1.093987	0.965907	-0.17964	4.71E-06	0.00058
Trnp1	1.057175	0.933673	-0.17922	0.000114	0.003509
Cyp2j8	1.108181	0.979063	-0.17872	0.010107	0.0484
3110082I17Rik	1.106807	0.977881	-0.17867	0.007275	0.038845
Tmem151a	1.103294	0.974854	-0.17856	0.000938	0.011734
Bola2	1.070866	0.946238	-0.1785	0.000138	0.003935
Vps51	1.12366	0.993012	-0.17832	0.006392	0.035864
Cdc42se2	1.022542	0.903671	-0.17829	0.000115	0.003509
Rac3	1.097723	0.970182	-0.17819	0.004525	0.028782
Polr2h	1.026421	0.907246	-0.17806	0.002394	0.019901
Commd8	1.02428	0.905393	-0.17799	0.010329	0.049048
Zrsr1	1.035342	0.915268	-0.17784	0.004689	0.029337
Golph3	1.043209	0.922343	-0.17765	0.001367	0.014419
Arhgef15	1.049266	0.927857	-0.17741	0.000336	0.006703
Prss37	1.02461	0.906157	-0.17724	0.001547	0.015228
Vcp	1.1328	1.001843	-0.17724	0.007203	0.038581
Fam69b	1.082449	0.957317	-0.17723	0.000625	0.009376
Fry	1.087131	0.961487	-0.17719	1.28E-05	0.000964
Prex1	1.095989	0.969462	-0.17698	0.000573	0.008908
Ndufaf6	1.079145	0.954848	-0.17655	0.001066	0.012544
Lcelj	1.069008	0.945938	-0.17645	0.00376	0.02601
Cntnap4	1.098707	0.97272	-0.17571	0.005395	0.031983
Pin1rt1	1.061158	0.939605	-0.17551	3.58E-05	0.001702
Krtap5-4	1.070607	0.948167	-0.17522	0.009641	0.046984
Amer3	1.053435	0.933073	-0.17504	0.004384	0.02835

Impg1	1.107058	0.980717	-0.17482	0.008953	0.044657
Plrg1	1.060788	0.939796	-0.17472	0.005497	0.032389
Eepd1	1.026719	0.909622	-0.1747	0.008893	0.044417
Vsnl1	1.088421	0.964408	-0.17452	0.00384	0.026291
Shc2	1.095841	0.971117	-0.17432	0.004232	0.027862
Wdr24	1.092168	0.967975	-0.17415	0.002329	0.019588
Ids	1.097792	0.972973	-0.17413	0.000128	0.003753
Smyd4	1.037664	0.919723	-0.17407	0.003345	0.024066
Sncb	1.07542	0.953677	-0.17333	0.00034	0.006754
R3hdm4	1.096834	0.972702	-0.17327	0.002816	0.021771
Fsd1	1.092185	0.96858	-0.17327	0.003256	0.023716
Cd164l2	1.113509	0.987491	-0.17327	0.005215	0.031471
Akr1e1	1.072195	0.950881	-0.17323	0.003247	0.023682
Kcnq4	1.110924	0.985258	-0.17319	0.002782	0.021614
Fgd1	1.041016	0.923406	-0.17296	0.006149	0.034907
Rwdd2b	1.08167	0.959654	-0.17267	0.005025	0.030661
Mrgpre	1.072989	0.952198	-0.1723	0.008617	0.04343
Hcn1	1.092243	0.969575	-0.17187	0.0067	0.036893
Nckipsd	1.031663	0.915991	-0.17157	0.004393	0.028354
Man2a2	1.110942	0.986567	-0.17129	0.000618	0.00932
Cdk18	1.052881	0.935106	-0.17114	0.006539	0.036324
Fam171a2	1.093566	0.971456	-0.17082	0.001236	0.0136
Zfp260	1.051685	0.934309	-0.17073	0.000124	0.003683
Plpp3	1.034421	0.918978	-0.17072	0.001899	0.017134
2610507B11Rik	1.004321	0.892322	-0.17058	0.003914	0.02663
Fam189a2	1.110083	0.986372	-0.17046	0.007852	0.040957
Eif1ad	1.062838	0.94442	-0.17042	0.003097	0.023007
Mindy3	0.997493	0.886409	-0.17033	0.006111	0.034858
U2af114	1.09971	0.977592	-0.16982	0.002335	0.019588
Tbc1d23	1.069474	0.950887	-0.16955	0.00037	0.007075
Tmem186	1.065812	0.947893	-0.16916	0.002747	0.021439
Exoc5	1.113056	0.98994	-0.16911	0.002456	0.020242
Akap10	1.075424	0.956667	-0.16882	0.008065	0.04168

Cbx6	1.102532	0.980919	-0.16861	0.000185	0.004726
Prmt8	1.104935	0.983132	-0.1685	0.003078	0.023007
D630045J12Rik	1.082629	0.963312	-0.16846	0.000723	0.0102
Prr29	1.107357	0.98563	-0.168	0.002579	0.020727
Xpnpep1	1.074411	0.956424	-0.16782	0.006856	0.037534
Nrip1	1.038677	0.924703	-0.16769	0.003794	0.02608
Lcn12	1.072687	0.955264	-0.16726	0.004006	0.027051
Slc28a1	1.099433	0.979132	-0.16718	0.008057	0.04166
Zmat2	1.060614	0.944692	-0.16698	0.000239	0.00555
Ndufaf4	1.073874	0.956637	-0.16678	0.003388	0.024272
Slitrk4	1.087441	0.968965	-0.16642	0.007204	0.038581
Tbc1d8	1.103431	0.983425	-0.16611	0.005513	0.032425
Olf279	1.076984	0.959905	-0.16603	0.001223	0.013573
Lrrc19	1.086946	0.968886	-0.16588	0.002461	0.020251
Arpc3	1.10392	0.984255	-0.16553	3.05E-05	0.001525
Smyd2	1.041511	0.928977	-0.16496	0.001437	0.014732
Mboat7	1.046722	0.933651	-0.16492	0.001746	0.016335
Cdk7	1.038909	0.926825	-0.1647	0.001462	0.014781
Gm35257	1.122481	1.001586	-0.1644	0.00905	0.045013
Fam124b	1.128621	1.007101	-0.16435	0.001463	0.014782
Crebrf	1.018932	0.909265	-0.16429	0.002481	0.020333
Ints2	1.050641	0.937563	-0.16428	0.001	0.012167
Adgrb1	1.07932	0.963313	-0.16405	0.002821	0.021791
Gm9257	1.086952	0.970432	-0.16359	0.0014	0.014531
Cep170b	1.101995	0.983995	-0.16339	0.000146	0.004067
Gm996	1.096496	0.979337	-0.16302	0.000205	0.005009
Pdxdp	1.098223	0.981071	-0.16274	0.000523	0.00845
Eif3h	1.036327	0.925785	-0.16273	9.96E-05	0.00322
Atrn	1.097309	0.980451	-0.16245	0.002565	0.020678
Snn	1.02579	0.916556	-0.16244	0.002379	0.019789
Tmem143	1.073641	0.959477	-0.16219	0.002541	0.020588
Cbr1	1.052756	0.940954	-0.16197	0.000912	0.011601
Atp8b2	1.049198	0.937872	-0.16183	0.007621	0.040046

Mblac2	1.091113	0.97548	-0.16162	0.001956	0.017433
Tmsb15b1	1.088116	0.97286	-0.16153	0.001117	0.012899
Nipsnap1	1.025174	0.916588	-0.16152	1.66E-05	0.001115
Hdgfl3	1.119796	1.00148	-0.1611	0.002332	0.019588
Crim1	0.981725	0.878249	-0.16069	0.004201	0.027775
Sag	1.053323	0.942488	-0.1604	0.004261	0.027897
Syt5	1.078038	0.964882	-0.15998	0.00155	0.015237
Rnf170	1.06333	0.951865	-0.15976	0.000954	0.011852
Snap47	1.059262	0.948323	-0.15961	6.34E-05	0.002452
LOC109729085	1.114398	0.997704	-0.15958	0.002562	0.020674
Epb4113	1.077754	0.964903	-0.15957	0.001726	0.016252
Gm14440	1.070887	0.959028	-0.15916	0.001244	0.013673
Zfp956	1.07582	0.963447	-0.15916	0.001389	0.014528
Rnf208	1.091301	0.977436	-0.15897	0.001157	0.01322
Ifrd1	1.063553	0.952651	-0.15887	0.002684	0.021136
Elfn1	1.01177	0.906278	-0.15886	0.000428	0.007622
Cry2	1.059028	0.948781	-0.15859	0.002906	0.022177
Btn1a1	1.043517	0.935003	-0.15841	0.003432	0.024455
Tmem47	1.016676	0.910975	-0.15838	0.006396	0.035868
Ap3s2	1.072597	0.961491	-0.15776	0.000287	0.006129
Alkbh6	1.051093	0.942386	-0.1575	0.00356	0.025025
Gcc2	1.076633	0.965313	-0.15746	0.00034	0.006754
Nell1	1.079493	0.967933	-0.15737	0.001795	0.016579
Tmem135	1.089108	0.976833	-0.15696	0.000761	0.010483
Mms22l	1.043085	0.935565	-0.15695	0.00067	0.009719
Kifc2	1.074535	0.963814	-0.15689	0.005021	0.030657
Cnnm1	1.071715	0.9614	-0.15671	0.000957	0.011877
Brinp1	1.036953	0.930253	-0.15665	0.004095	0.027418
Cbx7	1.044234	0.936968	-0.15637	0.003436	0.024455
Tmem5	1.04831	0.940634	-0.15636	0.010025	0.048124
Vps33b	1.095324	0.982887	-0.15626	0.006006	0.034426
Srxn1	1.091092	0.979229	-0.15605	0.000803	0.010736
Atpif1	1.094847	0.982985	-0.15549	0.000894	0.011505

Kcnd1	1.095761	0.983939	-0.15529	0.002296	0.01936
Tbl3	1.106242	0.993415	-0.1552	0.008569	0.043299
Pdha1	1.049363	0.942586	-0.15482	0.000613	0.00926
Dtx1	0.98661	0.886286	-0.15471	0.000777	0.010558
Tstd2	1.108955	0.996238	-0.15464	0.010348	0.049106
Lxn	1.070912	0.96228	-0.15431	0.004527	0.028782
Got1	1.075499	0.966404	-0.15431	0.003066	0.023007
Tubb2b	1.120029	1.006684	-0.15393	0.010504	0.049587
Rasgrp2	1.003897	0.902845	-0.15306	0.00377	0.026047
Mrps18a	1.068037	0.96053	-0.15306	0.001313	0.014057
Tspyl1	1.084419	0.975644	-0.1525	0.000137	0.0039
Lrrc3c	1.117281	1.00525	-0.15244	0.001541	0.015215
1700025G04Rik	1.019856	0.918014	-0.15178	0.000109	0.003417
Cracr2a	1.079181	0.971557	-0.15157	0.007013	0.037985
Rhot2	1.06535	0.959501	-0.15097	0.001514	0.015042
Tapt1	0.986515	0.888566	-0.15086	0.009666	0.04708
Tubb2a	1.087458	0.979495	-0.15085	0.003777	0.026047
Tmem38a	1.074901	0.968267	-0.15073	0.001674	0.016029
C1qbp	1.05333	0.94884	-0.15072	0.000916	0.011621
Sdr39u1	1.079965	0.972955	-0.15054	0.00356	0.025025
Idh3b	1.068177	0.962763	-0.1499	0.001735	0.016275
Zfp335	1.041858	0.939059	-0.14987	0.003454	0.024535
Trim35	1.040841	0.938241	-0.14972	0.004786	0.0297
Atp6v1e1	1.031537	0.929857	-0.14971	6.3E-05	0.002446
Pdcd10	1.045655	0.942813	-0.14936	8.41E-06	0.000749
Pcnp	1.006918	0.907998	-0.14918	0.00128	0.013798
Fam20c	1.060317	0.95622	-0.14908	0.005876	0.033961
Fmnl2	1.032363	0.931018	-0.14907	0.004369	0.028322
Aldh5a1	1.076029	0.970546	-0.14885	0.0009	0.011524
Mpi	1.046046	0.943605	-0.14869	0.005683	0.033178
Zfp106	1.097918	0.990472	-0.14858	0.001176	0.013301
Ms4a4c	1.034758	0.933502	-0.14857	0.006211	0.035112
Dusp28	1.067587	0.963129	-0.14855	0.0036	0.025218

Zfp866	1.085651	0.979516	-0.14842	0.00589	0.034003
Zfp341	1.057557	0.954204	-0.14837	0.009541	0.046664
Slc9a6	1.054088	0.951173	-0.14822	0.001411	0.014588
Vstm2l	1.030902	0.930255	-0.14821	0.01019	0.048576
Tuba1b	1.058559	0.955214	-0.14821	0.002416	0.020037
Nfkbil1	1.058982	0.956247	-0.14722	0.00087	0.011256
Ncoal	1.07196	0.968043	-0.14711	0.000355	0.006907
Shank1	1.026396	0.9272	-0.14664	0.004485	0.02863
Rnf5	1.087671	0.982632	-0.14652	0.000651	0.009554
Mrps5	1.067897	0.96516	-0.14593	0.001688	0.0161
Tmem261	1.116985	1.009567	-0.14587	0.001047	0.01238
Ppp2ca	1.083616	0.979448	-0.14581	2.37E-05	0.001344
Atp5j2	1.089376	0.985002	-0.1453	0.001461	0.014781
Gm14391	1.04793	0.947527	-0.1453	0.004817	0.029817
Spock2	1.104724	0.999116	-0.14496	0.002932	0.022263
Pdhx	1.053409	0.952725	-0.14493	0.004237	0.027862
Gabrb1	1.101781	0.996491	-0.14491	0.001787	0.016543
Dtnbp1	1.07385	0.971286	-0.14482	1.24E-05	0.000956
Gpr165	1.078831	0.975813	-0.14479	0.0085	0.043084
Abhd17a	1.067133	0.965307	-0.14468	0.001409	0.014588
Rasgrf2	1.089059	0.9852	-0.14459	0.001607	0.015657
Psemb7	1.0922	0.988127	-0.14447	0.000473	0.008012
Tm2d2	1.077818	0.975121	-0.14446	0.00039	0.007283
Rab33a	1.116478	1.010468	-0.14393	0.004933	0.03033
Rad50	1.096579	0.992573	-0.14377	0.000754	0.010448
Panx1	1.032006	0.934269	-0.14354	0.001619	0.0157
Gm30698	1.10978	1.004737	-0.14346	0.000289	0.006129
Caml	1.065613	0.964773	-0.14342	0.002617	0.020892
Selenom	1.025079	0.928173	-0.14327	0.000457	0.007849
Rab40c	1.079038	0.977033	-0.14327	0.000681	0.009792
Frs3	1.037821	0.939776	-0.14317	0.008286	0.042426
Krtap5-3	1.086517	0.983906	-0.14312	0.004548	0.028848
Lhfp14	1.079116	0.977303	-0.14297	0.00037	0.007075

Arfp2	1.104112	1.000042	-0.14283	0.001542	0.015215
Zfp763	1.056178	0.957062	-0.14217	0.009184	0.045466
Ush1g	1.074897	0.974052	-0.14213	0.008688	0.043685
Abhd17c	1.092368	0.990086	-0.14183	0.005433	0.032188
Peg3	1.009681	0.915395	-0.14143	4.12E-05	0.001873
P4htm	1.042919	0.94567	-0.14122	0.007603	0.040042
Babam2	1.086073	0.984809	-0.14121	0.001403	0.014533
Kdm1b	1.112007	1.008431	-0.14105	0.006122	0.034902
Atp6v1d	1.067044	0.967697	-0.14099	0.006022	0.034503
Smarcal1	1.061801	0.96298	-0.14094	0.000454	0.007826
Rpsa	1.030308	0.934565	-0.14071	0.005516	0.032425
Tsr1	1.087957	0.987275	-0.1401	0.003331	0.024031
Zbtb45	1.090019	0.989213	-0.14	0.00165	0.015898
Zcchc14	1.03812	0.942135	-0.13997	0.000664	0.009668
Mrpl16	1.057616	0.959881	-0.13989	0.002459	0.020249
Ube2o	1.033133	0.937888	-0.13954	0.010271	0.048815
Tanc2	1.08358	0.983736	-0.13946	0.00312	0.023062
Lrrtm1	1.075055	0.976071	-0.13935	0.00778	0.040762
Rps2	1.086251	0.986294	-0.13927	0.001031	0.012308
Mrps27	1.074177	0.975575	-0.13891	0.003435	0.024455
Polr3g	1.027767	0.933434	-0.13889	0.010528	0.049599
Cox6b1	1.100996	1.000007	-0.1388	0.000273	0.005952
Lsm3	1.018134	0.924844	-0.13865	0.005576	0.032687
Crcp	1.07182	0.973668	-0.13856	0.008182	0.042018
Zfp316	1.090539	0.990858	-0.13829	0.008523	0.043139
Snrpa1	1.054687	0.958381	-0.13814	0.001262	0.013705
Pcsk1n	1.095055	0.995065	-0.13814	0.00053	0.008519
Kpna3	1.070571	0.973033	-0.13782	0.004861	0.030026
Inafm1	1.05894	0.962647	-0.13754	0.0084	0.042783
Pdp2	1.028219	0.934854	-0.13733	0.006901	0.037643
Fbxl16	1.081518	0.983478	-0.13709	3.37E-06	0.000519
Samd10	1.067596	0.970827	-0.13708	0.001105	0.012839
Shf	1.092625	0.993779	-0.1368	0.000131	0.003777

Srek1	1.034581	0.940988	-0.1368	0.002637	0.020905
Sfxn5	1.108069	1.00808	-0.13644	0.005272	0.031568
Mief1	1.027877	0.935157	-0.13639	5.04E-05	0.002086
Clec2l	1.085599	0.987937	-0.136	0.007762	0.040689
Rhof	1.035126	0.942152	-0.13577	0.005768	0.033482
Gna11	1.103843	1.004741	-0.13571	0.004955	0.030429
Ubald2	1.067368	0.971821	-0.1353	2.65E-07	0.000122
Chm	1.07292	0.976945	-0.13519	0.000962	0.011925
Zranb1	1.05434	0.960063	-0.13514	0.007408	0.039335
Sdhaf4	1.09589	0.99793	-0.13509	0.000676	0.009751
Eif5a2	0.999295	0.910057	-0.13495	0.005236	0.031471
Tmem184c	1.02919	0.93732	-0.13489	0.000736	0.010288
Nomo1	1.066708	0.971504	-0.13487	0.004313	0.028094
Cops8	1.075403	0.979439	-0.13485	1.4E-05	0.001012
Exoc3	1.092586	0.995099	-0.13483	0.008173	0.041994
Ddx27	1.079329	0.983076	-0.13476	0.00464	0.029171
Engase	1.078303	0.982364	-0.13443	0.002216	0.018978
Cir1	1.062185	0.967826	-0.13422	0.004059	0.027219
Evx2	1.054555	0.961301	-0.13357	0.008697	0.043687
Atpaf2	1.0598	0.966153	-0.13347	0.008454	0.042956
Coa5	1.079163	0.984086	-0.13306	0.00883	0.044171
Gpi1	1.057434	0.96438	-0.13289	0.00011	0.003417
Snrnp25	1.05509	0.962339	-0.13275	0.000757	0.010461
Ski	0.99747	0.909817	-0.1327	2.02E-05	0.001271
Begain	1.07397	0.979598	-0.13269	0.00681	0.037362
Olfir553	1.093028	0.997188	-0.13239	0.003766	0.026038
Myo9a	0.98523	0.89897	-0.13219	0.005109	0.03105
1110059E24Rik	1.030456	0.940569	-0.13168	0.010003	0.048116
Mrpl41	1.063556	0.970843	-0.13159	0.001941	0.017391
E130311K13Rik	1.078474	0.984484	-0.13155	0.005458	0.032266
Arl6ip4	1.056045	0.96405	-0.13149	0.001006	0.012167
Mapk8ip2	1.026448	0.937244	-0.13116	0.000857	0.011154
Arl8b	1.056173	0.964398	-0.13115	0.00066	0.009621

Mtfr2	1.02986	0.940549	-0.13087	0.004662	0.029282
D10Jhu81e	1.062506	0.970483	-0.1307	0.001134	0.013075
Abhd12	1.048197	0.957487	-0.13058	0.003583	0.025136
Syt11	1.102791	1.007398	-0.13053	0.000905	0.011538
Phpt1	1.067304	0.975214	-0.13018	7.58E-05	0.002664
2310009B15Rik	1.067255	0.975176	-0.13017	0.008831	0.044171
Atp1a3	1.022243	0.934077	-0.13012	0.00103	0.012308
Ppp6c	1.01921	0.93133	-0.13009	0.002308	0.01945
Zfp472	1.016175	0.928686	-0.12989	0.005699	0.033221
2700062C07Rik	1.067522	0.97564	-0.12984	0.0081	0.041795
Trappc21	1.065708	0.97444	-0.12917	0.004345	0.028202
Psm4	1.07514	0.983244	-0.1289	0.001566	0.015327
Zc2hc1a	1.04883	0.959439	-0.12852	0.002869	0.022021
Cox4i2	1.099051	1.005452	-0.12841	0.005796	0.033599
Ppp1cc	1.078026	0.986687	-0.12773	0.00534	0.031832
Gclm	1.016765	0.93064	-0.12769	0.003497	0.024726
St8sia1	1.065892	0.975795	-0.12741	0.006127	0.034907
Ncdn	1.040875	0.953115	-0.12707	0.000999	0.012167
Actr8	1.043959	0.956486	-0.12625	0.002724	0.021293
Nsun4	1.074684	0.984679	-0.12619	0.001226	0.013573
Ccndbp1	1.055516	0.967351	-0.12584	0.000382	0.007216
Syp	1.099816	1.00801	-0.12575	0.001228	0.01358
Foxh1	1.07408	0.98446	-0.1257	0.004921	0.030273
Snu13	1.032674	0.946522	-0.12568	0.008477	0.043009
Fkbp3	1.064471	0.975872	-0.12537	0.00084	0.011014
Tubg2	1.057145	0.969246	-0.12524	0.008018	0.041575
Spare11	1.057302	0.969627	-0.12489	0.000697	0.009941
Plxna1	1.073611	0.984817	-0.12454	0.007235	0.038704
Eid2	1.069486	0.981469	-0.1239	0.001087	0.012729
Ankrd13d	1.061752	0.974691	-0.12343	0.00186	0.016943
Ccdc177	1.055625	0.969121	-0.12335	0.003321	0.024004
Ctr9	1.025292	0.941346	-0.12324	0.003258	0.023719
Phyhip	1.060682	0.973906	-0.12314	0.001253	0.013683

Zfp936	1.067292	0.980009	-0.12309	0.009867	0.047711
Rab11fip4	1.026962	0.942989	-0.12307	0.009765	0.047391
Zfp523	1.071688	0.984265	-0.12277	0.000991	0.012159
Pgam1	1.08247	0.994247	-0.12265	0.000394	0.007293
Rasa3	1.025023	0.941576	-0.12251	2.12E-05	0.001298
Camkv	1.059641	0.973382	-0.1225	0.000151	0.004159
Dhps	1.052221	0.966846	-0.12208	0.003216	0.023496
Slc35g2	1.027768	0.944425	-0.12201	0.005385	0.031983
Cox11	1.054668	0.969416	-0.1216	0.006103	0.034835
Praf2	1.055735	0.970428	-0.12155	3.03E-05	0.001525
Pcdhga9	1.093213	1.004916	-0.1215	0.001274	0.013749
Are11	1.085445	0.997996	-0.12118	3.05E-05	0.001525
Uba5	1.021872	0.939622	-0.12106	0.006959	0.037845
Rragb	1.010253	0.928955	-0.12104	0.005508	0.032425
Gnaq	1.08802	1.000506	-0.12097	0.001157	0.01322
Lrrc47	1.070321	0.984265	-0.12092	0.002074	0.018016
Akap6	1.073675	0.987498	-0.12071	0.007932	0.041233
Gdpd1	1.073905	0.987799	-0.12058	0.001339	0.014232
Tvp23a	1.075007	0.988826	-0.12056	0.003146	0.023204
Chst1	1.006738	0.926065	-0.1205	0.005688	0.033178
Eef1a2	1.125387	1.035465	-0.12014	0.001157	0.01322
Pfdn2	1.048032	0.964585	-0.1197	0.002871	0.022021
AI413582	1.035939	0.953458	-0.1197	0.008304	0.042478
Bri3bp	1.090115	1.003339	-0.11967	0.000889	0.01146
Lin7c	1.013164	0.932626	-0.1195	0.000382	0.007216
Cse11	1.052288	0.968772	-0.1193	0.000853	0.011125
Otub1	1.060318	0.976188	-0.11927	0.008083	0.041731
Ints1	1.062713	0.978397	-0.11926	0.000462	0.007885
Tmem132a	1.085853	0.999891	-0.11899	0.008017	0.041575
Actr5	1.001863	0.922682	-0.11878	0.00286	0.02198
MacroD2	1.066278	0.982048	-0.11872	0.008378	0.042733
Mtx2	1.040333	0.958306	-0.11849	0.010086	0.048369
Rab5a	1.034695	0.953266	-0.11825	0.002849	0.021928

Napb	0.985543	0.908006	-0.11822	0.007842	0.040952
Adap1	1.062205	0.978862	-0.11789	0.000561	0.008816
Unc80	1.056999	0.974276	-0.11757	0.004364	0.028306
Fzr1	1.05096	0.968757	-0.1175	0.005957	0.0342
Kndc1	1.059134	0.976444	-0.11728	0.009778	0.047412
Tlk1	1.025126	0.945243	-0.11704	0.001487	0.014895
Ndufa8	1.102723	1.016875	-0.11693	0.007317	0.038973
Dgcr8	1.075401	0.991689	-0.11691	0.006477	0.036134
Sec23a	1.067297	0.984262	-0.11685	0.000901	0.011524
Pdkk	1.074324	0.990769	-0.11681	0.005114	0.031062
Mif	1.062261	0.979879	-0.11646	0.000247	0.005663
Diaph2	1.045645	0.964617	-0.11636	0.003092	0.023007
Fbxl17	1.041426	0.961217	-0.11563	0.004977	0.030508
Gtf2f2	1.085154	1.001785	-0.11533	0.010453	0.049371
Sar1b	1.10402	1.019407	-0.11504	0.003636	0.025337
Ttll11	1.027987	0.949737	-0.11422	0.002037	0.01784
Suclg1	1.07811	0.996064	-0.11419	0.001384	0.014528
Mull1	1.021986	0.944635	-0.11355	0.00041	0.007433
Pex14	1.07556	0.994215	-0.11346	0.004564	0.028914
Cox14	1.07103	0.990052	-0.11342	0.009394	0.046226
Cap2	1.041051	0.96276	-0.11279	0.006135	0.034907
Mzt1	1.036717	0.959085	-0.11229	0.003777	0.026047
Kri1	1.036371	0.958841	-0.11218	0.004982	0.030508
Eefsec	1.068574	0.98888	-0.11182	0.005701	0.033221
Golt1b	1.050524	0.972467	-0.11139	0.005651	0.033054
Mrps35	1.04525	0.967703	-0.11121	0.006509	0.036214
Ppp5c	1.074694	0.994992	-0.11117	0.002285	0.019313
Noa1	1.049045	0.971249	-0.11116	0.002018	0.017733
Rars2	1.086876	1.006399	-0.11098	0.006081	0.034766
Atp6v0b	1.105416	1.023631	-0.11089	0.005202	0.031415
Leprotil1	1.036459	0.959827	-0.11082	0.005521	0.032438
Gm20604	1.081947	1.002529	-0.10999	0.001475	0.014829
Pias1	1.047759	0.97086	-0.10997	0.009689	0.047131

Rab11b	1.060611	0.982853	-0.10985	0.002624	0.020897
Matr3	1.038134	0.962149	-0.10966	0.009086	0.045108
Tmeff2	1.058181	0.980962	-0.10932	0.004592	0.02902
Fbxo45	1.040589	0.96476	-0.10916	0.008259	0.042348
Lrpap1	1.046209	0.970228	-0.10878	0.009259	0.045754
Nedd8	1.077251	0.999035	-0.10875	0.003008	0.022709
Cox8a	1.044197	0.968649	-0.10835	0.006442	0.036032
Cherp	1.086109	1.007977	-0.10771	0.002896	0.022111
Clip3	1.071987	0.994895	-0.10767	4.97E-06	0.000586
Gatad1	1.042549	0.967815	-0.10731	0.004041	0.027191
Apc2	1.064365	0.988324	-0.10694	0.002799	0.021685
Fasn	1.068275	0.992602	-0.106	0.003254	0.023716
Rnasek	1.080049	1.003976	-0.10537	0.002129	0.018394
Rtca	1.065184	0.990672	-0.10462	0.009325	0.045957
Smim14	1.043948	0.970939	-0.1046	0.003712	0.025779
Becn1	1.019149	0.947956	-0.10447	0.00262	0.020892
Pcbp4	1.064835	0.990526	-0.10436	0.000456	0.007841
Gtf2b	0.999734	0.930196	-0.10401	0.00546	0.032266
Sdha	1.032476	0.960683	-0.10398	0.005733	0.033331
Slc35e4	1.010948	0.940664	-0.10396	0.006146	0.034907
Chmp7	1.014511	0.944029	-0.10388	0.001429	0.01468
Calm2	1.00923	0.939237	-0.10369	0.003446	0.024497
Mark4	1.035216	0.963565	-0.10348	0.003781	0.026047
Rasl2-9	1.074246	0.999907	-0.10346	0.003549	0.024982
Pdcd6	1.047708	0.97529	-0.10333	0.006259	0.035304
Snrnp40	1.001432	0.932273	-0.10324	0.008314	0.042479
Tubg1	1.039531	0.96794	-0.10294	0.003186	0.023382
Rlf	1.06561	0.992234	-0.10293	0.00663	0.036676
Pfn2	1.041651	0.970149	-0.10259	0.008145	0.041928
Spryd3	1.038687	0.967451	-0.1025	0.001545	0.015221
Nudt9	1.04521	0.973646	-0.10232	0.002836	0.02186
Timm8b	1.068132	0.995066	-0.10223	0.000756	0.010461
Ndfip1	0.999511	0.931144	-0.10222	0.00804	0.041636

Dus3l	1.077779	1.004375	-0.10176	0.003536	0.024942
Nup107	1.04469	0.973813	-0.10136	0.00081	0.010768
Galnt16	0.993902	0.926485	-0.10134	0.009473	0.046411
Cdip1	1.044236	0.973593	-0.10106	0.000782	0.010601
Fam98c	1.040018	0.969757	-0.10091	0.000154	0.004197
Smap2	1.04563	0.975169	-0.10065	0.003347	0.024066
Mnt	1.01627	0.947885	-0.1005	0.004669	0.029282
Gramd1b	1.070226	0.998301	-0.10037	0.007602	0.040042
Wdr81	1.047622	0.977501	-0.09995	0.000766	0.010496
Tmem160	1.077796	1.005678	-0.09992	0.001027	0.012308
Egln1	1.044144	0.974507	-0.09958	0.004251	0.027896
Hectd4	1.068746	0.997576	-0.09942	0.001401	0.014531
Vdac2	1.04625	0.976579	-0.09942	5.31E-06	0.000599
Rtcb	1.007536	0.940602	-0.09918	0.000166	0.004409
Kcnmb4	1.077079	1.005561	-0.09912	0.005343	0.031832
Cops6	1.030622	0.962269	-0.099	0.003811	0.026162
Snx2	1.027374	0.959247	-0.09899	0.000635	0.009441
Zfp976	1.02194	0.954315	-0.09877	0.009076	0.045076
Myl12b	1.060365	0.99047	-0.09838	0.006269	0.035345
Rnf26	1.055411	0.986131	-0.09795	0.005266	0.03156
Sacs	1.042212	0.973948	-0.09773	0.002847	0.021928
Zfp91	1.023614	0.95675	-0.09746	0.007048	0.038057
Txndc9	1.089055	1.01814	-0.09714	0.005682	0.033178
Psm8	1.033297	0.966461	-0.09647	0.00679	0.03727
Stub1	1.055855	0.987587	-0.09643	0.007026	0.038033
Uqcrfs1	1.055037	0.986897	-0.09632	0.004175	0.027638
Tspoap1	1.060883	0.992651	-0.09591	0.004199	0.027775
Psm12	1.025486	0.95959	-0.09582	0.005257	0.031549
Nop56	1.064456	0.996114	-0.09573	0.010019	0.048116
Stmn3	1.038629	0.971948	-0.09573	0.003752	0.025994
Ddx1	1.040289	0.973633	-0.09553	0.003099	0.023007
Grik5	1.043609	0.976805	-0.09544	0.005105	0.031044
Mecr	1.011954	0.947423	-0.09506	0.002513	0.020444

Ppp2r1a	1.03217	0.96685	-0.09432	0.005256	0.031549
Rpl8	1.0691	1.001573	-0.09413	0.00167	0.016023
Fam98b	1.100357	1.031157	-0.09371	0.005316	0.031743
Elavl3	0.986545	0.924511	-0.09369	0.003774	0.026047
Ndufb6	1.042984	0.977761	-0.09316	0.001862	0.016943
Arf3	1.04793	0.982636	-0.09281	0.010451	0.049371
Cs	1.011622	0.949184	-0.09191	0.002402	0.019934
Mrpl53	1.06657	1.00089	-0.0917	0.000819	0.010821
Dohh	1.036668	0.973436	-0.0908	0.003519	0.024866
Aco2	1.051023	0.987316	-0.09021	0.00401	0.027051
Rbsn	1.039911	0.976984	-0.09005	0.004294	0.027989
Rab35	1.046022	0.983294	-0.08922	0.008654	0.043574
Bcl7a	1.039524	0.978011	-0.088	0.005131	0.031127
Emc8	1.046383	0.98452	-0.08792	0.007608	0.040042
Bap1	1.052981	0.990965	-0.08757	0.004344	0.028202
Scn2b	1.051166	0.989373	-0.0874	0.002437	0.02015
Ppfia3	1.050003	0.9886	-0.08694	0.002536	0.020584
Uso1	1.039079	0.978645	-0.08645	0.009323	0.045957
Mrpl30	1.065292	1.004176	-0.08524	0.006206	0.0351
1810043G02Rik	1.041	0.9815	-0.08491	0.006788	0.03727
Ppia	1.011917	0.954455	-0.08434	0.010598	0.049814
Nrd1	1.066011	1.0056	-0.08416	0.002368	0.019718
Xpr1	1.077754	1.016684	-0.08416	0.00664	0.036683
Ifngr2	1.07328	1.012467	-0.08415	0.00816	0.041984
Rnf11	1.042999	0.984025	-0.08397	0.008058	0.04166
Ndufb5	1.046124	0.986983	-0.08396	0.000352	0.006901
Eef1g	1.089117	1.028104	-0.08317	0.00526	0.031549
Zpr1	1.01829	0.962799	-0.08084	0.010397	0.049268
Tbkbp1	1.042542	0.98607	-0.08034	0.00903	0.044935
Psm1	1.052297	0.996236	-0.07898	0.008278	0.042405
Dctn4	1.055272	1.000332	-0.07714	0.0067	0.036893
Trappc10	1.030893	0.977526	-0.07669	0.004375	0.028329
H2afj	1.031275	0.978582	-0.07566	0.000426	0.007612

Lrrc4b	1.039224	0.986222	-0.07552	0.007498	0.039678
Smim13	1.084709	1.02944	-0.07545	0.010444	0.049371
Lrp1	1.041768	0.988926	-0.0751	0.009411	0.046278
Nudt19	1.013433	0.962076	-0.07503	0.000849	0.011081
2410015M20Rik	1.018427	0.968447	-0.0726	0.009792	0.047435
Ndufb9	1.009888	0.96118	-0.07132	0.004796	0.029726
Gemin7	0.999415	0.952043	-0.07006	0.001682	0.016091
Polr2j	1.031034	0.982646	-0.06935	0.003645	0.025365
Ube2r2	1.045331	0.996846	-0.06852	0.002947	0.022341
Eif3e	1.026827	0.979997	-0.06734	0.009295	0.045885
Eef2	1.068793	1.020365	-0.0669	0.007594	0.040042
Ccdc82	1.00632	0.960838	-0.06672	0.004043	0.027191
Hist2h2aa2	1.020573	0.974815	-0.06618	0.004607	0.029096
Ap3b2	1.036762	0.991574	-0.06429	0.00575	0.033392
Ubap2	1.045124	1.000451	-0.06302	0.002492	0.020365
Map1lc3b	1.002455	0.964951	-0.05501	0.009688	0.047131

Supplementary Table 5. The gene list of 1928 upregulated genes in 52 weeks according to the results of microarray data.

Gene Symbol	Average of normalized data in WT mice	Average of normalized data in 3xTg mice	Log2FC	p	q
Kcnj13	0.385411	4.692683	3.605942	0.017019	0.049461
Cxcl13	0.90027	10.00182	3.473762	7.94E-05	0.001068
Apol11b	0.56543	5.447487	3.268169	1.45E-05	0.000355
Ttr	0.290173	2.773204	3.256569	0.008109	0.0285
Ccl5	0.821118	7.783114	3.244685	0.002888	0.013298
Oasl2	0.916425	7.897959	3.107392	0.001823	0.0095
1500015O10Rik	0.435384	3.547036	3.026252	0.015717	0.04657
Usp18	0.729638	5.822302	2.996337	0.00089	0.005616
Ctse	0.701391	5.45893	2.960327	6.19E-10	5.91E-07
Wfdc2	0.46373	3.384462	2.86757	0.01648	0.048345
F5	0.434949	3.073357	2.820897	0.01711	0.049644
Ccl4	0.640153	4.394038	2.779059	0.00073	0.004878
Prr32	0.591926	3.747159	2.662309	0.014482	0.043557
Wdr86	0.548717	3.367535	2.617558	0.013619	0.041456
Cxcl10	0.916075	5.541927	2.59685	0.002163	0.010722
Oasl1a	0.795539	4.616724	2.536865	0.000362	0.003031
Ifit1	1.047498	6.042364	2.528165	0.001776	0.009321
Ccl3	0.71172	3.94948	2.47228	7.07E-05	0.000981
Ahsp	0.529419	2.865047	2.436076	9.79E-05	0.001222
Plac8	0.64405	3.203858	2.314565	0.000802	0.00524
Bfsp2	0.323039	1.581217	2.291257	1.58E-06	8.04E-05
Fcgr4	0.629962	3.073484	2.286538	1.07E-05	0.000285
Lbp	0.523625	2.413528	2.204538	0.007536	0.027059
Tgtp2	0.614733	2.745256	2.158908	0.000304	0.002693
Ccl12	0.772241	3.386053	2.13248	9.12E-05	0.001176
Oasl1f	0.830014	3.614408	2.122551	0.000414	0.003325
Lgals3bp	0.764253	3.211808	2.071263	0.00035	0.002966
Rtp4	0.771837	3.164665	2.035685	0.000633	0.004435

Gbp6	0.70247	2.864961	2.028006	0.000894	0.005636
Isg15	0.755078	3.07585	2.026288	0.002189	0.010808
Cst7	0.856493	3.481352	2.023135	9.1E-09	3.25E-06
Oasl1	0.851116	3.415717	2.004761	0.00025	0.002364
Bst2	0.72981	2.867215	1.974057	0.001088	0.006451
Gm4951	0.7473	2.928441	1.970373	0.00455	0.018528
Abca4	0.625796	2.425583	1.954567	0.012774	0.039683
Ifit3	0.929516	3.57015	1.941434	0.000887	0.005607
Phf11d	0.7141	2.729122	1.934239	0.001073	0.006376
Col6a4	0.515858	1.946848	1.916094	9.67E-06	0.000266
Slc13a4	0.56802	2.120254	1.900222	0.004681	0.018936
Ccl9	0.621403	2.258515	1.861773	0.012111	0.038271
Trim12a	0.473412	1.660796	1.810705	5.63E-07	4.39E-05
H2-Ab1	0.821905	2.882966	1.81051	0.002155	0.010689
Irgm2	0.620276	2.170555	1.807081	3.7E-05	0.000648
Ifit3b	0.897077	3.123834	1.800014	0.001072	0.006374
Lrg1	0.81632	2.832166	1.7947	0.010593	0.03461
Slc39a4	0.635498	2.187526	1.78334	0.009218	0.031284
Fap	0.683727	2.352851	1.782917	0.010487	0.03436
Phf11a	0.88349	3.026685	1.776453	0.000502	0.003773
Igtp	0.701173	2.365278	1.754167	0.000137	0.001544
H2-Eb1	0.865195	2.838101	1.713828	0.003879	0.016485
Trim34a	0.599525	1.961117	1.709783	0.000124	0.001445
Nlrc5	0.742683	2.389993	1.686187	0.000104	0.001283
Hba-a2	0.637169	2.017541	1.66285	0.000261	0.002432
Ifi204	0.818861	2.583842	1.657827	6.45E-05	0.000925
Hba-a1	0.642737	2.027907	1.65769	0.000254	0.002381
Phf11b	0.810393	2.505039	1.628139	9.21E-05	0.00118
Hbb-bt	0.70787	2.186238	1.626893	4.8E-05	0.00076
C4b	1.011315	3.108712	1.620084	1.46E-08	4.69E-06
Klk1b22	0.601657	1.84193	1.614205	2.92E-05	0.000563
Cd52	0.70917	2.140228	1.593561	3.8E-09	1.83E-06
Wfikkn2	0.588868	1.751784	1.572809	0.006477	0.024223

Itgax	0.800866	2.351676	1.554056	1.05E-07	1.66E-05
Ch25h	0.765589	2.228733	1.541581	0.000211	0.002085
Inmt	0.6466	1.85575	1.521058	0.002605	0.012262
Samd9l	0.7713	2.195847	1.509414	0.000203	0.002033
Parp14	0.696274	1.974344	1.503647	0.000159	0.001708
Ccdc153	0.531206	1.478058	1.476358	2.37E-06	0.000108
Cnn2	0.601683	1.669514	1.472352	4.03E-09	1.86E-06
Bcl3	0.802463	2.194574	1.451434	0.000856	0.005459
Vpreb1	0.718926	1.950415	1.439865	0.004868	0.019471
Gbp2	0.801534	2.150818	1.424049	0.00043	0.003413
Rsad2	0.758682	2.025671	1.416833	0.000771	0.005078
Ifitm3	0.715628	1.896279	1.405891	0.000185	0.001906
Gpx8	0.555707	1.457588	1.391187	0.006678	0.024731
Bcl2a1d	0.733234	1.91683	1.386376	1.8E-06	8.72E-05
Stxbp2	0.478318	1.24869	1.384372	6.95E-06	0.000215
Col9a3	0.732699	1.90479	1.37834	0.008884	0.030446
Lyve1	0.502088	1.30277	1.375571	0.002608	0.012267
Ifi44	0.857948	2.222041	1.372923	0.00256	0.012128
Mdfic	0.780166	2.00806	1.363949	0.012645	0.03949
Pirb	0.634265	1.623049	1.355548	1.42E-06	7.8E-05
Hbb-b1	0.721261	1.845076	1.355087	0.000618	0.00437
Fam46c	0.745416	1.896626	1.347317	4.5E-06	0.000162
Icam1	0.806855	2.038791	1.337332	0.004472	0.018288
8030411F24Rik	0.603512	1.495879	1.309539	2.29E-06	0.000105
Ccl8	1.325284	3.213085	1.277658	0.004885	0.019493
Foxc2	0.492298	1.183311	1.265226	0.001464	0.008067
Tmem37	0.725427	1.736843	1.259565	0.00083	0.005367
Slc16a9	0.745424	1.783099	1.258253	0.005114	0.020163
Spaca9	0.650995	1.555242	1.25642	0.004753	0.019144
Pcolce	0.609224	1.455292	1.256264	0.012179	0.038395
Rnf213	0.86878	2.065984	1.249767	0.000741	0.004934
Zfp933	0.482617	1.146564	1.248366	3.47E-05	0.000625
Thy1	0.699787	1.66003	1.246221	1.41E-12	3.74E-09

Ccl6	0.772613	1.832641	1.246107	1.17E-06	6.98E-05
Gm45935	0.870589	2.045274	1.23223	0.002602	0.012254
Ddx58	0.803866	1.88809	1.231902	0.000352	0.002972
Psemb8	0.831724	1.936296	1.219124	2.75E-05	0.000535
Mpeg1	0.766645	1.779978	1.215229	1.9E-08	5.47E-06
Prdm6	0.525702	1.21282	1.206047	0.000715	0.004822
Eif2ak2	0.755631	1.739305	1.202756	4.98E-05	0.000781
Msx1	0.703605	1.602228	1.187241	0.014631	0.043944
C430049E01Rik	0.797577	1.811139	1.183201	0.006362	0.023922
Hspa1b	0.908688	2.061822	1.182063	0.001412	0.007852
Pdgfd	0.544126	1.233538	1.180789	0.00204	0.010299
Dnah11	0.663138	1.50178	1.179293	0.000194	0.001975
Mrgprf	0.546015	1.231445	1.17334	0.000117	0.001392
Pnp2	0.664512	1.496754	1.17147	0.001056	0.006327
Hspb1	0.795054	1.785014	1.16681	0.000358	0.003007
H2-L	0.872191	1.954381	1.163995	0.000224	0.002188
Ifitm7	0.743654	1.658345	1.157041	4.83E-05	0.000763
1700007K13Rik	0.773917	1.725672	1.156907	3.22E-05	0.000594
D17H6S56E-5	0.840888	1.871867	1.154492	2.04E-07	2.54E-05
Pon3	0.784532	1.744057	1.152543	0.002049	0.010331
Cldn1	0.692838	1.538363	1.150805	0.010725	0.034954
Cd14	0.765467	1.695019	1.146889	0.000344	0.002937
Vwf	0.753599	1.664059	1.142838	6.4E-05	0.000923
H2-D1	0.860519	1.895511	1.139308	0.000145	0.001611
H2-Q8	0.873418	1.922518	1.138252	0.000164	0.00174
Klk1b24	0.626151	1.377366	1.137329	0.000377	0.003107
Cd209f	0.704313	1.543324	1.131752	0.001457	0.008032
H2-T23	0.873616	1.912669	1.130516	0.000124	0.001446
Tgfbi	0.762898	1.669486	1.129842	0.002438	0.01167
Tmod3	0.685612	1.495473	1.125137	9.59E-08	1.54E-05
Trim30a	1.192052	2.581219	1.114606	0.00955	0.032038
Drc7	0.746966	1.612426	1.110118	0.009187	0.031198
Procr	0.533664	1.150523	1.108287	4.68E-05	0.000746

H2-Q2	0.848832	1.829881	1.108198	0.000141	0.001576
Myo1g	0.712985	1.52986	1.101455	1.87E-05	0.000424
Irgm1	0.916224	1.960464	1.097423	0.000276	0.00252
A2m	0.785859	1.680296	1.096372	0.013011	0.040191
4833427G06Rik	0.720057	1.525068	1.08269	0.000622	0.00438
Aldh1a2	0.595323	1.26023	1.081943	0.000715	0.004822
Parp9	0.872384	1.83633	1.07379	0.000133	0.001515
Rem1	0.497322	1.046249	1.072975	0.001168	0.006838
Mia	0.700721	1.474009	1.072834	0.005561	0.021581
Tgds	0.568827	1.19654	1.072807	3.71E-05	0.000648
Ly86	0.680091	1.430232	1.072449	5.7E-05	0.000856
Mycbpap	0.759482	1.592932	1.068596	0.002717	0.012674
Myo5c	0.728699	1.527897	1.068153	0.003125	0.014069
Itih2	0.673241	1.410805	1.067324	0.000106	0.001291
Abhd14b	0.520743	1.090526	1.066382	1.85E-07	2.42E-05
Gm11127	0.831694	1.735	1.060811	0.000104	0.001283
Dynlrb2	0.714632	1.487527	1.057644	0.000591	0.004215
Col4a4	0.722451	1.502045	1.055957	0.003661	0.015824
Pdk4	0.741037	1.536064	1.05162	0.001042	0.006267
Zfp52	0.729744	1.511057	1.050096	2.26E-06	0.000105
Tmem25	0.516246	1.06587	1.0459	5.82E-05	0.000866
H2-T-ps	0.844356	1.738138	1.041619	8.26E-05	0.0011
Tescl	0.529521	1.089994	1.04156	1.15E-07	1.8E-05
Tlr2	0.830284	1.709034	1.041505	1.58E-07	2.16E-05
Tor3a	0.890189	1.822886	1.03404	0.001775	0.009321
Perp	0.80538	1.645429	1.030722	0.00904	0.030837
Cfap126	0.737348	1.504528	1.028894	0.000905	0.005685
Bco2	0.512138	1.04074	1.023005	2.21E-06	0.000104
C2	0.732379	1.48778	1.0225	0.00067	0.004601
Cfap52	0.677774	1.374896	1.020448	0.001954	0.009947
Usp53	0.5772	1.167025	1.015691	0.000616	0.00436
Tmem212	0.698396	1.404743	1.008189	0.000163	0.001736
Casp4	0.819069	1.646965	1.007753	0.003865	0.016433

Msl3	0.68323	1.372648	1.006519	1.04E-10	1.38E-07
Zmynd12	0.693198	1.389124	1.002836	0.004379	0.018031
Ifi35	0.827857	1.654208	0.998686	0.000283	0.002549
Sod3	0.745435	1.487576	0.996808	0.012698	0.039585
Omd	0.550108	1.097199	0.996038	0.002356	0.011398
Pawr	0.745285	1.475696	0.985532	3.49E-07	3.49E-05
Glipr1	0.597692	1.181559	0.983218	3.03E-07	3.18E-05
Rab9	0.722088	1.426572	0.982305	1.27E-15	1.35E-11
Tox4	0.680153	1.341023	0.979403	0.013041	0.040261
Arhgef5	0.73364	1.445193	0.978117	0.001751	0.009214
Zfp982	0.623587	1.226837	0.976281	0.003314	0.014657
Nat8f5	0.724609	1.421098	0.971732	0.000266	0.002463
B2m	0.842349	1.647953	0.968185	0.000112	0.001349
C1s2	0.82567	1.605314	0.959219	4.04E-05	0.000678
Slc4a1	0.890875	1.730341	0.957761	9.9E-05	0.001229
Psmb9	0.852954	1.655719	0.956918	0.000449	0.00353
Tsnaxip1	0.666296	1.292364	0.955778	0.000762	0.005037
Gpr4	0.745463	1.439746	0.949606	0.000118	0.0014
Myoc	0.637823	1.227168	0.944104	0.000285	0.002563
Hcar2	1.267076	2.427929	0.938223	0.003	0.01368
Klk1b3	0.815399	1.55424	0.930632	0.000338	0.002898
Adamts4	0.56401	1.070608	0.924638	3.8E-05	0.000659
Colla2	0.655991	1.243096	0.92219	0.002075	0.010436
Hspa1a	0.956878	1.81279	0.921805	0.001525	0.008318
Dnaaf3	0.754984	1.424021	0.915453	0.000789	0.005177
Cmtm8	0.711002	1.340869	0.915243	8.7E-05	0.001139
Smco3	0.70326	1.325618	0.914535	0.000266	0.002462
Cfap65	0.839873	1.582585	0.914041	0.002109	0.010547
Prr5l	0.826218	1.554446	0.911806	9.6E-05	0.001211
Galnt15	0.887605	1.664694	0.907267	7.2E-05	0.000997
Alx4	0.756063	1.41697	0.90623	0.006429	0.024088
Fam47e	0.696773	1.303918	0.904092	0.003804	0.016264
Ms4a6d	0.758377	1.415025	0.89984	0.000563	0.004089

Ccdc38	0.631118	1.176389	0.898384	2.14E-05	0.000458
Tceanc	0.609318	1.127348	0.887666	2.47E-07	2.78E-05
Dtx3l	0.882767	1.627377	0.882444	5.13E-05	0.000794
Piezo2	0.71888	1.319677	0.876362	0.000158	0.001705
Itga10	0.718891	1.316089	0.872412	0.000201	0.00202
Trim25	0.76789	1.405405	0.872015	0.000577	0.004159
5730508B09Rik	0.604628	1.105832	0.871012	2.84E-06	0.000122
Slc2a5	0.695701	1.268117	0.86615	0.001209	0.007026
Nme6	0.613022	1.115268	0.86338	9.08E-08	1.5E-05
Themis2	0.800579	1.452444	0.859366	3.96E-06	0.000149
Fmo2	1.425729	2.578703	0.854946	0.005611	0.021722
Rsph1	0.769443	1.386709	0.84978	0.001542	0.008383
Ofd1	0.727505	1.309164	0.847618	6.85E-09	2.7E-06
2200002D01Rik	0.798798	1.437223	0.84738	0.000283	0.002549
Slc47a1	0.583311	1.048707	0.846275	0.002599	0.012245
Uba7	0.830655	1.488071	0.841122	0.000667	0.004585
Gbp5	0.889738	1.59181	0.839216	0.000538	0.003956
LOC547349	0.863051	1.540212	0.835611	0.000427	0.003392
Capn6	0.722375	1.288563	0.834943	0.016995	0.049404
Rnase6	0.863016	1.53867	0.834225	0.004139	0.017321
Gm694	0.750727	1.336018	0.831579	0.001683	0.008959
Mrc2	0.718343	1.272531	0.824956	0.000172	0.001802
Sox18	0.700827	1.241009	0.824384	3.34E-05	0.000606
Dnali1	0.751141	1.327274	0.821311	0.000836	0.005382
Parp12	0.832421	1.464727	0.815247	6.97E-05	0.000974
Slc11a1	0.818095	1.439223	0.814949	4.57E-07	4.17E-05
Osm	0.819785	1.440831	0.813583	0.002767	0.012858
Grrp1	0.751297	1.319544	0.812584	0.000412	0.003312
Ddr2	0.713075	1.251203	0.811191	0.006274	0.023663
Sult6b1	0.594998	1.042306	0.808822	0.002571	0.012161
Bmp6	0.899612	1.574679	0.807683	0.012773	0.039683
Pld4	0.838723	1.467342	0.806938	5.46E-07	4.39E-05
Serpinb6b	0.740448	1.294914	0.806385	0.001223	0.007076

Cfap69	0.712444	1.2458	0.806224	0.000472	0.003618
B430306N03Rik	0.831262	1.452279	0.804943	0.007047	0.025721
Gin1	0.604875	1.053984	0.801145	0.000709	0.004809
Ccdc113	0.787642	1.370613	0.799209	0.002494	0.011888
Sec14l4	0.713609	1.241588	0.79898	0.00052	0.003879
Dock8	0.829817	1.443705	0.798911	0.002322	0.011305
Fcgr1g	0.830175	1.443549	0.798132	4.23E-08	8.9E-06
Tmsb4x	0.736152	1.278648	0.796545	9.44E-14	3.33E-10
Fcgr1	0.856442	1.484748	0.79379	0.000155	0.001685
Ttll6	0.732579	1.269936	0.793699	0.000346	0.002949
Lrrc34	0.788568	1.363922	0.790454	0.004228	0.017617
Lrrc23	0.818565	1.415502	0.790145	0.001179	0.006886
Serping1	0.787935	1.362333	0.78993	0.001497	0.008205
Nlrp1a	0.778176	1.342817	0.787095	4.85E-07	4.25E-05
Ccl2	0.917061	1.57921	0.784113	0.01343	0.041098
Lvrn	0.60673	1.043315	0.782047	0.01155	0.036924
Mgp	0.717072	1.231361	0.780064	0.001101	0.006513
Tspo	0.806589	1.383617	0.77854	0.000467	0.0036
Uox	0.747962	1.281678	0.776997	1.31E-05	0.000331
Upk1a	0.755623	1.294796	0.776987	2.91E-07	3.11E-05
Casp12	0.809587	1.386303	0.775983	0.000875	0.005554
Ptgds	0.662421	1.131341	0.772212	0.001621	0.008707
Trf	0.806447	1.375861	0.770683	5.64E-06	0.000187
Sdf2l1	0.889161	1.512185	0.766117	0.008933	0.030564
Olfir224	0.594868	1.011356	0.765649	0.016897	0.049215
Ugt1a6b	0.830432	1.409315	0.76306	0.000466	0.003597
Cfap57	0.750794	1.271516	0.760061	0.000469	0.003609
1700028P14Rik	0.684131	1.156756	0.757739	0.000274	0.002508
Gdpd3	0.803018	1.356532	0.756419	0.002356	0.011398
Col12a1	0.625147	1.053547	0.752988	3.65E-05	0.000644
H2-DMb1	0.951409	1.602977	0.752616	0.003845	0.016387
Tyrobp	0.861858	1.450781	0.751307	2.41E-09	1.42E-06
Asb2	0.713701	1.199229	0.748716	3.63E-06	0.000141

Spink8	0.637809	1.07092	0.747653	0.000761	0.005032
Aph1c	0.718211	1.198927	0.739263	3.27E-05	0.000596
Six5	0.780942	1.300839	0.736156	0.00011	0.001333
Mrc1	0.651312	1.082743	0.733271	0.003124	0.014069
Cfap43	0.734079	1.219971	0.732839	0.000785	0.005156
Adi1	0.677918	1.125977	0.731996	1.68E-05	0.000388
Hey2	0.95769	1.589885	0.731291	7.67E-06	0.000228
Ccdc180	0.734414	1.219171	0.731235	0.000199	0.002012
Tor4a	0.80416	1.334867	0.731142	0.001747	0.009204
Adora3	0.903063	1.498638	0.730753	8.4E-07	5.58E-05
Vim	0.851264	1.412215	0.730282	3.64E-08	8.39E-06
C1ra	0.942824	1.56291	0.729175	0.006977	0.025525
Maats1	0.804599	1.333471	0.728845	0.005703	0.021982
Olfrl484	0.756548	1.253287	0.728214	0.00048	0.003649
Lrguk	0.830089	1.368421	0.721174	0.005891	0.022526
Dennd1c	0.857624	1.413701	0.72106	2.31E-05	0.000479
Eno4	0.754099	1.242743	0.720703	0.00161	0.008666
Ifitm6	0.861809	1.420211	0.720666	0.006901	0.025327
Lgals2	0.752562	1.239436	0.719801	6.35E-05	0.000921
Pcdhb9	0.932381	1.533215	0.717568	9.76E-05	0.001221
Pm20d1	0.844073	1.385178	0.714632	0.000275	0.002509
Zfp474	0.755102	1.237642	0.712852	0.000931	0.005796
Loxl1	0.825199	1.350348	0.710518	0.000973	0.005977
Zfp420	0.678321	1.109232	0.709521	2.24E-11	3.96E-08
Cxcl16	0.886632	1.448939	0.708589	0.000284	0.002555
Slc16a12	0.837793	1.366597	0.705922	0.013378	0.04097
Ccdc117	0.76924	1.254717	0.705856	0.000277	0.002521
Aldob	0.850357	1.386112	0.704903	1.03E-05	0.000277
Ccdc88c	0.702618	1.143427	0.702552	5.3E-07	4.39E-05
Iqcg	0.813881	1.323265	0.701212	6.9E-05	0.00097
Ak8	0.81455	1.323201	0.699957	0.001724	0.009113
Zfp236	0.682128	1.106751	0.698216	4.11E-05	0.000679
Myo1f	0.860802	1.39253	0.693955	4.1E-06	0.000154

Dhx58	0.853282	1.3783	0.691796	0.002492	0.011879
Sowahc	0.890094	1.435847	0.689872	0.010058	0.033282
Samsn1	0.907718	1.462528	0.688148	3.16E-05	0.00059
Foxj1	0.80848	1.301325	0.686697	0.000881	0.005578
Clqa	0.866343	1.391789	0.68393	6.41E-07	4.56E-05
Clqc	0.92815	1.488526	0.681455	2.45E-07	2.78E-05
Hspg2	0.839814	1.345979	0.680514	0.000389	0.003175
Ifi30	0.846095	1.355609	0.68005	5.76E-07	4.42E-05
Ptgr1	0.701231	1.123348	0.679843	7.6E-05	0.001037
Cd274	0.900301	1.436636	0.674215	0.002242	0.010991
Clqb	0.882625	1.40794	0.673714	7.72E-07	5.25E-05
Ptpn18	0.763106	1.216202	0.672427	3.85E-07	3.69E-05
Gpr182	0.816837	1.30152	0.672077	0.004461	0.01825
Ccdc102a	0.78634	1.252066	0.671085	0.000567	0.00411
Tmem88	0.708777	1.127927	0.670269	0.008795	0.030253
Dram1	0.85811	1.364093	0.668707	0.002213	0.010862
Slc22a6	0.698281	1.109856	0.668493	0.009017	0.030771
Fbln7	0.786472	1.249383	0.667749	0.000113	0.001364
Vamp8	0.878546	1.395543	0.667636	0.002067	0.010413
Cd8b1	0.831159	1.319563	0.666864	0.00101	0.00614
Myo1e	0.779525	1.235627	0.664577	3.25E-06	0.000131
Elmo3	0.796098	1.261883	0.66456	0.008213	0.028767
Dnah2	0.80801	1.279448	0.663076	0.00092	0.005744
Gjb2	0.69825	1.105373	0.662718	0.008885	0.030446
Agpat2	0.82183	1.291957	0.652646	0.000426	0.003392
Colla1	0.706896	1.111172	0.652511	0.01125	0.036244
Slc6a13	0.675105	1.059756	0.650549	0.008235	0.028796
Csrp2	0.809794	1.269287	0.648392	0.000957	0.005913
Dusp7	0.703407	1.100478	0.645699	2.9E-06	0.000124
Glb1l	0.779643	1.21974	0.645688	0.009255	0.031365
Lamc2	0.74679	1.168092	0.645379	2.03E-05	0.000447
Btk	0.965269	1.509064	0.644651	0.005316	0.02082
Pdia4	0.951676	1.486197	0.643084	0.000881	0.005578

Pou2af1	0.838249	1.308522	0.642488	0.01034	0.034015
Myl4	0.887901	1.385301	0.641729	6.54E-05	0.000932
Pih1d2	0.752335	1.171819	0.639302	0.001728	0.009131
Vcam1	0.807627	1.252946	0.633563	3.83E-05	0.000661
Ccdc24	0.858734	1.331367	0.632625	0.005099	0.020127
Ncf2	0.866195	1.340221	0.629707	8.94E-09	3.25E-06
Dnaic2	0.781694	1.20752	0.627371	0.000131	0.001503
Adgrl4	0.827399	1.275041	0.623889	4.12E-06	0.000154
Comp	0.789359	1.216084	0.62349	0.001801	0.00941
Naip6	0.928476	1.430035	0.623114	0.001222	0.007071
Ccdc146	0.751888	1.155711	0.620191	0.012391	0.038902
Pde6h	0.767068	1.178964	0.620094	0.005612	0.021722
Tm4sf1	0.797626	1.223916	0.617721	9.51E-05	0.001204
Iqub	0.874404	1.338445	0.614185	0.012255	0.038595
S100a6	0.926716	1.417719	0.613372	8.09E-06	0.000235
Casp6	0.744605	1.138392	0.612451	0.0001	0.001245
Hcls1	0.856663	1.308906	0.611561	2.32E-05	0.000479
Gckr	0.843258	1.28579	0.608609	0.000712	0.004814
Itgb3	0.76501	1.166399	0.608511	0.00294	0.013472
Nipal4	0.832475	1.267728	0.606766	0.007928	0.028085
Arhgef16	0.894836	1.36257	0.606635	0.012168	0.038385
Tnfsf10	0.778213	1.184949	0.606589	0.012765	0.039683
Ttll12	0.711468	1.082893	0.606019	6.9E-07	4.78E-05
Trim16	0.846706	1.288112	0.605325	0.009168	0.031155
Dlx4	0.876079	1.327976	0.600096	0.012691	0.039578
Slc13a3	0.702501	1.063732	0.598564	0.004388	0.018049
Trib3	0.820306	1.240737	0.596963	0.002038	0.010299
Crybg1	0.863677	1.306123	0.596728	0.003001	0.013682
H2-T9	0.906209	1.366209	0.592263	0.011445	0.036659
Crygn	0.777157	1.171464	0.592034	0.013711	0.041663
Tnfaip8l2	0.814174	1.225006	0.589379	0.000178	0.001856
Tctex1d4	0.747259	1.123646	0.588508	0.013133	0.040416
Dpep1	0.798185	1.199677	0.587851	0.013109	0.040412

Fcgr3	0.951816	1.429629	0.586886	0.000116	0.001389
Jag1	0.751351	1.128329	0.58663	0.000665	0.004571
Dppa5a	0.827159	1.242081	0.586523	0.001508	0.008242
Fbxw22	0.786424	1.17824	0.583255	0.007071	0.0258
Ang4	0.915954	1.370745	0.581613	0.002094	0.010496
Anxa2	0.837178	1.25113	0.579626	0.000863	0.005491
Clic1	0.837071	1.250902	0.579546	1.49E-06	7.96E-05
Tbx15	0.701448	1.047666	0.578772	0.003579	0.015566
Lpxn	0.78238	1.168116	0.578241	2.66E-05	0.000527
Sned1	0.819624	1.222215	0.576464	0.002551	0.012105
Anpep	0.739712	1.10279	0.576123	0.002489	0.011877
Fam129c	0.868883	1.293186	0.573696	3.72E-05	0.000648
Noxred1	0.914135	1.359321	0.572407	0.000634	0.004435
Ccdc81	0.81222	1.207495	0.572076	0.001358	0.007644
Arhgef18	0.814031	1.210024	0.57188	1.39E-07	2.01E-05
Cd3d	0.84952	1.261891	0.570867	0.009876	0.032855
2010005H15Rik	0.880332	1.306518	0.569608	0.007573	0.027164
Scpep1	0.781718	1.159787	0.569139	0.000134	0.001525
Zfp963	0.713522	1.058595	0.569121	0.00016	0.001713
Cab39l	0.88473	1.312028	0.56849	0.016264	0.047858
Mro	0.668767	0.990176	0.566181	0.012702	0.039585
Morn5	0.82949	1.227098	0.564953	0.001892	0.009724
Mylk	0.791329	1.170401	0.564653	3.84E-05	0.000661
Prosl	0.911808	1.348163	0.564193	6.26E-08	1.11E-05
Creld2	0.880306	1.301238	0.563807	0.002394	0.011514
Dnaic1	0.801765	1.184555	0.563095	5.51E-06	0.000185
Slc6a20a	0.735018	1.083355	0.559654	0.002381	0.011465
Ly6c2	0.860367	1.268084	0.559626	2.47E-05	0.0005
Uggt2	0.707413	1.042565	0.559514	0.004448	0.01821
Cd86	0.882186	1.299942	0.559293	1.33E-06	7.52E-05
Gsdmd	0.897057	1.320234	0.557523	1.73E-06	8.47E-05
Lrrc46	0.862825	1.269438	0.55705	7.89E-06	0.000232
H2-M3	0.995946	1.464702	0.556467	0.002822	0.013083

Paqr5	0.848159	1.246285	0.555228	0.000464	0.003593
Lbx2	0.874	1.28412	0.555074	0.003211	0.014338
Ddit4l	0.830561	1.21995	0.554664	5.13E-05	0.000794
Odf3b	0.832923	1.221927	0.552903	0.001497	0.008205
Vwa1	0.906377	1.32933	0.552516	1.15E-06	6.91E-05
Cfh	0.77953	1.14265	0.551707	0.002849	0.013179
Zyg11b	0.742993	1.087508	0.549606	0.000637	0.00445
AI467606	0.761231	1.114036	0.54939	0.001008	0.006137
Asap3	0.900538	1.317823	0.549298	0.003538	0.015444
Cfap161	0.842204	1.231887	0.548628	0.001995	0.010121
Ier3	0.900645	1.314823	0.545839	0.007627	0.027273
Serhl	0.852458	1.243789	0.545041	0.000776	0.005109
Cd300c2	0.875831	1.277813	0.544952	2.44E-05	0.000496
Tppp3	0.991259	1.446096	0.54483	0.004622	0.018747
Myl9	0.788718	1.150437	0.544601	0.002125	0.010591
Ucp2	0.906021	1.320622	0.543601	0.010827	0.035244
Ormdl2	0.883465	1.28661	0.54233	0.000782	0.005139
Drc3	0.785577	1.143068	0.541088	0.000314	0.002745
Cfp	0.849079	1.235447	0.541062	1.51E-08	4.69E-06
Cep76	0.785094	1.141942	0.540551	0.000981	0.006006
Stat2	0.823218	1.196486	0.539457	3.12E-05	0.00059
Dusp26	0.77036	1.119367	0.539078	5.13E-05	0.000794
Pts	0.725297	1.053854	0.539031	0.000252	0.002373
Ctgf	0.865754	1.257529	0.538563	0.007123	0.025953
Rbm45	0.717214	1.040346	0.536588	0.003117	0.014054
Hps1	0.867134	1.257559	0.536298	0.004057	0.017029
Cpt1b	0.806257	1.169243	0.536263	0.000307	0.0027
Arsk	0.725894	1.052521	0.536018	0.010681	0.034854
Irak3	0.942617	1.366513	0.535756	0.000926	0.005772
Tbxas1	0.84563	1.22504	0.534731	0.000268	0.002464
1700016K19Rik	0.858186	1.242977	0.534438	0.001748	0.009205
Krtcap3	0.806422	1.167728	0.534097	0.000225	0.002191
Ripk4	0.889093	1.286219	0.53273	0.009422	0.031731

Ift27	0.714403	1.032568	0.531428	3.01E-09	1.6E-06
Erich2	0.882087	1.274346	0.530764	0.017199	0.049874
Mndal	0.829605	1.197817	0.529911	0.000264	0.002451
Fbxw13	0.954169	1.377206	0.529429	0.009303	0.031483
C3	1.001761	1.445782	0.529312	6.42E-05	0.000923
Lyz1	1.008634	1.453444	0.527073	0.001201	0.006994
Map3k8	0.859972	1.239143	0.52698	2.29E-05	0.000479
Anxa1	0.825935	1.1897	0.526498	0.000308	0.002708
Dedd2	0.875496	1.259135	0.52426	0.000244	0.002327
Nat8f6	0.858163	1.233336	0.523241	0.016199	0.047706
Tns2	0.849253	1.219182	0.521648	8.07E-05	0.001079
Trp53inp2	0.772111	1.108151	0.521274	7.07E-06	0.000217
Rps13	0.740245	1.061678	0.520271	1.18E-06	6.98E-05
Osbp13	0.778849	1.116874	0.520051	0.000203	0.002033
Kctd11	0.792762	1.135463	0.518321	0.000802	0.00524
Ehd2	0.820962	1.175829	0.518291	0.000533	0.003931
Abcc6	0.616474	0.882165	0.517008	0.003329	0.014686
Wdr78	0.817159	1.168737	0.516261	0.000322	0.002791
Miip	0.780619	1.115469	0.514959	0.000445	0.003507
Hdc	0.846493	1.209581	0.514938	0.007776	0.027673
Ttll4	0.87797	1.25453	0.514903	2.1E-05	0.000456
Acadl	0.760387	1.086233	0.514527	0.00083	0.005367
Akr1c13	1.026281	1.465378	0.513846	0.005945	0.022692
Spon1	0.848593	1.211628	0.513801	1.69E-06	8.44E-05
Uaca	0.800417	1.142813	0.513766	0.000187	0.001921
Ezr	0.910704	1.300266	0.513753	0.000697	0.004739
Prdm1	0.786589	1.122605	0.513168	0.005347	0.020927
Zfp819	0.883371	1.258654	0.510791	0.000309	0.002711
Dsg2	0.782928	1.115516	0.510759	0.001168	0.006838
Batf2	0.894562	1.273263	0.509278	0.003717	0.015987
Gmip	0.943195	1.339368	0.505925	4.67E-05	0.000746
1700013F07Rik	0.846818	1.201748	0.50501	0.0043	0.017827
1700001P01Rik	0.839157	1.190717	0.504818	0.004204	0.017528

Slc16a3	0.790834	1.121723	0.504269	3.16E-05	0.00059
Prdm15	0.924826	1.31074	0.503127	1.22E-05	0.000313
Catip	0.838101	1.187683	0.502955	0.011402	0.036553
Hpgds	0.933405	1.322167	0.502329	0.005042	0.019966
Galnt12	0.90102	1.276144	0.50216	0.001232	0.007119
Myct1	0.86403	1.223674	0.502065	0.013198	0.040569
Rtkn2	0.845358	1.196611	0.50132	0.000712	0.004814
Chil1	0.900923	1.273204	0.498988	0.002971	0.013584
Socs4	0.857108	1.210715	0.49831	2.69E-06	0.000118
Slc5a3	0.892429	1.260032	0.497651	0.002193	0.010812
Nptx2	0.829575	1.170588	0.496789	0.004794	0.019253
Nid1	0.76344	1.07695	0.496363	0.006404	0.024018
Gpr84	0.991724	1.396622	0.493931	0.01423	0.042921
Ocln	0.855411	1.204518	0.493766	0.00085	0.005439
Fam129b	0.843499	1.185985	0.491628	6.83E-05	0.000963
Ang6	0.888184	1.247944	0.490623	0.002069	0.010418
Nostrin	0.980797	1.378009	0.490559	0.000553	0.004026
Tbx6	0.887559	1.24691	0.490442	0.000663	0.004566
Arpc1b	0.83163	1.168005	0.490033	6.17E-07	4.56E-05
Anln	1.012526	1.421815	0.489775	0.000454	0.003546
Thbd	0.728996	1.023328	0.489286	0.016721	0.048945
Cavin1	0.77515	1.087152	0.488007	0.000272	0.002494
Hist1h2ab	0.85675	1.201487	0.487875	0.003576	0.015561
Nod2	0.906036	1.269651	0.486792	0.002039	0.010299
Sh3tc1	0.940918	1.317468	0.485627	0.000141	0.001576
Dnah7b	0.788181	1.102396	0.484044	0.007608	0.02723
Hspb6	0.831031	1.161003	0.482397	0.000801	0.00524
Gm5431	0.822731	1.148521	0.481284	0.001157	0.006802
Nfkbid	0.840014	1.171163	0.479456	0.001024	0.006191
Naaladl2	0.95094	1.325562	0.479177	0.005714	0.022007
Trip6	0.873371	1.217009	0.478674	8.47E-05	0.001122
Gm30732	0.812797	1.131673	0.477491	0.007673	0.027391
Rabl2	0.78752	1.096419	0.47741	3.15E-05	0.00059

Ift52	0.767589	1.068465	0.477134	0.003633	0.015742
Dok3	0.838665	1.167155	0.476829	0.00031	0.002721
Aim2	0.899678	1.251491	0.476168	0.000907	0.005693
Sap130	0.88173	1.22627	0.475869	1.23E-07	1.86E-05
Hist1h4i	0.830874	1.155024	0.475222	0.004106	0.017213
Isynal	0.750272	1.041244	0.472824	4.62E-06	0.000165
C1rb	0.858942	1.190872	0.471386	0.004513	0.018405
Tap2	0.927264	1.28475	0.470436	0.000267	0.002464
Fermt3	0.845316	1.171132	0.470342	0.00715	0.026024
Plk1	0.794087	1.099678	0.469712	3.05E-06	0.000127
Plala	0.948577	1.313278	0.469335	0.000492	0.003722
Rbpms2	0.839251	1.160736	0.467866	0.003348	0.014751
Wdfy4	0.921745	1.273709	0.466596	2.31E-05	0.000479
Tmem140	0.782442	1.081041	0.466365	0.001035	0.006232
Cth	0.807699	1.114683	0.464744	5.58E-06	0.000186
Dock5	0.883469	1.21886	0.464281	0.013722	0.041674
Carns1	0.874079	1.205668	0.463998	0.001735	0.009163
Arsj	0.798044	1.099478	0.462278	0.004637	0.018794
Lysmd3	0.899531	1.238113	0.460898	0.000521	0.003879
Bsn	0.759145	1.044311	0.460103	7.09E-06	0.000217
Cd9	0.837244	1.151372	0.459634	0.000286	0.002569
Fgd5	0.850947	1.170106	0.459498	4.65E-05	0.000745
Gm11992	0.910036	1.250975	0.459058	0.000601	0.004272
Casc1	0.817767	1.124098	0.459005	0.000878	0.005571
Pik3r5	1.047314	1.43922	0.458593	0.001945	0.009916
Il13ra1	0.907472	1.246651	0.458132	2.5E-06	0.000111
Myl12a	0.844043	1.158852	0.457308	3.23E-05	0.000595
Stk33	0.919247	1.261689	0.456832	4.73E-06	0.000167
Eif4ebp1	0.869403	1.193058	0.456567	6.26E-06	0.000199
Cnksr3	0.762074	1.045745	0.456529	0.000327	0.002824
Ppp1r13l	0.886536	1.21613	0.456046	0.000711	0.004814
Elf4	0.907828	1.245262	0.455958	0.002646	0.012416
Grb7	0.866545	1.187987	0.455171	0.003738	0.016054

Fndc1	0.797461	1.093086	0.454922	0.000278	0.00253
Bora	0.855804	1.172661	0.454434	0.012156	0.038367
F11r	0.797453	1.092703	0.45443	0.007941	0.02812
Fes	0.874179	1.197051	0.453484	5.74E-05	0.000859
Ncf4	0.907331	1.242243	0.453247	0.000712	0.004814
Tagln2	0.816769	1.117594	0.452396	5.64E-07	4.39E-05
Ctsz	0.93976	1.285429	0.451885	1.01E-05	0.000275
Plau	0.953934	1.30419	0.451192	8.21E-05	0.001096
Cpt2	0.901146	1.230914	0.449897	0.003624	0.015709
Per2	0.945313	1.290226	0.448759	0.000374	0.003096
Map3k15	0.880408	1.201452	0.448535	0.000381	0.003129
Vamp3	0.761071	1.038116	0.447864	1.87E-05	0.000424
Manba	0.825502	1.12578	0.447581	0.0064	0.024014
Bcl2l12	0.859943	1.172743	0.447574	0.000348	0.002959
Reep4	0.834052	1.1365	0.446388	0.000195	0.001981
Rtfdc1	0.865897	1.17946	0.445859	7.79E-05	0.001051
Ifit2	1.001069	1.362636	0.444859	0.005061	0.020001
1700029J07Rik	0.826394	1.124705	0.444646	0.000476	0.003631
Mrps6	0.926305	1.260576	0.444524	2.64E-05	0.000527
Srf	0.875203	1.190768	0.444201	5.84E-08	1.07E-05
Bcar3	0.891915	1.211383	0.441677	0.000241	0.002312
Emilin2	1.061556	1.441673	0.441563	0.004762	0.019153
Lyl1	0.865775	1.175184	0.440823	0.000357	0.003001
Tax1bp3	0.848428	1.151398	0.440522	0.000979	0.006003
Msrb3	0.855691	1.16124	0.440505	0.002516	0.011963
Tes	0.90067	1.221673	0.439789	0.016778	0.049033
1700094D03Rik	0.892616	1.210443	0.439424	0.000203	0.002033
Prodh	0.862364	1.166962	0.43639	0.000108	0.00131
Robo3	0.790456	1.069564	0.436265	0.01422	0.042902
Ifrd2	0.80115	1.083735	0.435868	4.49E-05	0.000727
Poc1a	0.769399	1.040705	0.435758	0.001229	0.007107
Tpm4	0.854995	1.156104	0.435283	8.78E-07	5.75E-05
Il4ra	0.895003	1.21016	0.435234	0.000583	0.00418

Srp54c	0.829287	1.121167	0.435057	0.000337	0.002892
Zfp276	0.891301	1.204507	0.434458	4.83E-06	0.000169
Apba3	0.964848	1.303465	0.433979	3.56E-06	0.000139
Pnp	0.887044	1.197822	0.433335	3.98E-05	0.000673
Cetn4	0.86173	1.163528	0.433197	0.00031	0.002721
Pgpep1	0.830932	1.121072	0.432077	3.85E-06	0.000147
Opa3	0.785114	1.058865	0.431545	1.62E-06	8.12E-05
Crocc2	0.738717	0.995912	0.430997	0.015188	0.045319
Ranbp2	0.78689	1.060217	0.430125	0.002125	0.010591
Rac2	0.955491	1.287272	0.430003	5.2E-05	0.000801
Selplg	0.927871	1.250015	0.42995	0.000299	0.002662
Zbtb40	0.935795	1.25957	0.428667	0.016814	0.04908
Vangl1	0.858812	1.1555	0.428103	0.000525	0.003902
Rflna	0.881625	1.185963	0.427822	0.016352	0.048026
Adgra3	0.766955	1.031646	0.427735	0.00126	0.007252
Hist1h2bm	0.85439	1.148828	0.427197	8.6E-05	0.001132
Rhoh	0.868107	1.166874	0.426704	0.000172	0.001799
Lama4	0.759538	1.020934	0.426696	7.36E-06	0.000221
Sspo	0.859271	1.154529	0.426119	0.002003	0.010158
Acaa2	0.906407	1.217149	0.425274	0.004747	0.01913
Plscr1	0.928535	1.245952	0.42422	0.006151	0.023266
1810037I17Rik	0.822811	1.104021	0.424134	2.73E-05	0.000533
Ctsd	0.921695	1.235529	0.422768	1.41E-05	0.000349
Tdo2	0.746976	1.001243	0.422658	0.004651	0.018843
Syng2	0.871574	1.168253	0.422657	3.27E-05	0.000596
Tmem119	0.904152	1.210769	0.421285	0.001023	0.006188
Trabd2b	0.794847	1.063994	0.42074	0.006744	0.024897
Srgn	0.859834	1.150627	0.420291	0.000413	0.003314
Plod3	0.838981	1.122037	0.41941	5.61E-07	4.39E-05
Meig1	0.822662	1.099768	0.418827	0.000838	0.005387
Retsat	0.905853	1.210726	0.418523	0.000392	0.00319
Ccdc141	0.949621	1.268981	0.418247	0.000117	0.001393
Map3k14	0.821197	1.097074	0.41786	0.007687	0.027406

Nfxl1	0.89773	1.199047	0.417534	2.29E-05	0.000479
Fam173b	0.83547	1.114726	0.41603	0.001722	0.009107
Tgfbr3	0.866271	1.155691	0.415865	0.003606	0.015643
Ii10rb	0.868862	1.158904	0.415563	0.00072	0.004841
Spata6	0.889795	1.186788	0.415517	0.008747	0.030187
Zfp677	0.892038	1.188757	0.414277	0.001377	0.007715
Sh3pxd2b	0.874517	1.164401	0.41303	0.000303	0.002689
Icam2	0.828892	1.103475	0.412798	0.000728	0.004871
Fam117a	0.93382	1.242545	0.412081	0.004354	0.01797
Pbxip1	0.868373	1.154193	0.410498	0.000469	0.003609
Layn	0.828692	1.101437	0.410479	0.007919	0.028063
Cdk15	0.826533	1.097619	0.409233	0.015104	0.045107
Lat	0.881805	1.1708	0.408963	0.007791	0.0277
Mmrn2	0.855913	1.135878	0.408272	0.000526	0.003905
Cfap45	0.851923	1.130167	0.407741	0.001321	0.007497
Aass	0.916249	1.215169	0.407346	0.002295	0.011197
Rnf169	0.805343	1.067845	0.407027	1.72E-06	8.47E-05
Adipor2	0.961283	1.272928	0.405117	0.000423	0.003377
Was	0.833835	1.104026	0.404941	0.000146	0.001617
Pot1b	0.94493	1.250889	0.404675	0.009461	0.031814
Rhpn2	1.017385	1.346585	0.404439	0.000645	0.00448
Heatr5b	0.816834	1.081055	0.404326	0.000379	0.003116
Kctd15	0.82387	1.090351	0.404305	1.72E-06	8.47E-05
Cldn11	0.782735	1.035217	0.403337	1.45E-05	0.000355
Swt1	0.946933	1.251923	0.402812	0.004935	0.019613
Srpk3	0.825572	1.089095	0.399663	0.000122	0.001432
Hist1h2bb	0.849653	1.12084	0.399636	0.000268	0.002464
Nxn	0.862778	1.137823	0.399214	0.001296	0.007402
Rab39	0.971782	1.281367	0.398979	0.011807	0.037598
Sfil	0.856283	1.129041	0.398938	0.001675	0.008931
Mfng	0.851941	1.122487	0.397875	3.12E-05	0.00059
Chordc1	0.943057	1.242474	0.3978	0.000459	0.003577
Megf6	0.894863	1.178687	0.397442	0.013601	0.041414

Cyp51	0.850766	1.120151	0.396859	0.000345	0.00294
Hk2	0.876775	1.154046	0.396422	3.03E-05	0.000579
Nckap11	0.865034	1.13842	0.396205	1.67E-05	0.000388
Plin2	0.875411	1.151554	0.395549	0.000638	0.00445
Lamb2	0.872878	1.148042	0.395323	0.000586	0.004193
Lrrk1	0.908857	1.195203	0.395131	0.003288	0.014589
Cyb561	0.840793	1.105301	0.394616	0.001289	0.007373
Rdh10	0.899774	1.181424	0.392892	0.001869	0.00967
Sap25	0.809241	1.061943	0.392065	0.000197	0.001997
Ankrd13a	0.928404	1.218053	0.391751	4.6E-05	0.000738
Cdc42ep1	0.800882	1.050455	0.391352	0.006986	0.025549
Cd53	0.860743	1.12856	0.390828	0.005631	0.021759
Tnfrsf1a	0.863616	1.132249	0.39073	0.001626	0.008722
Stag3	0.795901	1.04314	0.390271	0.00488	0.01949
Tgfb1	0.903896	1.184573	0.390137	0.001004	0.006121
Naa16	0.97508	1.277752	0.390015	0.002351	0.01139
Cxcr6	0.974274	1.276597	0.389903	0.001345	0.007592
Hars	0.769668	1.007488	0.388454	0.016167	0.047624
Myh9	0.858401	1.123277	0.38799	5.79E-06	0.00019
Sh3bp4	0.804563	1.052524	0.387575	0.006693	0.024751
Igflr1	0.821092	1.073984	0.387357	8.8E-07	5.75E-05
Synpo2	0.870705	1.138603	0.387008	0.004141	0.017321
Cdhr3	0.835804	1.092575	0.386496	0.014957	0.044731
Fkbp9	0.885407	1.15657	0.385439	0.002126	0.010591
Tlr12	0.886502	1.157781	0.385167	0.015693	0.04654
Fam107b	0.815068	1.064161	0.384724	6.95E-05	0.000973
Ctdspl	0.890467	1.1625	0.384597	1.59E-07	2.16E-05
Arhgap18	0.870665	1.13625	0.38409	0.001607	0.008666
Prkcq	0.802037	1.046662	0.384056	0.011785	0.037543
Ltb	0.99821	1.301309	0.382549	0.001863	0.009649
Dok2	0.84259	1.098355	0.382443	1.75E-05	0.000403
Tyms	0.826884	1.077351	0.381731	0.000851	0.005442
Scrg1	0.880602	1.146914	0.381196	0.000206	0.002049

Dstn	0.849328	1.105837	0.380745	3.98E-08	8.61E-06
9530077C05Rik	0.85502	1.113072	0.380518	6.54E-06	0.000204
Havcr2	1.003292	1.305508	0.37987	0.000731	0.004879
Spint1	0.923514	1.201418	0.379533	0.003594	0.015612
Pgghg	0.829906	1.079522	0.379372	0.000358	0.003006
S1pr3	0.853858	1.110584	0.37925	4.78E-06	0.000168
Traf3ip1	0.859527	1.117854	0.379117	7.07E-06	0.000217
Arhgef19	0.817268	1.062413	0.378465	0.000249	0.00236
Vtn	0.805056	1.046196	0.377993	0.000862	0.005489
Rnaset2a	0.891847	1.15852	0.377415	0.003591	0.015603
Maf	0.944084	1.225821	0.376762	0.001063	0.006354
Tgm2	0.893359	1.158232	0.374613	0.008087	0.028483
Fam167a	0.906706	1.175348	0.37438	0.000115	0.001379
Efs	0.873004	1.131464	0.374132	0.009831	0.032736
Rock1	0.943219	1.222444	0.374104	5.27E-09	2.23E-06
Tagap	0.841157	1.090138	0.374064	0.000929	0.005786
Ptar1	0.871467	1.128819	0.373296	0.002761	0.012844
Zfp433	0.807181	1.045541	0.373286	0.002122	0.010591
Tmem63a	0.975355	1.263205	0.37309	0.008105	0.0285
Plxnb3	0.884068	1.144961	0.373069	0.002263	0.011065
Cplx3	0.939554	1.216308	0.372461	0.009357	0.031587
Gm1604b	0.966068	1.25	0.371732	0.000566	0.004108
Gm16404	0.933048	1.206342	0.370616	0.015285	0.045572
Sfxn2	0.805168	1.040785	0.37031	8.17E-05	0.001092
Prrg2	0.852824	1.102349	0.370262	3.17E-06	0.000129
Trmt44	0.903184	1.167152	0.3699	0.001076	0.006391
Cd48	0.945724	1.222063	0.369827	8.44E-06	0.000241
Tmco6	0.793318	1.024572	0.36905	0.002082	0.01046
Col27a1	0.910436	1.175582	0.368746	0.006016	0.022902
Crtap	0.87607	1.130956	0.368426	0.007359	0.026601
Hpgd	0.860739	1.111003	0.368214	0.010774	0.035084
Rbms1	0.892748	1.152243	0.36812	0.00414	0.017321
1700020N15Rik	0.916375	1.18269	0.368062	0.008277	0.028886

Cdc23	0.866969	1.118457	0.367458	6.38E-07	4.56E-05
Il3ra	0.857749	1.10621	0.366997	0.012406	0.038925
Sdc4	0.883442	1.139229	0.36685	0.00865	0.029893
Gm5741	0.882095	1.137079	0.366327	0.000139	0.001565
Ltbp3	0.886953	1.143234	0.366191	0.006651	0.024703
Rbm12b1	0.861069	1.109847	0.366161	1.16E-05	0.000301
Snx20	0.908774	1.171046	0.365803	0.000485	0.00368
Hist2h2be	0.791995	1.020405	0.365579	0.002894	0.01332
A630001G21Rik	0.907495	1.168788	0.365051	0.013505	0.041239
Slc25a37	0.883707	1.138101	0.36499	0.000266	0.002462
Plp2	0.842663	1.085166	0.364889	8.82E-05	0.001151
Serpinf2	0.978984	1.26025	0.364354	0.013047	0.040268
Gtf2h3	0.882056	1.135241	0.364057	5.46E-06	0.000184
Mapk11	0.860345	1.105898	0.362231	8.03E-06	0.000234
Slc30a10	0.758351	0.973303	0.360023	0.007216	0.026182
Sstr3	0.821851	1.054687	0.359867	0.000355	0.00299
Riad1	0.857294	1.100078	0.359744	0.000182	0.001881
Sik2	0.916482	1.175617	0.359239	0.010234	0.033739
Sfr1	0.786277	1.008398	0.358956	0.000274	0.002509
Mapk12	0.92035	1.180194	0.358769	0.012921	0.040009
Mthfd2	0.841654	1.079068	0.358487	0.006434	0.024095
Enkur	0.83099	1.065341	0.358413	0.009298	0.031475
Ctnna1	0.899976	1.153619	0.358209	0.000115	0.001379
Sft2d2	0.881936	1.129938	0.357499	2.73E-07	3.01E-05
Atp10b	0.870294	1.114329	0.356601	0.003904	0.016559
Hspb3	0.882755	1.129922	0.356138	0.00425	0.01768
Hist1h2bf	0.825591	1.056474	0.355757	0.010673	0.034838
Adcy4	0.879104	1.124678	0.355406	0.001771	0.009308
Man2b1	0.892396	1.140375	0.353752	2.66E-05	0.000527
Tbc1d10c	0.87954	1.122708	0.352161	0.016599	0.048641
Aspg	1.040046	1.326757	0.351256	0.006472	0.024213
Wnt7a	0.902216	1.150821	0.351118	0.002574	0.012164
Scarf2	0.814691	1.039145	0.351072	0.001097	0.006497

Abcg2	0.875177	1.116126	0.350853	5.04E-05	0.000787
Dlat	0.818326	1.043609	0.350834	4.21E-05	0.000691
Nek8	0.855341	1.090498	0.350415	0.00088	0.005576
Gm38702	0.76824	0.978698	0.349306	0.006393	0.024004
Hps4	0.878034	1.118459	0.349164	1.1E-05	0.00029
Cntf	0.901423	1.147916	0.348741	0.005613	0.021722
Gsap	0.887049	1.129045	0.348017	0.002055	0.010356
Mss51	0.837237	1.064571	0.346565	0.011151	0.036039
Ube2cbp	0.863811	1.097632	0.345606	0.002379	0.011461
Arid4a	0.981913	1.247231	0.345061	6.18E-06	0.000199
Slc7a10	0.830957	1.055285	0.344787	0.0101	0.033399
Gm4984	0.864061	1.096243	0.343363	0.003943	0.016682
Ltbr	0.89366	1.133328	0.342768	0.004257	0.017689
Socs2	0.856986	1.086684	0.342589	0.009724	0.032512
Ccdc173	0.995577	1.262341	0.342497	0.012362	0.038823
Cds1	0.849629	1.07718	0.342354	0.000483	0.00367
2410131K14Rik	0.863975	1.094262	0.340896	0.008852	0.030363
Med20	0.90832	1.150354	0.340805	0.000178	0.001856
Capn10	0.921861	1.167252	0.340496	6E-10	5.91E-07
Rbm38	0.99689	1.261714	0.339879	0.007189	0.026111
Dnd1	0.863031	1.092262	0.339835	0.001556	0.008437
Gng5	0.836477	1.058453	0.339559	5.6E-05	0.000844
Plod1	0.867614	1.097561	0.339177	0.011024	0.035776
Fcho2	0.925551	1.170728	0.339021	0.001441	0.007972
Rbks	0.881632	1.114389	0.338004	0.005664	0.021854
Tln1	0.890195	1.124524	0.337122	0.000144	0.001604
Igsf8	0.80157	1.012	0.33631	8.53E-06	0.000242
Ivd	0.865482	1.092223	0.335692	0.000587	0.004193
Catsperz	0.872801	1.100911	0.334974	0.000639	0.00445
Fhod1	0.85397	1.07713	0.334936	0.002465	0.011779
Prkab2	0.908077	1.145048	0.334521	1.44E-05	0.000355
0610040J01Rik	0.814274	1.02667	0.334385	0.000126	0.001465
Pcdhb3	0.91234	1.149815	0.333757	0.014097	0.04263

Prkar2a	0.837171	1.054273	0.332656	0.000481	0.003657
Aif1	0.937101	1.179069	0.331371	0.002924	0.013417
Ntsr2	0.858054	1.079533	0.331267	2.34E-05	0.000483
Hebp1	0.83987	1.056458	0.330999	0.002918	0.0134
Hs3st2	0.859219	1.08033	0.330375	0.005412	0.021113
Cd3eap	0.895969	1.126439	0.330247	0.000168	0.001775
Dusp23	0.814264	1.023557	0.330024	0.000984	0.00602
Camk4	0.806141	1.012612	0.328978	0.011275	0.036284
Itgb2	0.96952	1.217468	0.328542	0.001934	0.009879
Ccdc91	0.872634	1.095432	0.328051	8.89E-05	0.001156
Adgra2	0.920854	1.155896	0.327968	0.00037	0.003083
Jmjd6	0.937392	1.176608	0.32791	0.000201	0.00202
Zfp58	0.839363	1.053343	0.327609	0.001691	0.008985
Herpud1	0.98555	1.236564	0.327336	0.012111	0.038271
Cpt1a	0.895804	1.123884	0.327238	0.00919	0.031199
Napepld	0.876286	1.099169	0.326939	0.002905	0.013362
Rab3b	0.850113	1.066313	0.326904	0.013545	0.041302
Pxmp2	0.907693	1.137649	0.32578	0.001064	0.006354
Ppox	0.853396	1.069545	0.32571	6.07E-05	0.000894
Tsen54	0.864668	1.083494	0.325473	0.002507	0.011933
Npc2	0.933267	1.16783	0.323468	0.001639	0.008777
Erbp2	0.827407	1.035139	0.323155	0.007833	0.027803
Erp44	0.933939	1.16633	0.320575	9.27E-05	0.001184
Timp3	0.983751	1.228333	0.320337	0.010012	0.033173
Tmem204	0.906324	1.131244	0.319812	0.002338	0.011366
Nos3	0.881626	1.099845	0.319061	0.000385	0.003149
Slc25a24	0.836297	1.043254	0.319004	0.002385	0.01148
Lmf2	0.880545	1.098417	0.318956	1.02E-05	0.000276
Celsr1	0.897477	1.118861	0.318083	8.34E-05	0.001108
Urb2	0.9155	1.141241	0.317971	0.000966	0.005948
Rgl3	0.931034	1.160332	0.317632	0.006142	0.023243
St3gal6	0.851361	1.060943	0.317505	9.3E-05	0.001186
Zbed6	0.963235	1.200217	0.317336	0.000477	0.003633

Pdzph1	0.994393	1.238864	0.31713	0.010996	0.035706
Cd99	0.851051	1.06025	0.317086	2.48E-05	0.000501
Ppcdc	0.934651	1.164353	0.317029	0.000245	0.002334
Aprt	0.844381	1.051038	0.315848	0.00054	0.003967
Zfp97	0.944206	1.175272	0.315822	0.001707	0.00905
Csflr	0.940365	1.170433	0.315749	4.11E-06	0.000154
Cdca8	0.770993	0.959455	0.315497	0.002084	0.010464
Fdxacb1	0.802439	0.99858	0.315486	9.94E-06	0.000272
Gpsm3	0.900627	1.120356	0.314955	6.22E-07	4.56E-05
Cnn3	0.936978	1.165567	0.314944	3.13E-07	3.19E-05
Plxnd1	0.871869	1.08401	0.314194	0.005195	0.020463
Stat6	0.9253	1.149621	0.313165	0.000274	0.002507
Eef2kmt	0.853581	1.060445	0.31307	0.001901	0.00976
Fli1	0.908901	1.129082	0.312956	0.000545	0.003987
Nat8f2	0.855786	1.063086	0.312937	3.16E-05	0.00059
Cers4	0.861766	1.070403	0.312785	6.11E-06	0.000197
Fa2h	0.823624	1.021843	0.311117	0.00668	0.024732
Morn1	0.868316	1.076933	0.310636	0.01314	0.040426
Ldhd	0.83583	1.036249	0.310089	0.007663	0.027385
Rhobtb2	0.899784	1.115472	0.310004	0.016865	0.049161
Pask	0.881702	1.09291	0.309812	0.001278	0.007334
Psg23	0.849421	1.052754	0.309617	1.4E-05	0.000348
Zfp87	0.852361	1.056344	0.309544	0.01328	0.040776
Nes	0.837905	1.037683	0.308507	0.012891	0.039928
Cd93	0.797709	0.987797	0.308351	0.010315	0.033953
Alg8	0.870127	1.077406	0.308265	2.21E-05	0.000472
Fbxo46	0.870024	1.077263	0.308243	1.97E-07	2.49E-05
Ebp	0.944679	1.168506	0.306769	2.83E-07	3.06E-05
Trp53i13	0.868109	1.073735	0.306691	4.1E-05	0.000679
Rbm12b2	0.935967	1.157417	0.306379	3.5E-05	0.000627
Msantd2	0.931047	1.151239	0.306262	0.000587	0.004193
Notch2	0.893939	1.105166	0.306014	0.008907	0.030492
Lrig3	1.00619	1.243163	0.305112	0.001712	0.009071

Dbil5	0.86783	1.072128	0.304993	0.002263	0.011065
Cspp1	0.9655	1.192735	0.304926	0.00012	0.001415
St13	0.906753	1.120104	0.304851	0.001932	0.009877
Alkbh5	0.884148	1.092046	0.304675	6.07E-05	0.000894
Rgl2	0.842754	1.040778	0.304479	2.73E-06	0.000119
Iqcb1	0.902515	1.114391	0.304234	0.000116	0.001389
A430078G23Rik	0.867107	1.070097	0.30346	0.001317	0.007483
Acad8	0.923112	1.139	0.30319	0.001029	0.006205
Fam57a	0.93164	1.148943	0.302463	0.002974	0.013588
Nradd	0.929834	1.146694	0.302436	0.000171	0.001794
Vps33a	0.88348	1.089238	0.30205	0.007407	0.026739
Gulp1	0.891914	1.099578	0.301974	0.00655	0.024402
Calm3	0.845969	1.042375	0.301197	0.000447	0.003521
Phrf1	0.943724	1.162802	0.301169	5.09E-07	4.35E-05
Cenpj	0.897178	1.105124	0.300742	0.005806	0.022281
Cavin3	0.871465	1.073433	0.300717	4.46E-05	0.000723
Micall1	0.859471	1.058267	0.300183	0.001155	0.006796
Mon1a	0.871083	1.072289	0.299811	5.48E-06	0.000184
Dhx16	0.864177	1.063758	0.299771	5.41E-07	4.39E-05
Ankrd66	0.869844	1.070023	0.298813	0.012302	0.038703
Aldh1l1	0.905733	1.114051	0.298658	2.32E-07	2.68E-05
Mgl2	0.864758	1.06363	0.298627	0.001234	0.007124
Arhgap31	0.977594	1.202283	0.298469	0.000445	0.003506
Arfgap3	0.946817	1.164329	0.298341	0.000126	0.001465
Ghdc	0.945661	1.162521	0.297861	0.003566	0.015537
Mbd4	0.89763	1.103175	0.297468	0.000195	0.001981
Snapc2	0.855765	1.051662	0.297386	4.44E-06	0.000161
Ttc39c	0.860311	1.057242	0.297374	0.000282	0.002549
Wdr31	0.887153	1.090215	0.297356	0.000401	0.003255
Nccrp1	0.771917	0.948513	0.297222	0.0039	0.016546
Emsy	0.916941	1.126457	0.296892	8.5E-08	1.43E-05
Trmt11	0.982959	1.207069	0.296305	6.49E-05	0.000929
Nup43	0.956003	1.172958	0.295064	9.61E-05	0.001211

Sytl1	0.925001	1.134814	0.294929	0.004305	0.017829
Sil1	0.899988	1.104117	0.294915	0.002195	0.010812
Nthl1	0.919059	1.126888	0.294115	0.004879	0.01949
Il17ra	0.900659	1.104082	0.293795	0.00442	0.018143
Hist1h2ag	0.901883	1.105072	0.293128	0.005278	0.020717
Creb3l2	0.936017	1.146753	0.292949	0.009351	0.031583
Mamdc4	0.88521	1.08442	0.292832	0.001335	0.007556
Gstol	0.846901	1.037437	0.292758	0.00081	0.005274
Phf10	0.899098	1.101126	0.292429	0.000107	0.001305
Btg1	0.973514	1.191892	0.291979	0.005404	0.021089
Stab1	0.838313	1.026258	0.291833	0.011009	0.035739
Shkbp1	0.941524	1.152387	0.291555	0.001014	0.006155
Mccc1	0.916737	1.121937	0.291412	0.00525	0.020623
Card6	0.879486	1.076095	0.291073	0.007353	0.026598
Rsph9	0.886771	1.08486	0.290875	0.017102	0.049634
Taf12	0.946591	1.157836	0.290618	5.28E-05	0.000809
Zdhhc18	0.934072	1.142123	0.290112	0.000136	0.001542
1700030J22Rik	0.896146	1.095645	0.289974	1.95E-05	0.000434
Unc13d	0.952718	1.164623	0.289742	0.003079	0.013957
Pxmp4	0.857627	1.048217	0.289514	0.004239	0.017654
Gm7694	0.964055	1.177959	0.289102	3.9E-05	0.000664
Zfyve16	0.893102	1.091034	0.288799	0.00237	0.011435
Adgrl2	0.984013	1.202061	0.288761	0.002527	0.012001
Urb1	0.8854	1.081355	0.288439	0.000359	0.003007
Msn	0.961315	1.173941	0.288279	0.001851	0.009606
Fxr1	0.921252	1.124144	0.287159	0.010422	0.03419
Ccdc34	0.877369	1.07058	0.287138	0.000497	0.003743
Atp6v0e	0.91938	1.121384	0.286548	0.001948	0.009926
Map2k3	0.928084	1.131871	0.286382	0.001341	0.007579
Kptn	0.842117	1.027008	0.286355	2.61E-05	0.000522
Zfp367	0.872651	1.064108	0.286167	0.00018	0.00187
Trabd	0.890298	1.085475	0.285966	1.55E-06	8.04E-05
Hsp90b1	0.95601	1.16557	0.285939	0.00859	0.029714

Mcoln1	0.861366	1.050165	0.285917	9.33E-06	0.000262
Lix1l	0.893963	1.089755	0.285717	0.000146	0.001619
Zfp74	0.889337	1.084078	0.285667	0.000339	0.002901
Ccbe1	0.818534	0.997684	0.28554	0.004385	0.018049
Intu	0.920653	1.121978	0.285316	5.59E-05	0.000844
Ankrd44	0.875437	1.066695	0.285073	1.02E-05	0.000276
Sp140	0.899239	1.095454	0.284753	8.55E-05	0.00113
Naprt	0.910625	1.10839	0.283536	0.000336	0.002884
St6galnac3	0.993849	1.20959	0.283419	0.001057	0.006328
Slc9a3r1	0.877798	1.068343	0.283415	6.8E-05	0.000961
Arid5b	0.961064	1.169519	0.283211	0.003855	0.016399
Edrf1	0.90936	1.106382	0.282925	0.000311	0.002727
Smim11	0.920594	1.119821	0.282632	1.1E-06	6.77E-05
Rsl1	0.920987	1.11998	0.28222	0.008813	0.030277
Timm44	0.871152	1.059126	0.281879	6.97E-05	0.000974
Skap2	0.976102	1.186702	0.281853	0.001258	0.007245
Carhsp1	0.958476	1.164961	0.281467	0.000262	0.002439
Boc	0.922261	1.120923	0.281441	0.000741	0.004935
Ap2s1	0.846751	1.028735	0.280862	0.000194	0.001975
1700007G11Rik	0.873077	1.060296	0.280287	0.007999	0.028241
Pycard	0.947665	1.150818	0.28021	0.003808	0.016268
Hexa	0.864857	1.049824	0.279614	7.76E-05	0.001051
Rab29	0.871988	1.058402	0.279507	8.66E-05	0.001134
Tnfaip2	0.961766	1.167368	0.279502	0.006427	0.024088
Oplah	0.888863	1.078092	0.278448	1E-05	0.000273
Eri1	0.887414	1.076298	0.2784	0.001594	0.008615
Ilkap	0.882245	1.069705	0.277962	3.25E-05	0.000595
Nme5	0.881014	1.068185	0.277923	0.001167	0.006836
Jam3	0.938912	1.13836	0.277895	2.32E-05	0.000479
Pdlim4	0.909169	1.102208	0.277776	0.00032	0.002785
Zdhhc7	0.91955	1.114691	0.277644	1.51E-06	8.03E-05
Ptgfrn	0.910773	1.103755	0.277256	0.004375	0.018029
Gnpnat1	0.937727	1.136227	0.27701	4.32E-05	0.000703

Psmc2b	0.89005	1.078408	0.276945	0.000442	0.003497
BC022687	0.936955	1.135037	0.276688	6.7E-05	0.000952
Aaed1	0.95084	1.151641	0.276417	0.00235	0.01139
Plgrkt	0.92383	1.118876	0.276351	0.001448	0.008
Sc1t1	0.914363	1.107282	0.276184	0.00032	0.002785
Tsc22d1	0.848912	1.027884	0.27599	0.003326	0.014675
Usp21	0.923424	1.118007	0.275865	5.59E-06	0.000186
She	0.86516	1.047387	0.275755	0.0114	0.036553
Dpp7	0.920992	1.114913	0.275671	0.000817	0.005306
Stk17b	0.914228	1.106591	0.275496	0.001769	0.009298
Rcn1	0.905059	1.095412	0.27539	0.00046	0.003582
Mettl3	0.933249	1.1292	0.274968	0.000639	0.00445
Cnst	0.925816	1.120053	0.274769	0.00017	0.001791
Slc16a2	0.928235	1.122684	0.274389	0.015784	0.046693
Arf5	0.881607	1.065671	0.273554	0.002309	0.011259
Krt85	1.058702	1.279479	0.27326	0.01575	0.046643
Tmem86b	0.839235	1.013952	0.272843	0.001915	0.009819
Fndc3b	0.970111	1.170713	0.271165	0.004698	0.01899
Farsa	0.908012	1.095728	0.271107	3.4E-06	0.000136
Bend4	0.954519	1.151702	0.270922	3.92E-05	0.000665
Tmed3	0.932796	1.125072	0.270384	0.000279	0.002532
Gatb	0.857107	1.033667	0.270223	0.000184	0.0019
Ssfa2	0.950217	1.145646	0.269832	0.003371	0.014833
Zfp760	0.903348	1.088948	0.269582	0.002154	0.010688
Tmem231	0.896219	1.080043	0.269166	6.94E-05	0.000973
Anks3	0.953946	1.149297	0.268771	1.84E-05	0.000419
Sigirr	0.886442	1.067737	0.26846	0.002951	0.013518
Galnt10	0.916929	1.10443	0.26842	0.010585	0.034603
Cep152	0.940771	1.133	0.268233	0.003809	0.016268
Ift22	0.899884	1.083366	0.267711	0.004736	0.019095
Cntn2	1.055129	1.269918	0.267316	0.01272	0.039617
Rassf2	0.949927	1.143237	0.267236	0.002337	0.011366
Ebi3	0.888679	1.069516	0.267223	0.001853	0.009609

Gusb	0.918552	1.104833	0.266395	0.002147	0.010667
Stip1	0.906888	1.090637	0.266174	0.002193	0.010812
Gnai3	0.962544	1.15751	0.266101	1.76E-07	2.36E-05
Pcdha12	0.982685	1.181611	0.265954	4.96E-06	0.000172
Myg1	0.869259	1.045178	0.26589	0.001918	0.009824
Hist1h2an	0.923791	1.110607	0.265711	0.000334	0.002872
Osbp	0.990392	1.190609	0.265629	9.68E-06	0.000266
Ncoa3	0.906855	1.09012	0.265543	0.001547	0.008409
Lmbr11	0.913275	1.097628	0.265268	4.57E-05	0.000737
Gpc2	0.793473	0.953024	0.264332	0.003078	0.013957
Lrp10	0.866612	1.04084	0.26429	0.001309	0.007455
Ier5	0.949839	1.140658	0.264112	0.005959	0.022734
Dnajc25	0.959304	1.151984	0.264061	0.005878	0.022498
Slc16a11	0.867034	1.04078	0.263506	7.53E-05	0.001029
Zfp623	0.815834	0.978807	0.262749	0.00035	0.002966
A930033H14Rik	0.839661	1.007359	0.262699	0.008355	0.029081
Sars2	0.824704	0.989283	0.262507	2.73E-05	0.000533
Tstd1	0.853529	1.023849	0.262492	0.011246	0.036241
Ppic	0.905991	1.086765	0.26247	0.010257	0.033794
Trak2	0.835978	1.002726	0.26239	0.000675	0.00463
Tbc1d2b	0.982443	1.178216	0.262158	0.009828	0.032735
Lpl	0.86338	1.035318	0.262007	0.007385	0.026669
Tusc3	0.927587	1.111773	0.261308	0.000246	0.002342
1700003E16Rik	0.912554	1.09351	0.260984	2.09E-05	0.000456
Atad2	0.85602	1.025619	0.260779	0.004804	0.019287
Tbc1d15	0.935462	1.120735	0.260693	8.64E-05	0.001133
Ptpn13	0.918593	1.100179	0.260241	0.013664	0.041562
Rsb1l1	0.952069	1.139927	0.259803	0.004681	0.018936
Pan3	0.888204	1.063372	0.259684	0.004109	0.017219
Smpdl3a	0.858034	1.026509	0.258639	0.014187	0.042839
Pkdcc	0.863629	1.033145	0.25856	0.000945	0.005866
Tns3	0.924896	1.106305	0.258386	0.000153	0.001676
Chrm4	0.879026	1.051259	0.25814	0.01122	0.036179

Zc3h11a	0.941634	1.126036	0.258015	1.93E-06	9.17E-05
Zw10	0.949471	1.135306	0.257886	9.4E-05	0.001197
Hps6	0.981394	1.172477	0.256655	1.64E-05	0.000382
Mtmr7	0.888194	1.060391	0.255565	0.000347	0.002951
Mapk15	0.932737	1.113038	0.25496	0.002752	0.012813
Zfp493	0.896271	1.069289	0.254644	0.005904	0.022541
Orc5	1.013641	1.209293	0.254617	0.000235	0.002268
Micu3	0.915024	1.091529	0.254469	0.000143	0.001599
Snrpc	0.859244	1.024947	0.254408	2.7E-05	0.000532
Ccm2l	0.8667	1.033828	0.254391	0.005843	0.022397
Rimklb	0.809631	0.965316	0.253736	0.008148	0.028606
Rsph3b	0.890982	1.062123	0.253482	6.89E-05	0.00097
Thbs3	0.852283	1.015959	0.253438	0.001018	0.00617
Ppib	0.895363	1.067134	0.253197	4.09E-05	0.000679
Arhgap42	0.912624	1.087686	0.253169	0.011473	0.036727
Mcl1	0.939773	1.119985	0.253095	0.000637	0.00445
Ptges3l	0.869564	1.035971	0.252619	0.000758	0.005022
Ubn2	0.889711	1.059425	0.251872	1.61E-05	0.000378
Plekha4	0.887331	1.056522	0.251778	0.011809	0.037598
Btafl	0.897834	1.068581	0.251175	0.000799	0.005237
Nphp4	0.940849	1.119628	0.250984	0.000567	0.00411
Fam208b	0.946592	1.126198	0.250646	0.000125	0.001455
Lzic	0.851994	1.013529	0.250474	1.13E-05	0.000296
Ppp1r3c	0.879476	1.046156	0.250383	0.000651	0.004501
Smad4	0.950189	1.130223	0.250321	0.000538	0.003956
Marc2	0.90306	1.07411	0.250248	0.000573	0.004135
Styx	0.888203	1.056064	0.249736	2.46E-05	0.000498
Fam72a	0.873129	1.038069	0.249636	0.000839	0.005387
Myo10	0.921047	1.094957	0.249527	0.002169	0.010741
Tnxb	0.91002	1.081824	0.249496	0.009501	0.031908
Psme1	0.939676	1.116979	0.249368	0.00034	0.002908
Cep89	0.862278	1.024908	0.249269	3.06E-06	0.000127
Oxnad1	0.909258	1.080745	0.249266	7.36E-05	0.001015

Eif4ebp3	0.941179	1.118636	0.249199	0.000916	0.005734
Ripk1	0.941447	1.118908	0.24914	1.99E-05	0.00044
Prss23	0.914733	1.087021	0.248957	0.013701	0.041646
Nbeal1	0.947204	1.125228	0.24847	0.000152	0.001666
Mrpl48	0.858003	1.019158	0.248323	0.004545	0.018522
Cul4a	0.886822	1.052732	0.247421	3.89E-05	0.000663
Elavl1	0.925601	1.098689	0.24732	0.007138	0.025998
Gon7	0.909972	1.079904	0.247009	9.63E-06	0.000266
Fam8a1	0.965188	1.145406	0.246977	0.000172	0.001798
Myd88	0.893973	1.060612	0.246594	0.005049	0.019966
Plin3	0.97883	1.160989	0.246223	0.004126	0.017278
Gcn111	0.875003	1.03745	0.245682	4.35E-05	0.000707
Plcg2	0.955817	1.133261	0.245674	0.000163	0.001736
Zfp579	0.909391	1.078016	0.245406	0.000408	0.0033
Tarbp1	0.935463	1.108822	0.245275	0.000541	0.003967
Zfp329	0.889158	1.053777	0.245057	6.4E-06	0.000202
Sbf2	0.945277	1.12026	0.245025	0.000858	0.005469
Sardh	0.943125	1.11766	0.24496	0.001551	0.008423
Gps2	0.927159	1.098688	0.244894	3.61E-05	0.00064
Fkbp4	0.956791	1.133802	0.244894	0.004185	0.017464
Nupr11	0.874341	1.035767	0.244431	0.004922	0.01959
Pcm1	0.843775	0.999335	0.244111	0.000727	0.004866
Foxk2	0.906148	1.073075	0.243933	0.001338	0.007571
Rnf135	0.948886	1.123671	0.243914	0.00497	0.019735
Gm36718	0.897648	1.062865	0.243736	2.1E-05	0.000456
Papd4	0.937279	1.109442	0.243283	9.75E-05	0.001221
Mmaa	0.893271	1.056916	0.24269	0.000309	0.002711
Edem1	0.990888	1.171906	0.242063	0.00025	0.002363
Slc46a3	0.949669	1.12308	0.241963	0.000412	0.003312
Rep15	0.908592	1.07383	0.241062	0.006302	0.023742
Katna1	0.906056	1.070769	0.240976	2.3E-05	0.000479
Ccdc137	0.931966	1.101285	0.240838	1.77E-05	0.000406
Ankrd54	1.005209	1.187765	0.240754	0.010157	0.033549

Rftn1	0.937286	1.107202	0.240357	0.008266	0.028866
Itgb1bp1	0.882858	1.042892	0.240337	0.003095	0.014006
Ak6	0.90724	1.071551	0.240144	0.002825	0.01309
Glde	0.886174	1.046661	0.240133	0.001298	0.007408
Tulp3	0.907758	1.072021	0.239954	0.009761	0.032585
Iars2	0.924516	1.091519	0.239568	5.08E-05	0.000791
Vkorc1	0.915722	1.081088	0.239503	0.000116	0.001388
Fuca1	0.946579	1.117029	0.238871	0.001883	0.009693
Scrn2	0.897572	1.058978	0.238572	0.009016	0.030771
Elof1	0.912255	1.07623	0.238478	1.18E-07	1.8E-05
Zfp940	0.906081	1.06891	0.238428	0.001035	0.006232
Cat	0.850115	1.002881	0.238421	0.016281	0.047893
2310033P09Rik	0.878728	1.036605	0.238377	1.45E-05	0.000355
Mtr	0.988363	1.165639	0.238008	0.000992	0.00606
Tmem44	0.903946	1.065682	0.237469	0.006573	0.024461
Glipr2	0.978801	1.153894	0.237424	0.009337	0.031548
Hexb	0.951703	1.121802	0.237234	1.92E-05	0.000431
Cyth4	0.895698	1.055519	0.236867	0.009917	0.032929
Necap2	0.921633	1.085926	0.236662	0.000803	0.005241
2010107G23Rik	0.899631	1.05986	0.236469	0.0006	0.004272
Akap17b	0.876848	1.032923	0.236334	0.002969	0.013583
Cdk2ap2	0.94884	1.116809	0.235146	0.004325	0.01788
Glis2	0.89151	1.049133	0.234875	0.00053	0.003923
Spef1	0.87634	1.031087	0.234603	0.001022	0.006185
Dpm3	0.868724	1.022077	0.234534	1.02E-06	6.39E-05
Cstb	0.938441	1.103654	0.23395	0.000137	0.001548
Setd4	0.9126	1.073111	0.233745	5.64E-05	0.000848
Defa-rs10	0.97094	1.141647	0.233664	0.001351	0.00761
Mob1b	0.9939	1.168621	0.233635	0.011083	0.035924
Pnmall1	0.879053	1.03346	0.233461	0.000175	0.001823
Rrp9	0.903543	1.062134	0.2333	3.89E-05	0.000663
Nampt	0.929085	1.091748	0.232758	0.001048	0.006285
S100a1	0.879806	1.033809	0.232712	0.000669	0.004596

Scand1	0.855743	1.0054	0.23252	0.002082	0.01046
Map3k1	0.971856	1.141707	0.232378	0.000119	0.001407
Isg2012	0.923764	1.085172	0.232328	0.000216	0.002124
Nol3	0.96116	1.12908	0.232299	0.006482	0.024232
Anp32b	0.916515	1.076536	0.232165	3.1E-05	0.000589
Metrn	0.915987	1.075589	0.231727	0.005505	0.021398
Fam32a	0.87994	1.033193	0.231632	0.009793	0.032661
Tmem145	0.889026	1.04343	0.231035	0.000889	0.005615
Twsg1	0.945914	1.109386	0.229981	0.000566	0.004108
Pcgf5	0.992073	1.163469	0.229915	0.002668	0.012494
Stom	0.917026	1.075283	0.229681	0.00455	0.018528
Acaal1a	0.899708	1.054976	0.229681	3.57E-05	0.000635
Psph	0.86972	1.019696	0.229516	0.000181	0.001874
Mdc1	0.947735	1.110621	0.22881	0.001233	0.007121
Cnot3	0.979169	1.147237	0.228534	0.001487	0.008169
Sell13	0.928462	1.08774	0.22842	0.000568	0.004112
Snx29	0.92268	1.080803	0.228202	0.000691	0.004708
Ubl3	0.913396	1.069919	0.228189	0.003945	0.016687
Ncstn	0.868714	1.016369	0.226472	0.000375	0.003097
Lama2	0.907406	1.061036	0.225654	0.00996	0.033036
Zfp784	0.881605	1.03055	0.225209	0.000532	0.003931
Cers5	0.932242	1.089702	0.225158	0.000462	0.003586
Mcm4	0.944717	1.104247	0.225109	1.55E-05	0.000372
Pdia3	1.04088	1.216638	0.225097	0.010945	0.035569
Clk3	0.908742	1.062056	0.224917	1.9E-07	2.46E-05
Cstf1	0.847872	0.990686	0.224582	0.000464	0.003593
Msmo1	0.873151	1.020104	0.224413	0.005848	0.022401
Paxbp1	0.924972	1.08055	0.224284	0.000267	0.002463
Itpk1	0.974496	1.138243	0.224081	0.004903	0.019536
Atp8a1	1.01728	1.188141	0.223989	0.003451	0.015126
Kbtbd2	0.920942	1.07522	0.22345	0.002397	0.011514
Xrcc1	0.893315	1.042942	0.223417	6.07E-07	4.56E-05
Tepsin	0.942702	1.100096	0.222755	2.29E-06	0.000105

Ppp1r15b	0.951608	1.110411	0.222655	7.03E-05	0.000979
Pdgfb	0.910977	1.062702	0.222252	8.04E-05	0.001079
Erlin2	0.965389	1.126048	0.222087	0.000653	0.004509
Qser1	0.892682	1.041241	0.222085	0.000451	0.003539
Bok	0.970991	1.132353	0.221793	0.01632	0.047965
Tctn3	0.90848	1.059194	0.221441	0.000967	0.00595
Hcfc2	0.948196	1.104992	0.220779	0.000623	0.004384
Ice2	1.010964	1.178118	0.220753	0.000966	0.005948
Tnni2	0.934472	1.088908	0.22066	0.000888	0.00561
Hat1	0.929929	1.082998	0.219837	0.002351	0.01139
Tapbpl	0.92506	1.077275	0.219767	0.004283	0.017783
Nr2f6	0.964881	1.123501	0.219578	0.000241	0.002308
Mtfmt	0.908898	1.058203	0.219427	0.006647	0.024703
Lrrc75a	0.920468	1.071291	0.218911	0.00016	0.001713
Zbtb12	0.948206	1.103162	0.218372	0.005243	0.020604
Acad11	0.902235	1.049633	0.21831	1.14E-05	0.000297
Fra10ac1	0.863086	1.004057	0.218265	0.012595	0.039379
Nudt22	1.014135	1.179748	0.21823	0.002676	0.012521
Daam2	0.96249	1.119371	0.217845	0.000373	0.003092
Arhgef28	0.958714	1.114969	0.217832	0.000568	0.00411
Prim1	0.927311	1.078391	0.217755	0.000357	0.003001
Rbm39	1.006774	1.16967	0.216361	0.002558	0.012124
Iars	0.911473	1.058939	0.216347	6E-05	0.000887
Slc38a2	0.942096	1.094372	0.216156	0.008419	0.029235
Hacl1	0.885191	1.028124	0.215954	0.002197	0.010813
Bves	0.912505	1.05964	0.21567	0.007471	0.026915
Pnpt1	0.96007	1.114588	0.215299	6.36E-05	0.000921
Tmem104	0.96257	1.117455	0.215253	0.000298	0.002655
Lman2	0.906442	1.052232	0.215167	0.006785	0.025013
Ppp4r2	0.924129	1.072558	0.21489	0.000383	0.003139
AI314180	1.00995	1.172034	0.21473	0.001575	0.008527
Hs1bp3	0.928827	1.077835	0.214654	0.001394	0.00778
Ak3	0.952993	1.105282	0.213877	4.39E-06	0.00016

Polr2c	0.954155	1.106613	0.213855	0.00195	0.009932
Gigyf1	0.964427	1.118402	0.213695	2.78E-06	0.00012
Zfp462	1.082092	1.254849	0.21369	0.003804	0.016264
Eci1	0.892337	1.034701	0.213553	0.000273	0.002505
Gm40881	0.90763	1.052077	0.213064	0.011897	0.037743
Zfp114	0.900179	1.043419	0.213035	0.000148	0.001634
Rsu1	0.941962	1.091327	0.212343	0.000217	0.002134
Arl13b	0.976588	1.13126	0.212108	3.5E-06	0.000137
Dennd2a	0.915922	1.060557	0.211526	8.45E-05	0.001121
Cetn2	0.855865	0.990726	0.211102	0.002108	0.010547
Crot	0.945875	1.094863	0.211029	0.001398	0.007789
Gpt	0.924769	1.07036	0.210932	0.006192	0.023406
Cyp21a1	0.963562	1.115145	0.210782	0.010301	0.033916
Atp6v0a2	0.928556	1.074518	0.210629	0.000259	0.002421
Slc25a45	0.956462	1.10657	0.210315	0.010587	0.034603
2510039O18Rik	0.926625	1.072042	0.210304	0.000117	0.001393
Elp4	0.955652	1.105596	0.210267	0.00334	0.014727
Hist1h2aa	0.924486	1.069343	0.210001	0.001489	0.008177
Yipf4	0.94321	1.09095	0.209934	0.00237	0.011435
Usp54	1.0066	1.164247	0.209908	0.013497	0.041227
Rnaseh2a	0.913518	1.056417	0.209675	0.007821	0.027781
Aacs	0.931979	1.077647	0.209516	0.000334	0.002872
Ddost	0.9118	1.054095	0.209216	1.29E-06	7.41E-05
Clgalt1c1	0.93432	1.079864	0.208861	0.014255	0.042972
Pomt2	0.893214	1.032016	0.208388	0.003988	0.016805
Selenbp2	0.991976	1.146049	0.208292	0.001034	0.006229
Zfp263	0.916893	1.05916	0.208095	1.5E-05	0.000362
Hist1h2ak	0.909316	1.050257	0.207888	0.000882	0.005582
Pmm2	0.900727	1.040073	0.207523	0.000134	0.001525
Mfsd13b	0.924912	1.067765	0.207206	0.012645	0.03949
Prr14	0.933245	1.077244	0.207017	0.003716	0.015987
Zfp108	0.92901	1.072298	0.20694	8.25E-06	0.000238
Aasdh	0.920607	1.0624	0.20667	0.005043	0.019966

Zfp213	0.904874	1.044156	0.206549	0.000511	0.003827
Slc25a38	0.94782	1.093449	0.206201	0.001085	0.006441
0610030E20Rik	0.924957	1.067048	0.206167	0.001537	0.008364
Slc41a1	0.953361	1.099339	0.205542	0.017072	0.049563
Mex3c	0.965471	1.113198	0.205405	9.01E-05	0.001166
Acadv1	0.943045	1.087333	0.205396	0.000262	0.002442
Ttc26	1.067233	1.230002	0.204786	0.011993	0.038003
Asah1	0.936416	1.079167	0.204698	9.16E-07	5.92E-05
Tprn	0.947752	1.092033	0.204435	0.009674	0.03241
Fam20a	0.925221	1.066011	0.204352	0.013721	0.041674
Grik3	0.938766	1.081565	0.204283	0.009552	0.032038
N4bp3	0.961657	1.107899	0.204232	0.003239	0.014404
Sppl2b	0.915859	1.05511	0.204197	2.11E-05	0.000456
Slc27a5	0.849936	0.979125	0.204139	0.015363	0.045714
Zc3h3	0.936185	1.078479	0.204132	0.000753	0.005004
Pigf	0.910469	1.04867	0.203879	0.006898	0.025325
Pcdhb7	0.991752	1.142241	0.203815	0.012399	0.038914
Taf2	0.936204	1.077961	0.203411	0.000238	0.002288
Hspd1	0.947253	1.090612	0.203317	3.84E-05	0.000661
Snrpd1	0.897492	1.03331	0.203302	5.83E-06	0.000191
Dpagt1	0.9158	1.054351	0.203251	0.001397	0.007789
Tctn2	0.949558	1.093086	0.20308	0.007576	0.027166
Rel1	0.849471	0.977849	0.203048	0.004322	0.017874
Pat1	0.951879	1.095575	0.202837	0.000648	0.004483
Chtf8	0.963294	1.108	0.20191	0.003291	0.014595
Enkd1	0.923733	1.062233	0.201552	9.46E-06	0.000264
Bex4	0.871376	1.002016	0.201538	0.00458	0.018601
Pus1	0.909816	1.046204	0.201517	0.008969	0.030667
Idh2	0.939886	1.080779	0.201514	0.001259	0.007247
Kdelr2	0.970708	1.11619	0.201474	0.000298	0.002656
Cnih4	0.977067	1.123443	0.201397	1.18E-05	0.000303
Ubr7	0.970657	1.116061	0.201383	9.34E-07	6E-05
Cnppd1	0.937719	1.078035	0.201175	3.91E-06	0.000148

Amt	0.90289	1.037967	0.201139	0.001452	0.008015
Dennd4c	0.973343	1.118958	0.201136	0.000475	0.003623
Nr2e1	0.886854	1.019518	0.201118	0.002348	0.01139
Nppa	0.92818	1.066982	0.201059	0.005494	0.021369
Kank3	0.878167	1.00933	0.200831	0.000122	0.001432
Ddx50	0.998884	1.147656	0.200301	0.000409	0.0033
Gm15455	0.898151	1.031529	0.199756	9.25E-05	0.001184
Mvb12a	0.966819	1.110314	0.19965	0.000995	0.006077
Slx4	0.895513	1.028384	0.199593	6.29E-07	4.56E-05
Nup153	0.973256	1.117602	0.199514	0.000168	0.001771
A830080D01Rik	0.944834	1.084727	0.199199	0.000373	0.003095
Mocos	0.955456	1.096783	0.199017	0.013944	0.042257
Zfp689	0.942095	1.081314	0.19884	0.004921	0.01959
Rad9a	0.928316	1.065493	0.198833	0.00285	0.01318
Pak2	0.95095	1.091303	0.19861	0.003039	0.013824
Galntl6	0.95117	1.091339	0.198324	0.007781	0.027676
Atox1	0.929797	1.066701	0.19817	0.008283	0.028886
Cystm1	0.921953	1.057695	0.19816	0.003374	0.014834
Stard3	0.92209	1.057826	0.198122	0.002132	0.010613
Cep290	0.909377	1.043009	0.197801	0.011999	0.038008
Idi1	0.883194	1.012951	0.197762	0.007184	0.026104
Uggt1	0.953124	1.092985	0.197538	0.009747	0.032547
Scaf8	0.957504	1.097796	0.19726	7.32E-07	5.01E-05
Zfyve1	0.947918	1.086739	0.19717	0.000548	0.004001
Npm3	0.966216	1.107526	0.196923	0.012614	0.039416
Tmem64	0.952019	1.091028	0.196626	0.002767	0.012858
Alg3	0.897532	1.02853	0.196549	0.012837	0.039806
Srsf2	0.987377	1.131335	0.196353	1.39E-05	0.000347
1700037C18Rik	0.908683	1.041164	0.196347	0.0053	0.020782
Sbno2	0.941598	1.078715	0.19613	0.002507	0.011933
Thumpd3	0.919993	1.053927	0.196081	0.001391	0.007765
Snx1	0.927637	1.062649	0.196032	0.000811	0.005278
Npepl1	0.952367	1.09097	0.196022	0.007969	0.028175

Scamp2	1.003789	1.14943	0.195463	1.08E-05	0.000287
Nfrkb	0.966959	1.107164	0.195342	0.00118	0.006887
Wasf2	0.925994	1.060071	0.195085	0.00053	0.003923
Ddx47	0.984411	1.126783	0.194877	0.002239	0.01098
Copz2	0.935656	1.07092	0.194802	0.003954	0.016708
Fam160b1	0.93642	1.071604	0.194543	0.001029	0.006205
Mthfd1	0.92761	1.061436	0.194427	0.001274	0.00732
1700029I15Rik	0.925688	1.059229	0.194416	0.00098	0.006006
Plekh01	0.93767	1.072884	0.194343	0.000195	0.001981
Smarca5	0.929041	1.062891	0.19418	0.000134	0.001525
Trove2	0.973175	1.113333	0.194114	0.00015	0.001645
Neurl2	0.937552	1.072519	0.194032	0.016792	0.049057
Gns	0.946569	1.082609	0.193733	0.000464	0.003593
Mto1	0.892398	1.020633	0.193705	0.002868	0.013248
Mcurl	0.905713	1.035858	0.193699	0.000543	0.003974
Rbm28	0.930161	1.063441	0.193187	0.011889	0.037739
Glmp	0.927122	1.0598	0.19296	0.004874	0.019485
Aldh4a1	0.923195	1.055295	0.192939	6.05E-05	0.000893
Slc25a42	0.915276	1.046185	0.192858	0.0013	0.007416
Ttc7	0.907263	1.036971	0.192783	0.0084	0.029181
Abrac1	0.908136	1.037798	0.192545	0.008285	0.028886
Ppp1r35	0.934984	1.068436	0.192487	0.000516	0.003857
Mapkapk5	0.978952	1.118428	0.192163	0.000681	0.004657
Eaf1	0.976204	1.114305	0.19089	0.014879	0.044562
Nabp2	0.910133	1.038885	0.190886	0.000128	0.001473
Stk10	0.919871	1.049959	0.190829	0.001591	0.008602
Dpysl5	0.916445	1.045988	0.190746	0.013452	0.041149
Gcc1	0.893239	1.019412	0.19062	0.00052	0.003877
Lime1	0.926093	1.056796	0.190468	0.000143	0.001595
Srsf6	0.897515	1.024055	0.190284	0.010335	0.034009
Rtnn	0.920718	1.050116	0.189717	0.016291	0.04791
Selenok	0.910207	1.038052	0.189613	2.86E-06	0.000122
Mrpl51	0.925348	1.055258	0.189527	0.000362	0.003031

Cr11	0.906026	1.033093	0.189346	0.000245	0.002334
Sacm11	0.898845	1.024845	0.189261	0.014122	0.042681
Matn2	0.94179	1.073786	0.189229	0.011199	0.036144
Msl1	0.908348	1.035602	0.189152	1.17E-05	0.000303
Ubxn7	0.922852	1.051807	0.1887	0.001415	0.007856
Rbm42	0.898854	1.024381	0.188595	0.000388	0.003167
Pcnx3	0.940045	1.071291	0.188549	0.000132	0.001512
Mgat5	0.935285	1.06585	0.188528	0.00837	0.029106
Igfbp5	0.924088	1.052338	0.187496	0.012743	0.039665
Ube2d3	0.903923	1.029311	0.187408	0.000578	0.004159
Casp2	0.877109	0.998654	0.187229	0.003511	0.01534
Gkap1	0.944688	1.075582	0.187208	0.006124	0.023189
Tmem177	0.935231	1.064616	0.186938	0.011091	0.035939
Coq8b	0.921415	1.048679	0.18665	0.001014	0.006155
Clu	0.947511	1.078157	0.186353	0.00505	0.019966
Magoh	0.904	1.02862	0.186316	0.004581	0.018601
Nufip2	0.994195	1.130932	0.185911	0.005381	0.021014
Selenbp1	0.991518	1.127662	0.185623	0.013346	0.040918
Grin2c	0.903945	1.028028	0.185573	0.000534	0.003938
Lamc1	0.95469	1.08495	0.184524	0.006896	0.025325
Polr2i	0.877233	0.996806	0.184353	4.99E-06	0.000173
Rnft1	0.94604	1.074959	0.184309	0.004728	0.019067
Tpcn1	0.90972	1.033524	0.184077	0.002048	0.010331
Acta2	0.954983	1.084925	0.184049	0.009709	0.032474
Tmem123	0.952046	1.081358	0.183741	0.009411	0.031726
Rgs10	0.955575	1.085272	0.183615	0.016243	0.047808
Zfp800	1.019094	1.157206	0.183359	0.00488	0.01949
Timm50	0.95142	1.080009	0.182888	0.000546	0.00399
Utp4	0.947212	1.075164	0.182798	0.000158	0.001708
Mlc1	0.917459	1.041223	0.182563	0.000323	0.002801
Pold3	0.94711	1.07486	0.182544	0.000445	0.003506
Naa15	0.943134	1.070041	0.182131	0.000531	0.003925
Arf4	0.966772	1.09652	0.181684	0.000752	0.004995

Prkrip1	0.929752	1.054508	0.181653	0.000252	0.002373
Rfx1	0.894462	1.014364	0.181483	8.22E-06	0.000238
Gm7969	0.917964	1.040709	0.181057	0.005462	0.021268
Atg4a	0.915907	1.038355	0.181026	0.000829	0.005367
Med29	0.901205	1.02149	0.180747	0.000137	0.001544
2810004N23Rik	0.874345	0.990894	0.180529	0.002778	0.012902
Tmem109	0.905277	1.025713	0.180197	1.59E-05	0.000374
Fbxw4	0.987067	1.118383	0.180194	0.000383	0.003139
Pex11a	0.926371	1.049559	0.18012	0.001869	0.00967
Tm7sf2	0.889688	1.007927	0.180021	0.003811	0.016268
Hist2h2ac	0.930419	1.054057	0.18	0.004789	0.019242
C2cd5	0.913053	1.034333	0.17993	0.002264	0.011065
Higd1b	0.92261	1.045036	0.179761	0.01312	0.040416
Atf7ip	0.924827	1.047354	0.179494	0.000681	0.004657
Hist3h2a	0.878226	0.994522	0.179411	0.014532	0.043682
Gcm1	0.970258	1.098276	0.178801	0.004318	0.017868
Rgs11	0.923218	1.044703	0.178349	0.01681	0.04908
Ufl1	0.960909	1.087332	0.17832	0.003925	0.016621
Rnf166	0.921834	1.042854	0.177957	1.39E-05	0.000347
Cyb5r4	0.938275	1.061447	0.17795	0.006528	0.024363
Krcc1	0.952109	1.076977	0.177789	0.007712	0.027467
Lonp1	0.928849	1.050449	0.17749	6.43E-05	0.000923
Fermt2	0.924256	1.045218	0.177439	0.002885	0.013289
Fdft1	0.934825	1.057112	0.177359	0.002527	0.012001
Srp68	1.01896	1.152245	0.177349	0.004302	0.017827
Actb	0.955226	1.079878	0.176955	1.78E-05	0.000407
Tbpl1	0.981573	1.10965	0.176937	0.000208	0.002067
Mitd1	0.97453	1.101621	0.176849	0.0015	0.008219
Abca2	0.9237	1.044007	0.176635	0.004545	0.018522
Adap2	1.00821	1.139439	0.176527	0.012064	0.038158
Tm7sf3	0.944943	1.067876	0.176445	6.23E-05	0.000909
Wdr90	0.89675	1.013401	0.176428	0.001203	0.006994
Pttg1ip	0.930041	1.050956	0.176337	4.57E-05	0.000737

Galnt3	0.959614	1.084188	0.176089	0.008847	0.030356
Vcl	0.922806	1.042461	0.175894	0.004098	0.017187
Supt20	0.984981	1.112685	0.175877	0.000755	0.005007
Ubal1	0.885445	1.000126	0.175707	0.002681	0.012541
Socs6	0.939084	1.060711	0.175706	0.00501	0.019873
Cope	0.940272	1.061774	0.175327	0.000725	0.004856
Samd1	0.943974	1.06595	0.17532	1.57E-05	0.000373
Tymp	0.923933	1.043218	0.17518	9.63E-05	0.001211
Clybl	0.910978	1.028355	0.17485	0.012785	0.039703
Taf8	0.93496	1.055277	0.174645	0.006839	0.025185
Ndufc2	0.907701	1.024508	0.174641	0.004302	0.017827
Cyb5r3	0.957833	1.081007	0.17453	0.007045	0.025721
Tmem97	0.921721	1.04025	0.174529	0.000605	0.004296
Fam76b	0.913584	1.030955	0.174372	0.002857	0.013202
Psm5	1.02919	1.161378	0.174328	0.000188	0.001928
Entpd2	0.949398	1.070909	0.17375	0.001609	0.008666
Abcb1a	0.940121	1.060308	0.173565	0.010393	0.034142
Elovl4	0.983468	1.109059	0.173387	0.00508	0.02007
Vezf1	0.923549	1.041345	0.173189	0.000924	0.005763
Dalrd3	0.898387	1.012876	0.173049	0.002137	0.010625
Rdh11	0.986904	1.112532	0.172865	0.001567	0.008489
Acsbg1	0.966711	1.089674	0.17274	0.006868	0.025277
Zfp317	0.957265	1.078807	0.172446	0.007895	0.027994
Tmem35b	0.881705	0.99356	0.172312	0.011738	0.037427
Snrpg	0.93209	1.050297	0.172256	2.65E-06	0.000117
Lemd2	0.940854	1.060103	0.172161	7.52E-05	0.001029
Eny2	0.912538	1.028095	0.172017	0.012881	0.039919
Mfn1	0.909361	1.024284	0.171691	0.007246	0.026285
Col7a1	0.906096	1.020587	0.171663	0.008565	0.029657
Cnm4	0.952541	1.072719	0.17142	4.36E-06	0.00016
Morc3	0.989309	1.11404	0.171308	0.001837	0.009558
Pdrg1	0.972776	1.095354	0.171219	0.000304	0.00269
Zfyve21	0.944756	1.06379	0.171199	0.000159	0.001709

Sf3b6	0.929835	1.046825	0.170973	8E-06	0.000234
Hist2h2aa2	0.907186	1.021237	0.170848	0.001304	0.007433
Phkg2	0.944977	1.063703	0.170744	0.00047	0.003612
Ccdc66	0.982692	1.106107	0.170681	0.000689	0.004699
Nufip1	0.927459	1.043922	0.170659	0.000765	0.005049
Wdr62	0.934025	1.051225	0.170539	0.006509	0.024301
Hmces	0.91682	1.031614	0.170193	3.08E-06	0.000127
Rer1	0.91992	1.034861	0.169856	0.001351	0.00761
Acads	0.934232	1.050862	0.169721	0.015706	0.046553
Usp38	0.98058	1.102871	0.169557	0.000581	0.004176
4930430F08Rik	1.046396	1.176818	0.169461	0.000801	0.00524
Cldn5	0.890506	1.001433	0.169368	0.013568	0.041346
1700030K09Rik	0.937059	1.053641	0.169172	0.005624	0.021748
Usp28	0.968799	1.088797	0.168466	0.003931	0.016639
Kat6a	0.937063	1.053077	0.168392	2.5E-06	0.000111
Phgdh	0.926089	1.040717	0.168355	0.000619	0.004371
Dhrs1	0.941035	1.057279	0.168036	0.001531	0.008341
Kif1c	0.932073	1.047199	0.168019	0.005531	0.021475
Eif4e3	0.982013	1.103258	0.167956	0.003915	0.016589
Bcl9l	0.929869	1.044406	0.167584	0.003598	0.015623
Rras	0.918888	1.032047	0.167548	0.000602	0.004276
Sco2	0.925699	1.039662	0.167499	0.000267	0.002463
Tmem63c	0.934926	1.049852	0.167262	0.000835	0.005382
Zfp35	0.938003	1.053289	0.167237	0.001402	0.007806
Kat8	0.924173	1.037392	0.166727	0.000118	0.001403
Psmal	0.94992	1.066238	0.166651	6.14E-06	0.000198
Psmb3	0.980732	1.100666	0.166446	4.03E-05	0.000678
Csad	0.897011	1.00649	0.166135	0.000258	0.002413
Snrpd3	0.927983	1.041234	0.166124	0.001136	0.006694
Tmem208	0.929467	1.042623	0.165743	0.000474	0.003623
Cyp2u1	0.994107	1.115086	0.165682	0.002396	0.011514
Tradd	0.921425	1.033416	0.165483	0.001414	0.007856
Exosc6	0.952874	1.068521	0.165258	0.009369	0.031615

Chpf2	0.919551	1.031039	0.165098	0.00124	0.007156
Utp11	0.90794	1.017716	0.164666	3.39E-05	0.000613
Nat8f1	0.886616	0.993756	0.164582	0.002176	0.010769
Dscr3	0.956629	1.072188	0.164526	0.002252	0.011025
Phf5a	0.910017	1.019875	0.164427	3.19E-05	0.000593
Wdr3	0.943824	1.057501	0.164069	8.64E-05	0.001133
P4hb	0.956961	1.07196	0.163719	0.006675	0.02473
Ralb	1.012274	1.133688	0.163423	0.000713	0.004817
Ascc3	0.896882	1.004451	0.163417	0.008906	0.030492
Hmgn1	0.895037	1.002365	0.163388	0.000232	0.002246
Wrap53	0.969046	1.085185	0.163304	4.26E-05	0.000696
Mtmr4	0.996283	1.115482	0.163041	0.011847	0.037684
Rbm5	0.916181	1.025783	0.163021	1.39E-06	7.72E-05
Tmem150a	0.923425	1.033707	0.16276	0.00102	0.00618
Pdlim1	0.992989	1.111528	0.162695	0.01636	0.048034
Golga4	0.938531	1.050533	0.162644	7.85E-05	0.001058
Thap1	0.939901	1.051774	0.162243	0.005758	0.022134
Pank3	0.934764	1.045877	0.16204	0.000225	0.002191
Whamm	0.955778	1.069385	0.162034	0.001026	0.006196
Cactin	0.900338	1.007341	0.162014	0.000245	0.002334
Ero11	0.947812	1.060426	0.16197	0.003586	0.015589
Tmem198b	0.958214	1.071949	0.161816	0.006675	0.02473
Armc6	0.914757	1.023182	0.161602	0.000347	0.002951
Rnf31	0.957484	1.070945	0.161563	0.005047	0.019966
Ccdc22	0.934145	1.044828	0.161546	7.66E-05	0.001044
Rpl3	0.945923	1.057863	0.161358	0.000211	0.002085
Pex12	0.920958	1.029898	0.161294	0.008361	0.029089
Dennd6b	0.939785	1.050795	0.16108	0.003063	0.013908
Ddx52	0.96192	1.07553	0.161058	0.008427	0.029246
Nup85	0.968112	1.082282	0.16083	0.000206	0.002055
Baz2a	0.991264	1.107965	0.16057	0.002321	0.011305
Tmx1	0.951906	1.063671	0.160161	0.010467	0.034313
Anapc10	0.975929	1.090212	0.159761	0.0022	0.010823

Eif3a	0.909737	1.016188	0.159645	0.006298	0.02374
Dnttip2	0.977907	1.092205	0.159475	0.000155	0.001691
Cramp11	0.950595	1.061657	0.159415	8.94E-05	0.001161
Zfp84	0.912354	1.018945	0.15941	0.001343	0.00759
2700060E02Rik	0.915938	1.022781	0.159176	0.00153	0.00834
Efcab14	0.963473	1.075683	0.158938	0.001395	0.00778
Trir	0.939843	1.049221	0.158827	1.92E-05	0.000432
Tmem19	0.96675	1.079223	0.158778	0.01355	0.041304
Atp1a1	0.956779	1.068007	0.158663	0.001155	0.006796
Lsg1	0.946907	1.056755	0.158346	0.000159	0.001708
Nhlrc2	0.942317	1.051418	0.158053	0.001159	0.006807
Rcc11	0.950096	1.060064	0.158006	0.004048	0.016999
Sac3d1	0.930421	1.037919	0.157738	0.00404	0.016978
Tchp	0.948355	1.057812	0.157584	0.010208	0.033664
Csgalnact2	0.989402	1.103533	0.157501	0.001398	0.007789
Oat	0.960134	1.070889	0.157501	0.000202	0.002028
Ptpn9	0.936358	1.044361	0.157488	0.001506	0.008238
Aco1	0.920861	1.02699	0.157367	3.48E-05	0.000626
Ppp1r14b	0.955566	1.065694	0.157365	0.016745	0.048999
Tpt1	0.969869	1.081465	0.157126	0.00411	0.017219
Snap29	0.98398	1.09712	0.15702	0.003089	0.013999
Tdp1	0.936618	1.044304	0.15701	0.013526	0.04126
Pofut1	0.886326	0.988208	0.156976	0.010137	0.03349
H2-Ke6	0.949275	1.058155	0.156653	0.00021	0.002079
Syf2	0.950497	1.059471	0.156589	0.000939	0.005837
Eprs	0.944368	1.052581	0.15651	0.000296	0.002647
Actl6a	0.965275	1.075865	0.156485	0.008585	0.029707
Wdr1	0.96163	1.071495	0.156072	0.001052	0.006309
Ube2f	0.945216	1.053164	0.156015	0.002371	0.011435
Cox19	0.953594	1.062483	0.155992	2.41E-05	0.000494
Rplp1	0.950961	1.059454	0.155863	3.27E-05	0.000596
Faxe	0.987647	1.100201	0.155698	0.004508	0.018399
Ccn11	0.956098	1.065042	0.15568	0.001313	0.007468

Mfsd10	0.931605	1.037576	0.155428	0.014657	0.043985
Lrwd1	0.962155	1.071295	0.155014	0.002342	0.011371
Cct4	0.937537	1.043747	0.154825	5.11E-05	0.000794
Ifngr1	0.95233	1.060161	0.15475	0.002919	0.0134
Mbd1	0.923845	1.028269	0.154495	8.56E-05	0.00113
Sf3b5	0.954016	1.061581	0.15413	8.61E-05	0.001132
Pnrc1	0.997836	1.110331	0.154115	0.007681	0.027403
Fut11	0.958881	1.066773	0.15383	0.006255	0.023603
Lcor	0.905217	1.006979	0.153698	0.016982	0.049386
Ppid	0.943884	1.049694	0.153288	0.001362	0.007653
Ptprd	0.928825	1.032863	0.15317	0.001872	0.009671
Psmc9	0.980325	1.090121	0.153156	0.002409	0.01155
Snta1	0.945417	1.051158	0.152957	0.002662	0.012487
Ccnf	0.966182	1.07408	0.152734	0.009708	0.032474
Ift81	0.881764	0.980073	0.152497	9.49E-05	0.001203
Cst3	0.945802	1.051237	0.152478	0.009875	0.032855
Mindy2	0.971759	1.080078	0.152465	0.002195	0.010812
Surf6	0.944679	1.049871	0.152315	0.00017	0.00179
Ndst2	0.972483	1.080679	0.152192	0.00174	0.009182
Pfas	0.916685	1.018644	0.152152	0.006439	0.024108
Sh3bgr1	0.931463	1.034933	0.151966	0.000375	0.003096
Carnmt1	0.988395	1.097854	0.151528	0.001742	0.009188
Ufsp2	0.90914	1.009627	0.151249	0.000915	0.005731
Nop2	0.929501	1.032046	0.15098	0.000247	0.002343
Vars2	0.900064	0.999325	0.150927	0.000964	0.005945
Ppp2r5a	0.929728	1.032106	0.150711	0.000239	0.002291
Dchs1	0.911861	1.012003	0.150328	0.008999	0.030744
Pkn2	1.005991	1.116436	0.150284	0.012659	0.039519
Ctsl	0.956802	1.06179	0.150207	0.011276	0.036284
Slc30a5	0.980918	1.088453	0.150074	0.000317	0.002764
Rps19bp1	0.989696	1.098152	0.150019	0.000732	0.004879
Fbxo4	0.959564	1.064394	0.149581	0.003883	0.016495
Mettl16	0.972287	1.078389	0.149424	0.007877	0.02794

Efna3	0.971156	1.076954	0.149182	0.010106	0.033409
Fam104a	1.003265	1.112513	0.14912	0.005613	0.021722
Mark1	0.937699	1.039779	0.149079	0.003828	0.016326
Eif2b1	0.958683	1.063034	0.149062	6.87E-06	0.000213
Slc39a1	0.919658	1.019705	0.148982	7.52E-05	0.001029
Lamtor3	0.935678	1.037417	0.148913	0.000622	0.00438
Smc1a	0.91807	1.017884	0.148898	5.56E-07	4.39E-05
Psmc4	0.950535	1.053498	0.148376	1.32E-06	7.5E-05
Man2c1	0.906617	1.004796	0.148337	0.000105	0.001289
Tbcb	0.948758	1.051356	0.148138	0.000184	0.001897
Spopl	0.986395	1.092946	0.147985	0.008097	0.028493
G6pdx	0.962486	1.066341	0.147832	0.00377	0.016152
Foxn3	0.971175	1.075905	0.147747	0.00733	0.026526
Acot1	0.888823	0.984608	0.147653	0.000918	0.005735
Sarnp	0.997117	1.104438	0.147478	0.003028	0.013791
Hacd2	0.996171	1.103146	0.147159	0.000974	0.005977
Hspe1	0.934888	1.035212	0.147061	0.001198	0.006987
Chmp2a	0.963826	1.067245	0.147046	0.000362	0.003031
Csnk2a2	0.934206	1.034392	0.146971	0.002753	0.012813
Rnpepl1	0.906998	1.004036	0.146639	9.69E-06	0.000266
Atg4d	0.927491	1.026496	0.146323	0.005178	0.02041
Parp8	0.95684	1.058874	0.14618	0.014903	0.044607
Cenpv	0.893872	0.98918	0.146165	0.002019	0.01023
Znrd1	0.937449	1.037134	0.14579	0.006656	0.024711
Gtf2fl	0.934541	1.033836	0.145677	0.01061	0.034656
Rpp25l	0.967533	1.070274	0.145598	0.003835	0.016352
Sestd1	0.983348	1.087716	0.145527	0.009665	0.032396
Slc15a4	0.976776	1.080301	0.145333	0.016409	0.048164
Ppil4	0.93795	1.037323	0.145283	0.00138	0.007722
Asns	0.910436	1.006881	0.145264	0.003011	0.013721
Bpgm	0.98482	1.088713	0.144692	0.001558	0.008443
4930453N24Rik	0.944242	1.043569	0.144297	0.008226	0.028784
Cep164	0.9865	1.090269	0.144292	0.004425	0.018143

Acaa1b	0.9184	1.014949	0.144213	0.012244	0.038577
Dopey1	0.999256	1.10391	0.143697	0.000631	0.004429
Ssbp4	0.933393	1.031038	0.143541	0.01611	0.047484
Ercc6	0.957581	1.057504	0.143196	0.000757	0.00502
Fam109a	0.928361	1.025124	0.14304	1.75E-05	0.000402
Gmppa	0.922941	1.019061	0.14293	0.003373	0.014834
Prpf18	0.931639	1.028643	0.1429	0.006917	0.025369
Ccar2	0.908002	1.002371	0.14265	3.57E-05	0.000635
Ptpn23	0.939494	1.037014	0.142479	0.000645	0.00448
Polr2a	0.930998	1.027535	0.142338	0.000276	0.002518
Cmtm6	0.942715	1.039954	0.141625	0.015316	0.045606
Exosc7	0.990689	1.092693	0.141384	5.53E-05	0.000838
Ccnl2	0.96183	1.060857	0.141377	0.003234	0.0144
Pbx2	0.969576	1.069289	0.141226	0.000845	0.005417
Serp1	0.936234	1.032372	0.141021	0.001549	0.008412
1810013L24Rik	0.985499	1.086653	0.140965	0.000955	0.005904
Atad2b	0.947351	1.044518	0.140865	0.002114	0.010569
Nrd1	0.934061	1.029555	0.140432	0.016984	0.049386
Ift140	0.951969	1.049161	0.140249	0.008389	0.029151
Sec11a	0.942762	1.038873	0.140055	0.003446	0.01511
Atad3a	0.921684	1.01557	0.139945	0.000909	0.005703
Dpp3	0.919446	1.013094	0.139931	0.000201	0.00202
Txndc12	0.933034	1.028053	0.139914	0.006894	0.025325
Stag1	0.979117	1.078797	0.139871	0.001491	0.008186
Lrrc45	0.943317	1.03912	0.139547	0.001203	0.006994
Med4	0.961393	1.058926	0.139404	0.001439	0.007966
Srp19	0.970016	1.068385	0.139352	2.31E-05	0.000479
Plxnb1	0.905951	0.997797	0.139313	0.004867	0.019471
H2afj	0.928964	1.023015	0.139132	0.008785	0.030247
Dock11	0.902711	0.994058	0.139067	0.013	0.040182
Rce1	0.961082	1.058028	0.138647	0.003817	0.016286
Nup54	1.005647	1.10705	0.138597	0.001779	0.009332
Lpcat3	0.906965	0.998356	0.138507	0.010038	0.033247

Stk19	0.936714	1.031057	0.138443	0.005266	0.020679
Sys1	0.949927	1.045575	0.138408	0.00062	0.004376
Naxe	0.941758	1.036544	0.138354	0.001503	0.00823
Rps9	0.955274	1.051411	0.138341	0.000606	0.004296
Acbd3	0.967746	1.064914	0.138038	0.009917	0.032929
Surf4	0.963319	1.060029	0.138018	0.005582	0.021657
Casc3	0.948938	1.044116	0.137897	0.002094	0.010496
Rplp2	0.960093	1.05629	0.13776	0.000716	0.004822
Mrm3	0.964479	1.061029	0.137643	0.011113	0.035978
Sugt1	0.913889	1.005358	0.137618	0.002178	0.01077
Krtap4-6	0.942752	1.036976	0.137432	2.73E-05	0.000533
Sf3a1	0.957624	1.053298	0.137382	0.013223	0.040634
Ap3b1	0.961879	1.057808	0.13715	0.001914	0.009819
Zcchc8	0.902916	0.99292	0.137086	0.001074	0.006383
Mier3	0.974969	1.071908	0.136753	0.000591	0.004215
Cep350	0.973222	1.069782	0.136476	0.010356	0.034055
Zfc3h1	0.949612	1.04382	0.136463	0.009489	0.031878
Gga2	0.94042	1.033656	0.136378	0.005481	0.021325
Rela	0.928316	1.02024	0.13622	0.009992	0.033125
Rfwd3	0.96065	1.055731	0.13616	0.002173	0.010759
Mterf3	0.953704	1.048079	0.136134	0.00799	0.028227
Mrps17	0.931567	1.023655	0.135998	0.008025	0.028295
Ddx20	0.942637	1.035609	0.135705	0.002405	0.011536
Asna1	0.940298	1.032713	0.13525	0.00068	0.004657
Incnp	0.912965	1.002645	0.13518	0.010206	0.033664
Acap3	0.938013	1.030133	0.135151	0.005425	0.021145
Bet1l	0.951212	1.044567	0.135066	0.006652	0.024703
Tor1b	0.984979	1.081648	0.135066	0.000263	0.002444
Osgin2	0.95038	1.0433	0.134577	0.015267	0.04553
Cc2d1a	0.940486	1.03235	0.134454	0.000209	0.00207
Cep83	1.024458	1.124506	0.13443	0.011504	0.036804
D030056L22Rik	0.939668	1.031419	0.134408	0.001481	0.008144
Snx32	0.943436	1.035462	0.134278	0.000145	0.001611

Klhl17	0.933118	1.02409	0.134212	9.58E-05	0.00121
Lactb	0.987777	1.08401	0.13412	0.002192	0.010812
Pla2g15	0.934072	1.024947	0.133943	0.001111	0.006566
Cxxc5	0.947839	1.039885	0.13371	0.011855	0.037691
Washc4	1.015154	1.113639	0.133584	0.013946	0.042257
Zbtb6	0.948219	1.03998	0.133264	0.008214	0.028767
Dtnb	0.959711	1.052568	0.133241	0.013335	0.040908
Bach1	0.981645	1.076421	0.132969	0.014922	0.044653
Ormdl3	0.944176	1.035316	0.132944	0.001625	0.008722
Cul7	0.971899	1.065584	0.132766	0.011612	0.037082
Cabin1	0.990732	1.086198	0.13272	0.005894	0.022527
Rhox8	0.993849	1.089519	0.132592	0.009791	0.032661
Ptov1	0.936161	1.026268	0.132579	0.000136	0.00154
Gstm5	0.945704	1.036692	0.132527	0.000545	0.003987
Phtf2	0.949469	1.040719	0.132387	0.015141	0.045193
Raph1	0.945635	1.036513	0.132383	0.004898	0.019536
Lig4	0.976322	1.070134	0.132363	0.007528	0.027038
Rpl7	0.927438	1.016544	0.132351	0.000731	0.004879
Cyb561d2	0.94685	1.037665	0.132133	0.001876	0.009673
Asb6	1.012915	1.110062	0.132127	0.009546	0.032038
Ap4m1	0.965316	1.057888	0.132114	0.007624	0.027272
Tmem129	0.941382	1.031617	0.132055	0.000233	0.002254
Heatr6	0.968549	1.06122	0.131827	0.000174	0.001817
Ppard	0.969189	1.061636	0.131438	0.016984	0.049386
Ngdn	0.960049	1.051622	0.131436	0.006082	0.023089
Acot8	0.901297	0.987212	0.131358	0.005513	0.02142
Stk38	0.892119	0.977057	0.131207	0.002377	0.011458
Cacybp	1.011523	1.107811	0.131182	0.004843	0.019413
Trpv2	0.979709	1.072864	0.131042	0.000815	0.005294
Tmcc1	0.992774	1.087089	0.130934	0.001717	0.009088
Rpl26	0.922012	1.009573	0.130888	0.000218	0.002136
Rpl18	0.958694	1.049666	0.130787	8.32E-06	0.000239
Utp20	0.986226	1.07963	0.130547	0.000212	0.002095

4933427D14Rik	0.969964	1.06177	0.130469	0.001611	0.008666
Mrpl42	0.92039	1.007362	0.130266	0.003141	0.01412
Zfp59	0.997052	1.091054	0.129982	0.00269	0.012569
Mrpl19	0.903208	0.988334	0.12994	0.003853	0.016399
Cdk8	0.981789	1.074292	0.129901	0.000241	0.002312
Mdn1	0.95524	1.045194	0.129836	0.0024	0.011515
Ttc9b	0.926208	1.013317	0.129678	0.001843	0.009583
Lsm1	0.963665	1.054107	0.129418	3.8E-06	0.000146
Gtf2e1	0.928604	1.015737	0.129391	0.003675	0.015878
Eif3c	0.944943	1.03349	0.129225	0.007507	0.027007
Prpf4b	0.91704	1.002942	0.129182	0.017243	0.049988
Nup160	0.935665	1.023242	0.129083	0.010635	0.034727
Vcpip1	0.968311	1.058941	0.129079	0.002462	0.011779
Ptges3	0.986084	1.078311	0.128991	0.007864	0.027906
Zfp954	0.931126	1.018127	0.128869	0.015382	0.045756
Nae1	0.935718	1.023121	0.128831	0.016709	0.048921
Lrrc58	0.984285	1.076061	0.128611	0.001881	0.009685
Ulk2	0.974623	1.065259	0.128288	0.002927	0.013426
Taf4	0.977717	1.06857	0.128192	0.0143	0.043084
Naf1	0.935096	1.021949	0.128136	0.00425	0.01768
Safb2	0.950104	1.038164	0.127878	0.008303	0.02893
Ugdh	1.017532	1.111833	0.127866	0.000531	0.003925
Cnot8	0.979596	1.070186	0.127603	0.000106	0.001294
Caskin2	0.941945	1.028854	0.127324	0.009186	0.031198
Paip2	0.967771	1.057051	0.127308	0.000587	0.004193
Eif6	0.936931	1.022968	0.126747	0.003747	0.01608
Slc35e1	0.993402	1.084523	0.126611	0.001682	0.008957
Smg6	0.954466	1.041966	0.126543	0.002673	0.012515
Crat	0.967403	1.05579	0.126134	0.001277	0.007331
Bcas2	0.935761	1.021036	0.125821	0.006565	0.024448
Pds5a	0.983579	1.073208	0.125818	0.005193	0.02046
Lcmt1	0.9379	1.023334	0.125772	0.001477	0.008127
Phf3	0.96231	1.049887	0.125661	0.00576	0.022134

Cct2	0.988738	1.078509	0.125378	0.000305	0.002697
Msantd4	0.980794	1.069684	0.125163	0.00418	0.017451
Bloc1s4	0.955306	1.041718	0.12493	0.009947	0.033018
Rnf114	0.990258	1.079827	0.124924	0.000243	0.002322
Erg28	0.953078	1.039208	0.124818	0.005622	0.021745
Spout1	0.949282	1.035013	0.124741	0.000228	0.002207
Uqcrb	0.920643	1.003683	0.124589	0.000493	0.003731
Gpaa1	0.928805	1.012544	0.124537	0.009079	0.030933
Setd2	0.9254	1.008695	0.12434	3.71E-05	0.000648
Gpat4	0.949508	1.034893	0.124229	0.000203	0.002033
Aars	0.95524	1.041082	0.124148	0.000462	0.003585
2700081O15Rik	0.957499	1.043325	0.123846	0.000646	0.00448
Zfp961	0.948979	1.033964	0.123738	0.000436	0.003455
Pou5f2	0.9224	1.004895	0.12358	0.007591	0.027182
Armc5	0.974555	1.06145	0.123221	0.008938	0.030569
Siah1a	0.977166	1.063934	0.122734	0.015438	0.045911
2810428I15Rik	0.940752	1.024197	0.122607	0.003759	0.016111
Bmpr1a	0.948239	1.032316	0.122561	0.008114	0.028506
Rbm17	0.93489	1.017621	0.122333	0.000966	0.005948
Rexo4	0.968683	1.054272	0.12215	0.009888	0.032874
Rbm15b	0.978868	1.065128	0.12184	0.007769	0.027659
Zfp780b	0.957403	1.041735	0.12179	0.010537	0.034471
Pdgfa	0.970633	1.055911	0.12149	0.001002	0.006112
Ttc9c	0.937595	1.019582	0.120941	0.010504	0.034404
Ahsa1	0.968014	1.052521	0.120749	0.012175	0.038393
Rabep2	0.975223	1.060312	0.120684	0.001369	0.007683
Wbp4	1.017223	1.105859	0.120531	0.000237	0.00228
Uxt	0.945642	1.027974	0.120437	0.0157	0.046546
Rpl18a	0.973038	1.057683	0.12034	0.000162	0.001732
Foxj2	0.972155	1.056548	0.120099	0.001852	0.009609
Vars	0.960584	1.04387	0.119959	0.008534	0.029568
Ccnt1	0.910414	0.989209	0.119753	0.013112	0.040412
Snx14	0.994186	1.080092	0.119568	0.0065	0.024283

Zfp235	0.913629	0.992534	0.119507	0.011552	0.036924
Anapc1	0.973079	1.056892	0.1192	0.004864	0.019469
Dus11	0.939837	1.020624	0.118968	0.002998	0.013679
Ptprk	0.950191	1.031794	0.118866	0.011733	0.037423
Smg1	0.951257	1.032882	0.118768	0.009053	0.030862
Rfng	0.920196	0.999129	0.11873	0.000409	0.0033
Tubg1	0.963474	1.046002	0.118568	0.001066	0.006354
Mrpl14	0.943651	1.024451	0.118525	0.002366	0.011435
Selenot	0.968445	1.051029	0.11806	0.004754	0.019144
Tmem234	0.912243	0.989947	0.117933	3.83E-05	0.000661
Zdhhc9	0.927959	1.00687	0.117744	0.002875	0.013267
Med12	0.950354	1.03103	0.11755	0.00704	0.025721
Coasy	0.931258	1.01025	0.11746	0.003176	0.014233
Zfp553	0.930092	1.00889	0.117324	0.011882	0.037739
Ergic3	0.956149	1.037147	0.117313	0.000472	0.003618
Ndufaf5	0.982752	1.065967	0.117263	0.010717	0.034945
Gmpr2	0.945146	1.025104	0.117161	0.003199	0.014306
Cstf2t	0.941024	1.020423	0.116865	0.005004	0.019855
E330009J07Rik	0.945752	1.025543	0.116854	0.008005	0.028253
Cenpt	0.954731	1.035095	0.116596	0.011981	0.037975
App12	0.939787	1.018828	0.116504	0.00234	0.011366
Ccnyl1	0.936248	1.014511	0.115822	0.008594	0.02972
Tubgcp6	0.948874	1.027996	0.115547	0.011192	0.036133
Rap1b	0.946317	1.025214	0.11553	0.006723	0.024837
Bex2	0.937428	1.015391	0.115256	0.004399	0.018085
Sptssa	1.016528	1.101033	0.115209	0.008025	0.028295
Rps26	0.950126	1.029109	0.115205	1.48E-05	0.00036
Ncl	0.979682	1.061049	0.115106	0.009091	0.030963
Eif3g	0.940957	1.019077	0.115063	0.000129	0.001478
Rbm19	0.939344	1.016937	0.114505	0.005426	0.021145
Hsd17b4	0.945834	1.02396	0.114501	0.005325	0.020851
Pcbp4	0.941856	1.019507	0.114294	0.011856	0.037691
Park7	0.95819	1.037179	0.114281	0.001435	0.007945

Atic	0.983598	1.064364	0.113851	0.013816	0.041936
Dcaf8	0.95723	1.035571	0.113488	0.003978	0.016772
Arhgap35	0.910794	0.985271	0.113395	0.007669	0.027391
Rufy1	0.991669	1.072681	0.11329	0.008807	0.030272
Nenf	0.958193	1.036101	0.112777	0.000633	0.004435
Avpi1	0.97571	1.054947	0.112646	0.01523	0.045433
Mypop	0.942941	1.01932	0.112367	0.006087	0.023098
Osgep	0.918225	0.992463	0.112166	0.01323	0.040643
Rasa1	0.954943	1.03198	0.111929	0.002885	0.013289
Ubxn4	0.987923	1.067325	0.111528	0.001348	0.007602
Agps	0.957786	1.034667	0.111391	0.006883	0.025312
Sppl2a	0.934791	1.009594	0.11106	0.000319	0.002783
Rnf40	0.975637	1.053674	0.111013	0.002935	0.013454
1700025G04Rik	0.987219	1.066057	0.110843	0.014212	0.04289
Mrgbp	0.963692	1.040349	0.110425	0.003656	0.015811
Ndufa12	0.92261	0.995792	0.110123	0.001021	0.006183
Rps12	0.95885	1.034811	0.109989	0.001984	0.01007
Mta2	0.908769	0.980734	0.109948	0.004307	0.017834
Txnl4b	0.957512	1.033139	0.109672	0.004026	0.016937
Fbl	0.941003	1.015143	0.109412	0.00261	0.012267
Jtb	0.93005	1.003106	0.109094	0.003509	0.015336
Dgcr8	0.940639	1.014153	0.108562	0.008495	0.029464
Med19	0.982261	1.058995	0.108518	0.002692	0.012569
Mknk2	0.960752	1.03535	0.107883	0.013132	0.040416
Pfdn5	0.974153	1.049628	0.107658	0.000472	0.003618
1110004F10Rik	0.971808	1.046942	0.107439	0.016861	0.049161
Snrpf	0.930666	1.002573	0.107371	0.002231	0.010947
Unc119b	0.993739	1.070337	0.107126	0.004817	0.019333
Wdr5	0.939391	1.011787	0.107108	8.32E-05	0.001107
Anapc13	0.952482	1.025858	0.107068	0.011836	0.037662
Tmem101	0.951597	1.024887	0.107043	0.012338	0.038759
Klh15	0.992291	1.068604	0.106893	0.001861	0.009641
Snx15	0.913237	0.983439	0.106847	0.003324	0.014673

Chchd1	0.958256	1.03178	0.106652	0.012126	0.038286
Ncln	0.920702	0.991146	0.106363	0.000326	0.00282
Ipo13	0.952918	1.025746	0.106248	0.006358	0.023915
Dnajc15	0.93839	1.010069	0.106194	0.011373	0.036516
Capn7	0.953669	1.026422	0.106063	0.003742	0.016065
Aagab	0.986689	1.0619	0.105981	0.013474	0.041192
Mrpl22	0.962163	1.035504	0.105981	0.001325	0.007508
Zfp511	0.943004	1.014674	0.105681	0.006066	0.023059
Eed	0.972533	1.046346	0.105541	0.003605	0.015643
Nup205	1.00107	1.076884	0.105319	0.002609	0.012267
Commd2	0.946297	1.017895	0.105225	0.016434	0.048224
Cln8	0.95692	1.029287	0.105175	0.006341	0.023868
Zfp365	0.939277	1.010279	0.10513	0.015801	0.046728
Tmem43	0.986893	1.061266	0.104821	0.011202	0.036144
Srm	0.959971	1.03225	0.10473	0.001509	0.008244
Chd8	0.964081	1.036646	0.104697	0.000263	0.002444
Tor1a	0.963636	1.03615	0.104673	0.001836	0.009558
Aplp1	0.966424	1.039044	0.104528	0.007261	0.026328
Inip	1.019059	1.095194	0.103948	0.011135	0.036027
Vps11	0.956987	1.028469	0.103927	0.006661	0.024712
Appbp2	0.96786	1.040071	0.103811	0.000618	0.00437
Lats1	0.961309	1.032894	0.103619	0.015855	0.046848
Ndufb3	0.93343	1.0027	0.103276	0.00094	0.005838
Rnf111	0.961934	1.033196	0.103104	0.004885	0.019493
Fkbp7	0.960594	1.031607	0.102894	0.010169	0.033576
Ctsb	0.989756	1.062712	0.102606	0.012064	0.038158
Itfg1	0.986291	1.058983	0.102595	0.013957	0.042266
Rnf215	0.975991	1.047753	0.10236	0.000716	0.004822
Actr1a	0.962895	1.033568	0.102183	0.008286	0.028886
Cdkn1b	0.93482	1.003233	0.101896	0.013008	0.040191
Ndufb7	0.970156	1.041125	0.101855	0.002021	0.010235
Hspbp1	0.95009	1.019559	0.101809	0.001692	0.008985
Mfsd12	0.961854	1.03215	0.101762	0.001364	0.007659

Rpl10	0.951221	1.020665	0.101657	0.001916	0.009821
Coq10a	0.953888	1.023435	0.101528	0.000537	0.003956
Tgfbrap1	0.94193	1.010526	0.101414	0.003568	0.015537
Ppip5k1	0.954185	1.023621	0.101341	0.011062	0.035877
Ufc1	0.943785	1.012232	0.10101	0.000967	0.00595
AI597479	0.957246	1.026641	0.10097	0.001283	0.007352
Sec24b	0.980048	1.051034	0.100884	0.016779	0.049033
Fam53c	0.950012	1.018748	0.10078	0.001454	0.008021
Slc35a1	0.923049	0.989712	0.100601	0.008789	0.030247
Lrp1	0.955858	1.02455	0.100122	0.00782	0.027781
Prcc	0.940209	1.007739	0.100069	0.007501	0.026996
Eif3d	0.962588	1.031699	0.100032	2.27E-05	0.000479
Scp2	0.941728	1.009295	0.099965	0.006778	0.024995
Rps18	0.968639	1.038108	0.099925	0.004048	0.016999
Rps15a	0.970589	1.040161	0.099875	0.016549	0.048536
Fbxw8	0.936908	1.003912	0.099654	0.008196	0.028738
Pak1ip1	0.97242	1.041873	0.099528	0.009699	0.032474
Imp11	0.961475	1.029963	0.099271	0.000474	0.003622
Ino80e	0.962527	1.031072	0.099247	0.000475	0.003623
Rsb1	0.999608	1.070371	0.098677	0.009263	0.031378
Snx17	0.95502	1.022479	0.09847	0.000573	0.004135
Raf1	0.948147	1.014884	0.098132	0.002511	0.011946
Psmb4	0.956604	1.023862	0.098027	0.00057	0.004115
Rpl28	0.963403	1.031125	0.098007	0.003041	0.013829
Rpl23	0.958521	1.025771	0.097826	0.016808	0.04908
Bccip	1.0309	1.103166	0.097745	0.005828	0.022348
Hcfc1r1	0.935739	1.001316	0.09772	0.013318	0.040867
Bop1	0.961703	1.028538	0.096931	0.01087	0.03535
Sgta	0.951995	1.017453	0.095937	0.007944	0.028122
Irf2bp1	0.970229	1.03692	0.095907	0.009385	0.031659
Fxn	0.93931	1.003668	0.095609	0.00114	0.006715
Ftsj3	0.946728	1.011168	0.095002	0.001694	0.008985
Sap18b	0.962759	1.028147	0.0948	0.004288	0.017793

Pdcd5	0.949896	1.014382	0.09476	0.00623	0.023542
Letmd1	0.931732	0.994599	0.094201	0.003784	0.016196
Abcg4	0.943002	1.006569	0.094112	0.005292	0.02076
Safb	0.979512	1.045446	0.093984	0.007271	0.026348
Rnf34	0.98271	1.048838	0.093954	0.003235	0.014402
Eif1a	1.003325	1.07073	0.093806	0.008241	0.028799
Irf2	0.977173	1.042743	0.093698	0.012295	0.038695
Paf1	0.951344	1.014958	0.093381	0.004255	0.017685
Dnajc4	0.962782	1.026986	0.093135	0.002582	0.012179
Ccdc97	0.94621	1.009265	0.093073	0.015318	0.045606
Prrt1	0.922831	0.984223	0.092918	0.005586	0.021662
Timm10b	0.963342	1.02705	0.092386	0.006665	0.024718
Taf1	0.943921	1.006254	0.092256	0.009836	0.032744
Slc26a6	0.943368	1.005597	0.092159	0.006728	0.024846
Bms1	0.966974	1.030258	0.091457	0.009273	0.031402
Bap1	0.944923	1.006528	0.091119	0.000306	0.002698
Sdhd	0.939277	1.000252	0.09074	0.003486	0.015251
Sf3a3	0.955005	1.016768	0.090411	0.002907	0.013365
Supt6	0.941798	1.002512	0.09013	0.004901	0.019536
Ccnk	0.970918	1.03344	0.090033	0.006746	0.024897
Ubxn1	0.953831	1.015111	0.089831	0.006127	0.023193
Cxxc1	0.938785	0.998762	0.089346	0.001554	0.008432
Wdr75	0.958361	1.019538	0.089274	0.001378	0.007716
Gtf2b	1.012074	1.076626	0.089203	0.001062	0.006352
BC005624	0.988396	1.051365	0.089103	0.016756	0.049018
Sod1	0.986241	1.048849	0.088795	0.004478	0.018297
Taf10	0.924023	0.982543	0.088592	0.014875	0.044562
Ercc4	0.950374	1.01052	0.088531	0.004349	0.017956
Brd7	0.950346	1.010384	0.08838	0.012961	0.040121
Ogfr	0.923481	0.981817	0.088371	0.002266	0.011067
Dync1li2	0.990783	1.053126	0.088036	0.008421	0.029235
2410015M20Rik	0.979282	1.04087	0.087993	0.002713	0.012663
Golgb1	0.972652	1.033566	0.087635	0.00429	0.017796

Ccs	0.961239	1.021416	0.087605	0.002883	0.013289
Eif3b	0.946701	1.005823	0.087396	0.004319	0.017868
Snrpd2	1.006382	1.069052	0.087154	0.000807	0.005264
Prpf6	0.998933	1.060924	0.086861	0.007046	0.025721
Elob	0.953769	1.012794	0.086629	0.000355	0.00299
Psm2	0.962323	1.021812	0.086536	0.004356	0.01797
Rnf168	0.954986	1.013925	0.0864	0.011277	0.036284
Sem1	0.945626	1.00374	0.086044	0.008808	0.030272
Cpsf2	0.990915	1.051625	0.085786	0.008023	0.028295
Msh6	0.968524	1.027783	0.085676	0.001388	0.007757
Bptf	0.965639	1.02451	0.085379	0.015462	0.045971
Clpp	0.985583	1.045449	0.085073	0.002029	0.010272
Fmn2	0.998218	1.058111	0.084063	0.009454	0.031808
Asx1	0.967167	1.025147	0.083993	0.012692	0.039578
Mrpl38	0.993141	1.052644	0.083947	0.001211	0.00703
Bckdha	0.968944	1.026561	0.083334	0.006873	0.025284
Rlim	0.952443	1.009066	0.083316	0.003059	0.013896
Sf3a2	0.95874	1.01531	0.08271	0.008569	0.029661
Rpl24	0.953374	1.009623	0.082702	0.001127	0.006647
Narfl	0.960798	1.017419	0.08261	0.000822	0.005332
Rpl15	0.964327	1.020982	0.082364	0.009805	0.03269
Mfsd14a	1.014163	1.073631	0.082208	0.010508	0.034407
Ube4b	0.94711	1.00201	0.081294	0.015492	0.046034
Rpl321	0.943234	0.996984	0.079955	0.011771	0.03751
Ctns	0.958195	1.012735	0.079866	0.013373	0.040965
Rpl12	0.969821	1.024564	0.07922	0.009456	0.031808
Gars	0.966652	1.02031	0.077938	0.003683	0.015888
Acp6	0.963928	1.017078	0.077433	0.017054	0.049535
Dctpp1	0.946078	0.997091	0.075765	0.008216	0.028767
Arglu1	0.990622	1.043777	0.075407	0.014764	0.044267
Unc50	0.955866	1.006975	0.075148	0.00537	0.02101
Mvb12b	0.969426	1.020461	0.074018	0.004927	0.019604
Ndufb10	0.972788	1.023894	0.073869	0.009144	0.031103

Usp39	0.979227	1.02909	0.071653	3.79E-05	0.000659
Rpl14	1.000781	1.049742	0.068908	0.009138	0.031093
Scyl1	0.990276	1.038712	0.068893	0.016622	0.048694
Clptm1	0.935837	0.980987	0.067977	0.006701	0.024774
Hectd1	0.941136	0.986357	0.067708	0.009883	0.032867
Prpf4	0.95178	0.997408	0.067556	0.005631	0.021759
Rps23	0.961649	1.006702	0.066054	0.003036	0.013818
Rpl37a	0.969997	1.014462	0.064663	0.003733	0.016053
Ik	0.970549	1.014161	0.063414	0.004955	0.019683
Rpl27	0.959284	1.002174	0.063103	0.00833	0.029013
Dazap2	0.961035	1.003966	0.063049	0.015864	0.046862
Rpl6	0.955721	0.998285	0.062862	0.007778	0.027673
Rps28	0.977921	1.021023	0.062226	0.012423	0.038961
Rpl9	0.983597	1.026168	0.061127	0.013861	0.042038
Wrnip1	0.976153	1.018113	0.06072	0.007514	0.027015
Gosr2	0.958644	0.997994	0.058036	0.012315	0.038709
Rps14	0.970975	1.009893	0.056697	0.012296	0.038695
Uqcrc1	0.958804	0.996943	0.056275	0.014495	0.043584
Rps19	0.990258	1.025257	0.05011	0.014969	0.044754

Supplementary Table 6. The gene list of 1728 downregulated genes in 52 weeks

Gene Symbol	Average of normalized data in WT mice	Average of normalized data in 3xTg mice	Log2FC	p	q
Rbbp9	29.2128	0.294613	-6.63163	0.00014	0.001569
Fam205a2	5.268748	0.287721	-4.19472	0.00635	0.023892
Ttl2	5.200771	0.501302	-3.37497	0.000237	0.00228
Gm20878	2.261651	0.461658	-2.29248	5.06E-12	1.07E-08
Gm1987	3.487344	0.729345	-2.25746	0.011973	0.037961
Shank2	3.878624	0.851438	-2.18757	0.005235	0.020582
Pla2g4e	2.341392	0.5783	-2.01748	0.00462	0.018747
Serpina3n	3.398986	0.906862	-1.90615	0.000373	0.003095
Oosp3	1.374577	0.377773	-1.8634	5.17E-07	4.38E-05
Nlrp2	1.68129	0.511954	-1.71548	0.000111	0.001339
Nphs1	2.585154	0.792905	-1.70503	1.91E-08	5.47E-06
Bex6	1.12681	0.359163	-1.64953	3.1E-06	0.000127
Pop4	2.566595	0.823076	-1.64076	1.27E-14	6.75E-11
Serpina3j	2.567917	0.835637	-1.61965	0.000443	0.003497
Col6a5	2.898954	0.946719	-1.61452	1.27E-05	0.000323
Serpina1c	2.602707	0.873812	-1.57462	0.003132	0.014091
Mamdc2	2.551899	0.878773	-1.53801	0.007193	0.026111
Nepn	1.853558	0.639721	-1.53478	0.001933	0.009879
Fn3krp	2.431575	0.849041	-1.51799	0.003682	0.015888
Krtap11-1	2.121894	0.744716	-1.51059	0.00016	0.001713
Adat2	2.583143	0.907509	-1.50914	0.010719	0.034945
Tspan11	2.486001	0.87514	-1.50624	9.55E-05	0.001208
Col11a1	1.894033	0.669382	-1.50056	9.43E-05	0.001198
Wwox	2.588942	0.928546	-1.47932	0.008244	0.0288
Hddc3	2.200668	0.830577	-1.40576	9.88E-07	6.23E-05
Gm19345	2.264289	0.854712	-1.40555	4.3E-07	4E-05
Alpk1	2.497062	0.947877	-1.39746	0.000104	0.001283
Krtap10-10	1.487699	0.570726	-1.38221	0.004027	0.016937
Adcy10	1.448614	0.562213	-1.36549	1.55E-05	0.000372

Spatc1	1.389298	0.545427	-1.3489	1.15E-05	0.000298
Tmc7	2.419495	0.95907	-1.335	0.006399	0.024014
Gm4884	1.378229	0.546326	-1.33498	2.62E-06	0.000116
Elane	1.523233	0.611566	-1.31656	0.005049	0.019966
Vmn1r48	1.73583	0.714047	-1.28154	7.43E-06	0.000222
Ttc34	1.359004	0.559197	-1.28112	2.65E-05	0.000527
Smc1b	1.447665	0.598891	-1.27336	0.002464	0.011779
Olf1252	1.615228	0.672303	-1.26456	0.006587	0.024497
Slc51b	1.413909	0.599492	-1.23788	1.11E-06	6.77E-05
Prim2	1.432544	0.608287	-1.23576	0.000454	0.003546
Jaml	2.060782	0.876178	-1.2339	0.000641	0.00446
Olf1339	1.821899	0.779833	-1.22421	0.009324	0.031534
Colca2	1.524456	0.670208	-1.18561	1.74E-06	8.48E-05
Nanos2	2.056939	0.905885	-1.1831	2.45E-05	0.000498
Ccny	1.720417	0.758302	-1.18191	5.93E-05	0.000879
Smg8	1.135394	0.501447	-1.17902	2.26E-06	0.000105
Gm17660	2.006599	0.897603	-1.1606	0.009063	0.030889
Rnase1	1.317527	0.589834	-1.15945	0.001271	0.007308
Pgc	1.335702	0.59903	-1.1569	2.23E-06	0.000104
Ndnf	1.291949	0.590625	-1.12923	2.67E-08	6.72E-06
Gm13304	1.128954	0.518011	-1.12393	0.000486	0.003684
Exd1	2.056058	0.951169	-1.11211	0.005767	0.022148
Pam	2.095117	0.970919	-1.10961	0.001641	0.008783
Reg1	1.17625	0.545437	-1.10871	8.61E-05	0.001132
Glrp1	1.543726	0.723461	-1.09343	0.00137	0.007688
Baiap2l2	1.34001	0.62811	-1.09316	0.001323	0.007503
Vmn2r33	1.870033	0.879357	-1.08854	0.001766	0.009292
Prokr2	1.566777	0.743275	-1.07583	2.14E-05	0.000458
Vmn2r35	1.831437	0.874485	-1.06647	0.001387	0.007751
Pyroxd2	1.892761	0.905152	-1.06426	0.011155	0.036039
Slc25a2	1.388934	0.666067	-1.06024	8.68E-06	0.000246
Mettl24	1.606185	0.775561	-1.05033	0.003363	0.014807
Il5ra	1.267223	0.616318	-1.03992	5.34E-05	0.000814

Msi1	1.310465	0.638067	-1.0383	5.28E-06	0.000181
Fpr2	1.617647	0.791739	-1.0308	2.93E-07	3.11E-05
Cyp2e1	1.438568	0.706431	-1.02601	0.001346	0.007596
Atp6v1g3	1.307934	0.649552	-1.00977	3.82E-05	0.000661
Nyap2	1.58737	0.788705	-1.00908	0.000523	0.003886
Myrfl	1.29566	0.644019	-1.00851	2.36E-05	0.000486
Krtap5-5	1.337873	0.66683	-1.00455	0.001361	0.007653
Ccnd1	1.668639	0.847598	-0.97722	0.007179	0.026093
Notum	1.360577	0.692432	-0.97447	0.001806	0.009433
Rbp3	1.333234	0.680856	-0.96951	0.000345	0.002945
Slc5a5	1.655396	0.845542	-0.96923	0.004666	0.0189
Selp	1.345711	0.688557	-0.96672	0.000283	0.002549
Chrna5	1.416618	0.726467	-0.96348	0.00249	0.011877
Cldn23	1.193848	0.612294	-0.96332	4.07E-05	0.000679
5730559C18Rik	1.232985	0.635259	-0.95674	2.03E-05	0.000447
Wnt2	1.492392	0.780659	-0.93486	0.004388	0.018049
Filip1	1.533626	0.805206	-0.92952	3.24E-05	0.000595
4930544G11Rik	1.125771	0.591956	-0.92735	1.94E-05	0.000433
Tmem132d	1.538596	0.814096	-0.91834	2.43E-06	0.00011
Cts7	1.369479	0.725743	-0.9161	0.000529	0.003922
Atp1a2	1.552415	0.832427	-0.89912	5.8E-05	0.000866
Cd276	1.145557	0.614427	-0.89874	0.000194	0.001976
Syce1	1.847969	0.991569	-0.89816	0.012804	0.039738
Madcam1	1.262604	0.677818	-0.89743	0.00141	0.007843
Umodl1	1.342164	0.721896	-0.8947	0.002367	0.011435
Olfir933	1.051352	0.566308	-0.89259	2.06E-07	2.54E-05
Stpg2	1.124541	0.606075	-0.89177	4.07E-05	0.000679
Defb38	1.227767	0.664212	-0.88632	0.001932	0.009877
Golt1a	1.246038	0.674185	-0.88613	3.39E-06	0.000136
Cmtm2b	1.109422	0.603246	-0.87899	3.41E-08	8.03E-06
Gm5795	1.064737	0.582528	-0.8701	0.005976	0.022786
Ces2f	1.117311	0.612664	-0.86686	0.000104	0.001283
Tcl1b5	1.355127	0.744093	-0.86487	0.004783	0.019226

Vax2	1.2222	0.671794	-0.86339	9.53E-06	0.000265
Gm10634	1.391764	0.765869	-0.86175	0.000466	0.003597
Lyp1a11	1.538777	0.848761	-0.85835	0.00012	0.001418
Adgrg3	1.329193	0.73813	-0.8486	0.000549	0.004004
Rec8	1.47423	0.821893	-0.84294	0.004849	0.019423
Zkscan3	1.363337	0.760423	-0.84227	1.61E-05	0.000378
Vmn2r65	1.277469	0.71328	-0.84075	0.000834	0.005378
Foxm1	1.43542	0.801611	-0.8405	1.1E-05	0.000291
C1ql2	1.472883	0.822614	-0.84035	3.57E-05	0.000635
Spry4	1.067366	0.59648	-0.83951	1.57E-08	4.75E-06
Wfs1	1.26975	0.712289	-0.83401	7.75E-05	0.001051
Spdl1	1.288279	0.726477	-0.82646	0.00051	0.003827
P2rx5	1.380638	0.78599	-0.81275	0.013068	0.040323
Tgfbr31	1.199159	0.685105	-0.80763	0.000454	0.003546
Tcf15	1.463586	0.839629	-0.80168	0.002168	0.010741
3632451O06Rik	1.155321	0.665377	-0.79605	0.002965	0.013569
Xirp1	1.417515	0.81639	-0.79603	0.001284	0.007354
Lst1	1.280521	0.738992	-0.7931	0.000422	0.003371
Gm6040	1.212197	0.699627	-0.79297	2.57E-05	0.000515
Rex2	1.272364	0.735096	-0.79151	5.64E-05	0.000848
1700025F22Rik	1.049303	0.607863	-0.78761	5.33E-07	4.39E-05
Tgm3	1.318461	0.764893	-0.78552	5.72E-06	0.000189
Twist1	1.313177	0.763105	-0.78311	0.004248	0.01768
Cerkl	1.441592	0.841205	-0.77713	0.001293	0.007386
Tubb1	1.342842	0.785719	-0.7732	0.00204	0.010299
Olfir745	1.10643	0.647519	-0.77292	9.18E-06	0.000259
Olfir531	1.266754	0.741857	-0.77192	0.000852	0.005445
Zfp972	1.314049	0.771089	-0.76905	0.008787	0.030247
Has1	1.405976	0.826666	-0.76619	3.17E-05	0.00059
Olfir53	1.286572	0.758122	-0.76303	5.21E-05	0.000801
Krt9	1.520263	0.896829	-0.76142	0.000247	0.002343
Cd4	1.223125	0.72351	-0.75749	0.001215	0.00705
Slc2a8	1.38091	0.820214	-0.75155	2.09E-06	9.86E-05

Olfir538	1.277428	0.758878	-0.7513	0.004562	0.018564
Card10	1.574907	0.935855	-0.75091	0.000133	0.00152
Wnt9a	1.178643	0.70058	-0.75051	4.59E-05	0.000738
A2ml1	1.201676	0.715324	-0.74838	7.83E-06	0.000232
Mis18bp1	1.168352	0.699083	-0.74094	9.73E-05	0.001221
Aldh1a3	1.453608	0.870117	-0.74036	0.012589	0.039371
Rtp2	1.210859	0.725706	-0.73857	7.23E-06	0.00022
Slc25a46	1.279214	0.767892	-0.73628	1.28E-09	9.04E-07
Adam26b	1.303434	0.784802	-0.73192	1.61E-05	0.000378
Olfml1	1.360342	0.820931	-0.72864	2.86E-05	0.000553
Slc19a3	1.116887	0.674493	-0.72761	0.000354	0.00299
Wbp11	1.570496	0.950177	-0.72495	0.00028	0.002542
Dtd1	1.423505	0.862744	-0.72244	0.000305	0.002697
Cdcp1	1.090036	0.661308	-0.72098	3.77E-08	8.49E-06
Tll1	1.192385	0.724606	-0.71858	0.000255	0.002391
Cd244	1.116782	0.679422	-0.71697	4.11E-05	0.000679
4930447C04Rik	1.417451	0.864335	-0.71364	0.000766	0.005052
Disp3	1.190342	0.727318	-0.71072	7.42E-05	0.001018
Efcab3	1.222675	0.747879	-0.70916	0.003474	0.015204
Vmn1r65	1.158867	0.709039	-0.70878	0.000115	0.001379
S100a11	1.310563	0.803097	-0.70654	0.000276	0.002518
Ifna13	1.202024	0.737163	-0.70541	6.78E-05	0.00096
Gm16442	1.202923	0.738738	-0.70341	0.001304	0.007432
2610528J11Rik	1.165145	0.715741	-0.703	0.00162	0.008707
Sstyl	1.253236	0.773239	-0.69667	0.000383	0.003141
Lhfpl5	1.26742	0.78231	-0.69608	0.0016	0.008635
Padi1	1.190869	0.735782	-0.69466	3.2E-05	0.000593
Prr15	1.238368	0.76767	-0.68988	0.00471	0.019026
BC027072	1.265711	0.785116	-0.68897	0.003637	0.015751
Stc1	1.126263	0.699709	-0.68672	0.000158	0.001708
Neb	1.272033	0.790731	-0.68588	0.002246	0.011004
Pdhb	1.358225	0.84583	-0.68328	0.001819	0.009487
Oxsm	1.122242	0.699008	-0.683	1.2E-08	4.09E-06

H2-Ob	1.113325	0.693475	-0.68296	0.000169	0.001781
Olfir885	1.228684	0.765966	-0.68176	3.82E-06	0.000146
Myo1h	1.229384	0.767625	-0.67946	0.001942	0.009908
Kdm4d	1.207613	0.755448	-0.67675	6.26E-05	0.000912
Soat2	1.197647	0.749607	-0.676	0.000852	0.005445
Lctl	1.222438	0.765435	-0.67541	0.00043	0.003413
Olfir715b	1.108546	0.694323	-0.67499	6.76E-06	0.00021
Wars2	1.397115	0.876971	-0.67185	0.002592	0.012222
Gpr157	1.179285	0.740766	-0.67082	2.13E-05	0.000458
Agmat	1.22937	0.772989	-0.6694	3.89E-05	0.000663
Kras	1.528457	0.961537	-0.66866	4.47E-07	4.12E-05
Gstm6	1.478468	0.930362	-0.66824	0.006689	0.024747
Entpd4	1.398407	0.880573	-0.66727	0.000313	0.002738
Rnf224	1.11763	0.705532	-0.66366	2.24E-07	2.67E-05
Btnl2	1.271135	0.804639	-0.6597	1.57E-07	2.16E-05
Spag4	1.39209	0.883729	-0.65558	0.002431	0.011644
Kcng2	1.089688	0.691768	-0.65555	6.13E-07	4.56E-05
Ear10	1.277687	0.81251	-0.65308	0.000459	0.003577
Olfir699	1.115896	0.710344	-0.65161	2.08E-05	0.000455
Sorl1	1.320622	0.841053	-0.65095	1.31E-05	0.000331
Pthlh	1.40875	0.898539	-0.64876	0.000281	0.002543
Erich5	1.131834	0.723382	-0.64583	6.13E-07	4.56E-05
Gm5093	1.162559	0.743704	-0.6445	3.58E-05	0.000636
Fbxo47	1.292631	0.827175	-0.64405	0.001904	0.009772
Olfir1350	1.166832	0.747543	-0.64237	0.003972	0.016754
Tmem125	1.312722	0.841703	-0.64118	0.007424	0.026793
Zfp345	1.102468	0.708827	-0.63723	1.37E-07	2.01E-05
Gpr101	1.349002	0.868091	-0.63597	0.003161	0.014194
3110079O15Rik	1.388629	0.898382	-0.62826	0.001121	0.006619
Pax2	1.245133	0.806279	-0.62695	0.001164	0.006825
Ssxb9	1.481202	0.959567	-0.62631	0.00122	0.007071
Zfp951	1.314938	0.852041	-0.626	0.001712	0.009071
Olfir46	1.211804	0.786239	-0.62412	2.13E-05	0.000458

Rpe65	1.26814	0.823407	-0.62304	0.016846	0.049148
Zfp330	1.397074	0.90782	-0.62193	0.009257	0.031365
Doxl2	1.254805	0.815982	-0.62085	0.016564	0.048552
Vmn2r43	1.522682	0.994889	-0.61401	0.012333	0.038756
Olfr951	1.132662	0.740276	-0.61358	0.000141	0.001576
Prune2	1.442426	0.942773	-0.61352	4.97E-07	4.32E-05
Pign	1.11931	0.732006	-0.61268	5.55E-07	4.39E-05
Tbc1d31	1.41932	0.928655	-0.61198	0.007557	0.027124
Olfr187	1.016433	0.665629	-0.61072	5.54E-06	0.000185
Olfr1048	1.137137	0.745625	-0.60888	0.007512	0.027015
Rbm20	1.367207	0.896746	-0.60846	0.012692	0.039578
Mios	1.337815	0.87792	-0.60772	0.000402	0.003256
Pragl	1.434352	0.941861	-0.60681	0.000326	0.002821
Gm15319	1.645515	1.081647	-0.60531	0.001171	0.006849
Ccr8	1.141738	0.752205	-0.60203	0.007972	0.028175
Defa24	1.160894	0.765105	-0.60151	0.004848	0.019423
Olfr96	1.168536	0.770402	-0.60102	3.71E-05	0.000648
Prrx2	1.192728	0.786492	-0.60076	4.68E-05	0.000746
Wdr95	1.188462	0.784738	-0.59881	0.015302	0.045597
Fam217a	1.273933	0.842095	-0.59723	0.011886	0.037739
Lgals4	1.483277	0.981652	-0.5955	2.8E-05	0.000544
Stk32b	1.215506	0.806033	-0.59265	0.011868	0.037718
Nxpe2	1.077694	0.714911	-0.59211	0.000331	0.002853
Cfap58	1.172006	0.777813	-0.59148	0.013585	0.041389
Calm4	1.213448	0.806357	-0.58962	0.005671	0.021873
Slc23a4	1.191769	0.792372	-0.58885	0.005992	0.022838
Olfr541	1.28478	0.854635	-0.58814	0.002882	0.013289
Defa1	1.196465	0.796008	-0.58792	0.000435	0.003452
Gm2696	1.196965	0.79773	-0.58541	1.95E-05	0.000433
Six4	1.417945	0.945449	-0.58473	4.28E-05	0.000699
Gjd3	1.202278	0.802382	-0.58341	0.008642	0.029877
Klhl14	1.258825	0.840346	-0.58302	0.003201	0.014309
C1rl	1.005864	0.67189	-0.58214	6.89E-09	2.7E-06

Wdr25	1.117142	0.746227	-0.58213	3.89E-05	0.000663
Adra2b	1.082012	0.72333	-0.58099	6.48E-07	4.57E-05
Gm6306	1.137183	0.760258	-0.5809	0.000542	0.003972
Onecut1	1.452235	0.97136	-0.5802	8.78E-05	0.001147
Notch3	1.236782	0.827304	-0.5801	0.003231	0.014396
Lce1a2	1.209426	0.809089	-0.57995	2.98E-05	0.000573
Sprr2h	1.165766	0.780227	-0.57931	0.001242	0.007162
Olf700	1.138238	0.763373	-0.57634	0.001312	0.007467
Aldh1a7	1.555594	1.043456	-0.5761	0.010552	0.034507
Gm5878	1.223894	0.820996	-0.57603	2.25E-05	0.000479
Slfn9	1.150801	0.772995	-0.57411	5.98E-08	1.07E-05
Vps37a	1.372525	0.921972	-0.57404	8.87E-05	0.001156
Tifa	1.423578	0.956521	-0.57365	0.000621	0.004376
Peg12	1.050747	0.706168	-0.57333	7.35E-06	0.000221
Skint9	1.087824	0.731804	-0.57192	7.86E-06	0.000232
Clcnkb	1.2106	0.814754	-0.57128	0.00134	0.007579
Ndst4	1.174186	0.791046	-0.56983	0.000647	0.004481
Ascl5	1.043679	0.704254	-0.56751	0.000322	0.002791
Pitx3	1.058051	0.714807	-0.56578	3.49E-06	0.000137
Egfl8	1.230456	0.832081	-0.5644	6.17E-05	0.000904
Ttll1	1.100147	0.744373	-0.5636	0.000135	0.001533
Cfap54	1.178313	0.799816	-0.55898	3.89E-07	3.69E-05
Ankrd33	1.149377	0.780303	-0.55875	0.001527	0.008325
Mypn	1.316827	0.894249	-0.55832	0.00332	0.014662
9030025P20Rik	1.326588	0.901678	-0.55704	9.9E-05	0.001229
Gm6557	1.096069	0.745045	-0.55694	2.24E-07	2.67E-05
Apitd1	1.30854	0.889569	-0.55678	0.000671	0.004606
Pglyrp1	1.369542	0.932158	-0.55505	0.006068	0.023059
Deup1	1.207155	0.822745	-0.55309	0.004024	0.016937
Gins3	1.131909	0.772207	-0.5517	9.2E-09	3.25E-06
Cplx4	1.016182	0.693344	-0.55152	0.000835	0.005382
AI429214	1.166769	0.797068	-0.54974	0.000803	0.005241
Ppt1	1.36569	0.933398	-0.54907	1.45E-06	7.82E-05

Dgke	1.342667	0.918873	-0.54716	0.000378	0.003109
Armex3	1.401915	0.959914	-0.54642	7.53E-05	0.001029
A430033K04Rik	1.207285	0.826652	-0.54641	0.001874	0.009672
Oas1d	1.192574	0.8167	-0.5462	0.00258	0.012175
Dpysl4	1.208112	0.827662	-0.54564	2.34E-08	6.05E-06
Olfir845	1.171073	0.802701	-0.5449	2.51E-05	0.000505
Pdcd1	1.147643	0.786642	-0.54489	0.002744	0.012788
Iqcd	1.10659	0.759025	-0.5439	0.001822	0.009498
Csn3	1.084095	0.744072	-0.54298	0.000331	0.002853
Avpr1a	1.039318	0.71398	-0.54168	0.00094	0.005838
Tcte1	1.112481	0.764634	-0.54094	1.53E-06	8.04E-05
Zfp558	1.076297	0.740591	-0.53933	0.001665	0.008886
Dclk3	1.380739	0.950697	-0.53838	0.000339	0.002901
Hamp2	1.231143	0.84836	-0.53725	0.00816	0.028639
Gm29692	1.104106	0.761261	-0.53642	0.001638	0.008777
Ppan	1.257433	0.867869	-0.53493	0.000189	0.001931
Srgap2	1.144727	0.791216	-0.53286	9.48E-06	0.000264
Azgp1	1.309892	0.907264	-0.52985	0.003161	0.014194
Olfir1123	1.15883	0.802948	-0.52929	7.7E-06	0.000228
Ifna5	1.07477	0.745397	-0.52795	7.75E-05	0.001051
ErbB4	1.10871	0.769233	-0.52739	0.000148	0.001636
Fthl17a	1.088724	0.756518	-0.52519	0.000912	0.005718
Tas2r113	1.114624	0.775204	-0.52391	0.016878	0.049174
Clnk	1.11508	0.77654	-0.52201	0.00602	0.022909
Tssk5	1.220429	0.8506	-0.52083	2.26E-08	6E-06
Gm5617	1.199089	0.835743	-0.52081	0.000234	0.002254
Gm10639	1.243199	0.866569	-0.52067	0.012315	0.038709
Gpc4	1.189237	0.829606	-0.51954	4.16E-07	3.9E-05
Dnase2a	1.058891	0.739233	-0.51845	2.73E-08	6.72E-06
Gramd2	1.115788	0.77922	-0.51796	0.000925	0.005768
Tnfrsf10b	1.256428	0.877648	-0.51761	0.000387	0.003164
Olfir1500	1.070692	0.748012	-0.51741	1.54E-06	8.04E-05
Chrb2	1.200982	0.839099	-0.5173	2.49E-06	0.000111

Olf1342	1.060615	0.741157	-0.51705	0.001371	0.007689
Nmnat3	1.151061	0.805194	-0.51556	0.000619	0.004371
Pxt1	1.067591	0.747362	-0.51448	0.000234	0.002254
Tmc2	1.171515	0.820664	-0.51351	0.005476	0.021316
Me3	1.288978	0.903668	-0.51236	3.23E-06	0.000131
Itga11	1.04954	0.736709	-0.51059	0.000759	0.005022
Msx2	1.08179	0.759773	-0.50978	1.44E-05	0.000355
Olf1444	1.137026	0.799085	-0.50884	1.61E-06	8.12E-05
2900011O08Rik	1.529286	1.07491	-0.50864	3.5E-06	0.000137
Crygd	1.10738	0.778457	-0.50846	0.002576	0.012169
9230110C19Rik	1.171339	0.824187	-0.50711	5.97E-05	0.000883
Olf1549	1.08503	0.763701	-0.50666	0.000144	0.001602
Agmo	1.207346	0.850217	-0.50594	0.002857	0.013202
Apo18	1.298829	0.915122	-0.50518	6.27E-06	0.000199
Zkscan2	1.036705	0.730852	-0.50435	0.000533	0.003931
Zkscan16	1.453058	1.025274	-0.50308	0.00064	0.004453
Tm4sf5	1.089858	0.769318	-0.50249	4.63E-06	0.000165
Prdm14	1.080496	0.762891	-0.50215	6.11E-06	0.000197
C130079G13Rik	1.174032	0.828966	-0.50209	0.010855	0.035323
6430571L13Rik	1.199018	0.846616	-0.50207	0.000855	0.005459
Sec14l5	1.24998	0.883133	-0.5012	0.005045	0.019966
Olf1960	1.175419	0.830896	-0.50044	0.000395	0.003209
Vmn1r87	1.192942	0.845576	-0.49652	0.007587	0.027179
Fev	1.155408	0.819942	-0.49481	0.006005	0.022869
Bcor11	1.153769	0.81956	-0.49343	3.41E-05	0.000616
Bmp10	1.223859	0.869618	-0.49298	0.0065	0.024283
Cubn	1.088091	0.773415	-0.49248	0.001645	0.008799
Zfp804a	1.30916	0.930612	-0.49239	1.58E-05	0.000374
Krtap4-1	1.119146	0.795931	-0.49168	1.85E-05	0.000421
Harb1	1.014048	0.721284	-0.49149	5.2E-08	1E-05
Timm8a2	1.172896	0.835223	-0.48984	0.00385	0.016396
Nppc	1.248314	0.889645	-0.48868	0.000159	0.001709
Ido2	1.208663	0.861594	-0.48833	4.04E-05	0.000678

Gm13271	1.02192	0.72852	-0.48824	5.06E-07	4.35E-05
Kntc1	1.016175	0.724427	-0.48824	3.76E-07	3.69E-05
Hcn2	1.16936	0.834416	-0.48688	2.05E-05	0.00045
Olf1026	1.084247	0.774595	-0.48518	0.002212	0.010862
Armex6	1.245252	0.889952	-0.48464	0.000226	0.002194
Afmid	1.313885	0.939562	-0.48378	0.007114	0.025928
Ifna11	1.165798	0.833862	-0.48344	0.003292	0.014595
Gast	1.185888	0.848799	-0.48247	0.005107	0.020154
Ky	1.050119	0.751796	-0.48214	0.000363	0.003037
Gm13178	1.068998	0.765394	-0.48198	0.00437	0.018014
Col5a2	1.208025	0.865388	-0.48123	0.008552	0.029622
4930563E22Rik	1.231977	0.882758	-0.48089	0.006392	0.024004
Olf160	1.051402	0.753402	-0.48082	6.1E-05	0.000896
Prr36	1.204217	0.863368	-0.48005	5.46E-06	0.000184
Olf1008	1.040021	0.745741	-0.47987	0.000303	0.002689
E330017A01Rik	1.116535	0.800753	-0.4796	0.000424	0.00338
Wfdc13	1.076139	0.772011	-0.47917	0.001047	0.006283
Chrna2	1.075939	0.771887	-0.47913	4.3E-06	0.000159
Krt6b	1.205704	0.865254	-0.47868	0.004711	0.019026
Olf197	1.233844	0.885739	-0.47821	0.006797	0.025049
Zfp112	1.060504	0.7622	-0.47651	0.006627	0.024638
Scn4a	1.236777	0.891603	-0.47211	3.1E-05	0.000589
Ppp1r3b	1.109374	0.799911	-0.47184	7.81E-07	5.27E-05
Qpctl	1.363517	0.983631	-0.47114	9.52E-08	1.54E-05
BC147527	1.085551	0.783583	-0.47027	4.2E-05	0.000689
Slc39a13	1.18274	0.854456	-0.46905	0.004072	0.017086
Zfp772	1.186497	0.857246	-0.46893	2.28E-05	0.000479
Atp8b4	1.215603	0.878472	-0.4686	7.36E-05	0.001015
Lin28a	1.108957	0.801524	-0.46839	1.23E-05	0.000315
Olfml3	1.083335	0.783178	-0.46807	0.000283	0.002549
Guca2a	1.163173	0.840954	-0.46797	0.002566	0.012147
AF366264	1.263822	0.914346	-0.46698	0.012026	0.038061
Plekho2	1.196334	0.865559	-0.46692	0.003435	0.015068

Gm6588	1.243048	0.89954	-0.46662	0.016953	0.049352
B3gat2	1.197488	0.866904	-0.46607	0.000351	0.002972
Ttc39b	1.139736	0.825455	-0.46544	1.64E-05	0.000382
Cep44	1.281496	0.928169	-0.46537	0.005903	0.022541
Tnfrsf14	1.108145	0.802752	-0.46512	0.012668	0.039538
Rgs4	1.058441	0.76682	-0.46498	0.000151	0.001653
Olf1093	1.098625	0.79643	-0.46408	0.000369	0.003077
Tmem181a	1.183549	0.858668	-0.46295	0.001221	0.007071
Srp54a	1.170604	0.850131	-0.4615	0.004678	0.018936
Slc40a1	1.094644	0.795259	-0.46096	0.011359	0.036482
Psd4	1.240196	0.901108	-0.4608	3.66E-05	0.000645
Hlcs	1.190913	0.865502	-0.46046	8.97E-05	0.001164
Serpina9	1.215494	0.883397	-0.46041	0.000364	0.003038
Acacb	1.091842	0.793657	-0.46018	9.14E-06	0.000258
Sycp3	1.489751	1.08369	-0.45912	0.01463	0.043944
Scnn1a	1.095579	0.797076	-0.4589	7.39E-05	0.001016
Gm19668	1.090976	0.794714	-0.45711	1.46E-09	9.65E-07
Ldoc1	1.273498	0.92887	-0.45525	0.001424	0.007901
Gm10318	1.072012	0.781926	-0.45522	0.000107	0.001305
Rnf157	1.214986	0.886505	-0.45474	0.002464	0.011779
Gzma	1.034371	0.754736	-0.45471	0.003175	0.014233
Ruvbl2	1.081036	0.788993	-0.45433	0.017034	0.04949
Gpatch11	1.356137	0.989904	-0.45414	0.003641	0.015763
Sohlh2	1.061247	0.77579	-0.45202	0.003099	0.014014
Mrps12	1.301592	0.952394	-0.45065	7.03E-10	5.91E-07
Ckmt1	1.221752	0.895184	-0.44869	0.000118	0.001398
Arr3	1.030953	0.755527	-0.44842	0.00451	0.0184
Sdk2	1.080302	0.792131	-0.44762	1.43E-06	7.82E-05
Dock10	1.532193	1.124342	-0.44652	0.000149	0.001637
Lce1j	1.073386	0.787738	-0.44638	8.13E-07	5.45E-05
Lrig1	1.232788	0.904777	-0.44629	0.007148	0.026024
Zfp672	1.118519	0.82093	-0.44626	2.21E-09	1.38E-06
2810021J22Rik	1.214774	0.891654	-0.44613	0.000809	0.005274

Hist1h4h	1.134603	0.833176	-0.4455	1.23E-06	7.14E-05
Smco4	1.128085	0.828838	-0.44471	9.63E-05	0.001211
Imp4	1.12678	0.827924	-0.44464	0.005377	0.021014
Pdzrn3	1.136124	0.835168	-0.44398	0.000871	0.005532
Kansl1	1.138275	0.836834	-0.44384	8.05E-05	0.001079
AU018091	1.166151	0.8577	-0.44321	0.000144	0.001604
Vmn2r17	1.171652	0.862522	-0.44191	0.008212	0.028767
Mroh3	1.171461	0.862626	-0.4415	0.002911	0.013379
Zswim4	1.054858	0.776766	-0.4415	1.37E-06	7.66E-05
Nr3c2	1.150363	0.847707	-0.44045	1.46E-05	0.000357
Adgrv1	1.137656	0.838526	-0.44014	0.000707	0.004802
Zbtb16	1.251279	0.922448	-0.43986	0.00122	0.007071
Cptp	1.336334	0.985664	-0.43911	0.00569	0.02194
Lonrf2	1.308783	0.966656	-0.43715	0.005224	0.020547
LOC101056073	1.098322	0.811391	-0.43683	4.58E-05	0.000738
Car9	1.066997	0.789241	-0.43502	2.09E-07	2.54E-05
Rif1	1.230191	0.910108	-0.43477	0.009661	0.032394
B3galt6	1.076775	0.79679	-0.43444	0.000639	0.00445
Epha3	1.121807	0.830254	-0.4342	0.009456	0.031808
Fgfbp3	1.225936	0.908059	-0.43303	0.012117	0.038279
Cyp2w1	1.150552	0.852534	-0.4325	9.85E-05	0.001225
Ppp5c	0.993333	0.736157	-0.43226	3.96E-08	8.61E-06
Fkbp15	1.043569	0.773427	-0.43219	3.25E-05	0.000595
Slc22a3	1.178324	0.873543	-0.43179	0.004757	0.019149
Map9	1.118731	0.829572	-0.43142	0.003194	0.014291
Ripply2	1.088813	0.807516	-0.43119	3.65E-06	0.000141
Zcchc24	1.091732	0.809726	-0.43111	1.94E-05	0.000433
Myh8	1.149925	0.853016	-0.4309	0.003307	0.014652
Tnfai3	1.242639	0.92182	-0.43085	0.000306	0.002697
Spr2b	1.093297	0.81122	-0.43052	2.53E-05	0.000508
Zfp385a	1.085378	0.805638	-0.42999	0.000207	0.002061
Pcdha9	1.245301	0.924625	-0.42955	0.000422	0.003371
Trim72	1.180308	0.877125	-0.42831	0.008754	0.030187

Slc3a1	1.31745	0.979242	-0.42801	0.000366	0.003052
Tas2r117	1.0282	0.764402	-0.42772	0.006892	0.025325
Ddias	1.208306	0.898445	-0.42748	0.016629	0.0487
Nudt5	1.097535	0.816231	-0.42722	4.37E-08	8.9E-06
E2f4	1.033436	0.768571	-0.4272	0.000374	0.003095
Zfp974	1.291743	0.960792	-0.42702	0.002646	0.012416
Kcnab3	1.186004	0.882413	-0.42658	0.012309	0.038709
St8sia6	1.221705	0.909109	-0.42637	0.003539	0.015444
Pura	1.111536	0.827895	-0.42503	2.94E-06	0.000124
Glis1	1.054279	0.785418	-0.42472	0.000817	0.005306
Zfp61	1.196355	0.891435	-0.42444	7.43E-06	0.000222
Grem2	1.176604	0.877011	-0.42396	0.000226	0.002198
Syt17	1.180762	0.88025	-0.42373	3.15E-05	0.00059
Afg3l2	1.243283	0.927207	-0.42319	3.96E-05	0.00067
Abca17	1.030218	0.768732	-0.4224	0.001968	0.010004
Tpgs1	1.161826	0.867073	-0.42217	2.44E-05	0.000496
Nceh1	1.331664	0.994216	-0.4216	2.12E-08	5.91E-06
Casp14	1.14975	0.858664	-0.42115	0.000166	0.00176
Tmem74b	1.181087	0.882181	-0.42097	0.001321	0.007497
Kcnq1	1.185987	0.885846	-0.42096	0.003953	0.016708
Tox2	1.058835	0.791043	-0.42065	5.12E-05	0.000794
Hepacam2	1.02592	0.766806	-0.41998	1.58E-05	0.000374
Tmem202	1.260816	0.942443	-0.41988	0.000166	0.00176
Olfir319	1.020554	0.762951	-0.41969	0.000124	0.00145
Gabbr2	1.307867	0.977816	-0.41958	4.81E-07	4.25E-05
Sptlc3	1.13616	0.849607	-0.4193	0.000382	0.003139
4930503B20Rik	1.119342	0.837125	-0.41913	0.000312	0.002731
Zc3h12c	1.272856	0.952067	-0.41894	6.19E-05	0.000904
C330021F23Rik	1.155602	0.864721	-0.41834	3.41E-06	0.000136
Cyp2d34	1.188866	0.889779	-0.41807	0.013272	0.040763
BC030499	1.127048	0.843975	-0.41728	0.003115	0.014048
Tmem200c	1.156357	0.866227	-0.41677	0.000513	0.003845
Spdef	1.313494	0.983981	-0.41671	0.012257	0.038595

Tspear	1.016123	0.761336	-0.41647	0.0087	0.030036
Pola1	1.157208	0.867054	-0.41645	4E-05	0.000675
P2rx3	1.167092	0.874461	-0.41645	1.71E-06	8.47E-05
Olfir570	1.129095	0.846208	-0.41608	5.28E-05	0.000809
Rap1gap2	1.046893	0.784632	-0.41603	1.28E-06	7.37E-05
Zfp941	1.109614	0.831887	-0.4156	0.004253	0.017684
Olfir884	1.180716	0.885462	-0.41516	0.011588	0.037028
Nedd4	1.312378	0.984426	-0.41483	1.49E-06	7.96E-05
Ift46	1.261909	0.946727	-0.41459	0.000125	0.001457
Zfp709	1.11587	0.837283	-0.41438	1.54E-07	2.16E-05
Nxph4	1.014654	0.761605	-0.41387	0.000656	0.00452
Ftl1	1.357274	1.018865	-0.41375	2.69E-09	1.5E-06
Myl2	1.231312	0.924316	-0.41374	0.008755	0.030187
Cdc40	1.23507	0.927158	-0.41371	3.14E-05	0.00059
Arl4c	1.103848	0.828742	-0.41355	0.000486	0.003684
Gad11	1.269295	0.953467	-0.41277	0.0144	0.043346
Foxh1	1.024818	0.769936	-0.41256	3.85E-07	3.69E-05
Iqej	1.181503	0.887745	-0.41241	0.000415	0.003331
Klra22	1.127714	0.84734	-0.41239	0.003253	0.014449
Aldh3b2	1.097389	0.824561	-0.41238	0.012126	0.038286
Papolb	1.144541	0.859991	-0.41238	0.012818	0.03976
Gm30302	1.10414	0.829643	-0.41236	2.08E-06	9.86E-05
Prpmp5	1.042061	0.783394	-0.41163	7.26E-11	1.1E-07
Ccdc61	1.315672	0.989165	-0.41152	0.000147	0.001625
Coa4	1.16971	0.879722	-0.41103	9.02E-05	0.001166
Smc1	1.025608	0.771496	-0.41075	1.29E-08	4.26E-06
Fam210b	1.129201	0.849528	-0.41057	9.22E-06	0.000259
Fgf23	1.101897	0.829066	-0.41043	2.58E-06	0.000114
Il24	1.161011	0.873628	-0.41029	0.003848	0.016393
Megf9	1.30276	0.980349	-0.4102	0.000185	0.001904
Gt(pU21)140Imeg	1.136178	0.855408	-0.4095	0.004425	0.018143
Mrgprg	1.107536	0.833866	-0.40947	0.000569	0.004114
Pcdhb4	1.268667	0.955317	-0.40926	0.00869	0.030013

Cd209d	1.112712	0.837935	-0.40917	0.004829	0.019371
Knstrn	1.159423	0.87358	-0.4084	3.86E-05	0.000663
Gpr26	1.324096	0.997664	-0.40838	0.000244	0.002327
Sim2	1.054084	0.794299	-0.40823	1.46E-06	7.86E-05
Kcna7	1.146355	0.863916	-0.40809	4.91E-08	9.82E-06
Nudt15	1.176679	0.886964	-0.40777	0.000182	0.001881
Slc7a5	1.112086	0.838498	-0.40739	0.001021	0.006183
Crybg3	1.12032	0.845019	-0.40685	0.000516	0.003856
Fxyd6	1.119989	0.84487	-0.40668	0.013525	0.04126
Mc4r	1.256875	0.948405	-0.40627	0.00305	0.013864
Aqp2	1.075668	0.81175	-0.40613	9.64E-06	0.000266
Myoz1	1.076929	0.813075	-0.40546	0.007687	0.027406
Gm14496	1.154521	0.871703	-0.40539	0.000204	0.002039
Ptpn3	1.064586	0.804425	-0.40426	1.58E-06	8.04E-05
Cand2	1.077663	0.814408	-0.40408	0.003689	0.015888
Pidd1	1.076522	0.813545	-0.40408	5.25E-05	0.000806
Apoh	1.089109	0.823187	-0.40386	0.000516	0.003856
Pex10	1.137629	0.859865	-0.40385	6.77E-05	0.000959
Krt222	1.133297	0.856761	-0.40356	2.64E-05	0.000527
Rnf212	1.083996	0.819618	-0.40334	0.000129	0.001477
Rnf180	1.052894	0.796144	-0.40326	3.12E-07	3.19E-05
Cyp2c70	1.053077	0.797492	-0.40107	5.43E-05	0.000827
Phka2	1.164332	0.882696	-0.39951	0.001973	0.010023
Mcidas	1.103222	0.836403	-0.39945	5.14E-06	0.000178
Zfp983	1.159322	0.879325	-0.39881	0.000286	0.002565
Lypd5	1.030837	0.78195	-0.39867	4.19E-06	0.000155
Gm10697	1.138472	0.863605	-0.39866	7.14E-06	0.000218
Gsr	1.258428	0.954741	-0.39844	6.33E-06	0.0002
Ces5a	1.210798	0.918749	-0.39822	0.012425	0.038961
Grin2b	1.305589	0.991022	-0.39771	2.7E-05	0.000532
Nell2	1.459158	1.107769	-0.39748	6.47E-05	0.000927
Olfir722	1.234038	0.937089	-0.39713	0.002831	0.01311
Coil	1.129924	0.85827	-0.39672	3.2E-05	0.000593

Ubash3b	1.126742	0.856461	-0.3957	5.77E-05	0.000862
Gbp9	1.103439	0.839279	-0.39478	0.005882	0.022507
Gm5592	1.142051	0.868683	-0.39473	0.003076	0.013957
Olf1148	1.055052	0.802741	-0.39431	0.006927	0.025374
Aff2	1.273482	0.969008	-0.3942	0.008857	0.030371
Git1	1.098853	0.836188	-0.3941	6.95E-05	0.000973
Shank3	1.069186	0.81363	-0.39407	5.45E-05	0.000828
Zfp658	1.078307	0.820899	-0.39349	1.32E-06	7.5E-05
Gm3435	1.198836	0.913117	-0.39276	0.001742	0.009188
Gfod1	1.101662	0.839514	-0.39206	0.003755	0.016102
Gfy	1.000753	0.76265	-0.39199	7.68E-05	0.001044
Olf1402	1.2152	0.926157	-0.39186	3.69E-05	0.000648
Olf128	1.14599	0.87376	-0.39129	0.008677	0.029977
Iws1	1.245402	0.951003	-0.38909	0.00733	0.026526
Nlrp3	1.190098	0.908947	-0.38881	0.007588	0.027179
Atp7b	1.089505	0.832442	-0.38825	8E-05	0.001075
AW146154	1.116343	0.853041	-0.38809	3.9E-07	3.69E-05
Vmn1r70	1.096246	0.837704	-0.38806	1.08E-05	0.000288
Hcn4	1.128881	0.862883	-0.38766	0.007446	0.026853
Arxes2	1.118251	0.855134	-0.38702	1.1E-06	6.77E-05
Slc34a1	1.154829	0.883264	-0.38676	0.001655	0.008841
Fbxo39	1.104243	0.844734	-0.38649	6.45E-06	0.000202
Adam23	1.1835	0.90621	-0.38514	0.000515	0.003854
C7	1.079359	0.826469	-0.38514	8.22E-06	0.000238
Ms4a18	1.011254	0.77445	-0.3849	0.000227	0.002203
Bpifa5	1.034057	0.791942	-0.38485	0.000113	0.001365
Ksr2	1.125757	0.862188	-0.38482	0.001621	0.008707
Crebrf	1.233023	0.944384	-0.38475	0.000108	0.001312
Flt3	1.184978	0.90793	-0.38421	0.010858	0.035323
Slc5a4a	1.016507	0.778941	-0.38403	0.00092	0.005744
2310009A05Rik	1.067784	0.818268	-0.38398	2.26E-05	0.000479
Oacyl	1.147906	0.880131	-0.38321	0.003364	0.014808
Gm3448	1.241263	0.951975	-0.38281	0.011105	0.035962

Tlhc2	1.075254	0.824716	-0.38271	0.0024	0.011515
Naip7	1.055815	0.809855	-0.38262	0.00046	0.003582
Efcab2	1.345468	1.032242	-0.38233	1.33E-05	0.000334
Hist1h1a	1.075583	0.825341	-0.38206	0.001678	0.008944
Mns1	1.30362	1.000377	-0.38198	0.005876	0.022498
Rab36	1.059595	0.813212	-0.38181	0.000133	0.00152
Padi2	1.198717	0.920885	-0.3804	0.014098	0.04263
Ttc9	1.092042	0.839612	-0.37923	0.000662	0.004561
Lelp1	1.134701	0.872451	-0.37917	0.000465	0.003597
Etnk2	1.063015	0.817905	-0.37816	0.001382	0.007728
Sympk	1.267965	0.976556	-0.37674	7.15E-05	0.00099
Chd4	1.152497	0.887757	-0.37653	0.001269	0.0073
Cyp4a10	1.010537	0.778628	-0.37612	0.01271	0.039597
St8sia3	1.161871	0.895331	-0.37596	0.000234	0.002254
Gabbr2	1.128319	0.869503	-0.37591	1.03E-05	0.000277
2310011J03Rik	1.121899	0.864589	-0.37586	0.003239	0.014404
Trim71	1.137019	0.876323	-0.37572	0.000104	0.001283
Cabp7	1.069904	0.824787	-0.37539	1.55E-06	8.04E-05
Hes1	1.152041	0.888177	-0.37527	0.00044	0.003482
Nrsn1	1.140629	0.87975	-0.37466	4.13E-06	0.000154
Mpc2	1.033984	0.797805	-0.3741	0.000622	0.00438
Rap2b	1.085511	0.837575	-0.37409	7.95E-06	0.000233
Gm14305	1.173081	0.905244	-0.37392	2.44E-05	0.000496
S1pr1	1.222674	0.944	-0.37318	1.08E-06	6.71E-05
Tgif2lx1	1.023395	0.790432	-0.37265	0.00016	0.001713
Ush1g	1.039003	0.802758	-0.37216	0.00047	0.003612
Snrnp35	1.061565	0.820332	-0.37191	0.002799	0.012989
Olfir229	1.014351	0.783852	-0.3719	0.001955	0.009948
Cldnd2	1.130516	0.87423	-0.3709	0.009954	0.033033
Sorcs3	1.099365	0.850247	-0.37072	0.000198	0.002004
Lgals6	1.178389	0.911492	-0.37051	0.003957	0.016708
Xylt1	1.129541	0.873834	-0.37031	0.003891	0.016522
Kif26b	1.184919	0.916763	-0.37017	0.009537	0.032019

Hist2h2bb	1.229823	0.951783	-0.36975	4.09E-05	0.000679
Ccser1	1.135483	0.87883	-0.36965	0.000395	0.003209
Map3k10	1.1984	0.927565	-0.36959	1.63E-10	1.92E-07
Raet1b	1.086174	0.840909	-0.36923	0.000199	0.00201
Zc3h6	0.990353	0.766891	-0.36892	0.000717	0.004824
Oog2	1.032962	0.800247	-0.36827	0.004419	0.018143
Grid1	1.114083	0.863122	-0.36822	0.00035	0.002966
March3	1.026732	0.795783	-0.36761	4.65E-06	0.000165
LOC102634296	1.018923	0.789826	-0.36744	0.012817	0.03976
Zfp619	1.124239	0.871531	-0.36732	3.04E-06	0.000127
Olfir629	1.054867	0.817767	-0.3673	7.32E-06	0.000221
Nrp	1.040166	0.806845	-0.36645	0.009415	0.031728
Icosl	1.061371	0.823345	-0.36636	0.000398	0.003228
Uchl1	1.182412	0.917435	-0.36605	0.000371	0.003086
Srebf2	1.092582	0.847899	-0.36578	0.007571	0.027164
Plekha5	1.329098	1.031474	-0.36574	0.000722	0.004843
Scgb2b15	1.048444	0.813793	-0.36552	9.15E-05	0.001177
Cmya5	1.12506	0.873443	-0.36522	0.013074	0.040331
Olfir1307	1.132039	0.879017	-0.36496	0.006391	0.024004
Vmn2r16	1.061747	0.824494	-0.36486	0.007446	0.026853
LOC102638913	1.051048	0.816203	-0.36483	0.001291	0.007378
Tspan9	1.137262	0.883255	-0.36466	0.0018	0.00941
Nepro	1.104535	0.85808	-0.36426	2.12E-05	0.000457
Crym	1.133067	0.880378	-0.36404	0.011099	0.035952
Gm42372	1.266303	0.983984	-0.36392	0.000254	0.002381
Krtap9-1	1.046772	0.813855	-0.3631	3.84E-07	3.69E-05
Thap12	1.245282	0.968308	-0.36293	1.48E-05	0.00036
Cd3e	1.178882	0.916692	-0.36291	0.004027	0.016937
Xk	1.101723	0.856861	-0.36263	1.05E-05	0.000282
Parp16	1.136341	0.883827	-0.36256	0.000869	0.005522
Depdc7	1.099556	0.855978	-0.36127	0.000349	0.002966
Ccdc25	1.121694	0.873287	-0.36115	1.2E-06	7.08E-05
Cd47	1.205404	0.938643	-0.36087	0.000899	0.005653

Polr1b	1.142365	0.89004	-0.36008	0.003281	0.014561
Map1s	1.268943	0.988994	-0.35959	0.009168	0.031155
Selenon	1.137877	0.88709	-0.35919	0.000256	0.0024
Crybg2	1.149215	0.896664	-0.35801	0.000585	0.004189
Gm45951	1.126133	0.878661	-0.358	4.65E-07	4.18E-05
Tacr2	1.117697	0.872138	-0.3579	0.000221	0.002161
Ifna2	1.071664	0.836328	-0.35771	0.001349	0.007605
Olfir571	1.09115	0.851583	-0.35763	4.85E-07	4.25E-05
Raver1	1.069953	0.835247	-0.35727	0.000272	0.002496
Zfp791	1.108573	0.865699	-0.35677	2.2E-08	5.99E-06
Olfir901	1.070279	0.835853	-0.35667	0.01463	0.043944
Sart1	1.069359	0.835757	-0.35559	1.8E-07	2.38E-05
Muc5b	1.187493	0.928109	-0.35555	0.009746	0.032547
Xxy1t1	1.171216	0.915604	-0.35521	0.000127	0.00147
Veph1	1.085806	0.848949	-0.35502	9.78E-05	0.001222
BC024139	1.135132	0.887667	-0.35477	0.014655	0.043985
Cttnbp2	1.148661	0.89864	-0.35414	0.01039	0.034142
Fam71e1	1.205449	0.9431	-0.35409	0.001791	0.009369
Onecut2	1.086359	0.849942	-0.35406	0.000607	0.004302
Secisbp2l	1.269412	0.993229	-0.35396	1.13E-06	6.87E-05
Aqp11	1.099633	0.860615	-0.35358	3.8E-05	0.000659
Wsb2	1.081515	0.846487	-0.35349	8.07E-08	1.38E-05
Fam163a	1.057126	0.827499	-0.35332	0.003191	0.014284
Pla2g4b	0.998831	0.781872	-0.35331	2.79E-08	6.72E-06
Ccdc42	1.085868	0.850016	-0.35329	3.46E-06	0.000137
Ube2l3	1.162302	0.910315	-0.35255	5.33E-06	0.000182
Rb1	1.090969	0.854563	-0.35235	1.32E-05	0.000332
Gpr62	1.204821	0.944164	-0.35171	0.003856	0.016399
Ostf1	1.117129	0.87564	-0.35139	0.000374	0.003096
1700001C02Rik	1.15761	0.907498	-0.35118	0.004725	0.019065
Chst12	1.032856	0.809965	-0.35071	4.62E-06	0.000165
Aqp6	1.013075	0.794726	-0.35021	0.000582	0.004177
Map6d1	1.116519	0.876233	-0.34962	1.14E-09	8.61E-07

Dlx3	1.052434	0.826627	-0.34842	0.005997	0.022848
Hes7	1.040276	0.817303	-0.34802	1.13E-05	0.000297
Emc10	1.155518	0.908008	-0.34776	5.4E-08	1E-05
Rarres1	1.075183	0.844983	-0.34759	0.0061	0.023133
Prkca	1.045235	0.821719	-0.34711	0.000203	0.002033
Prr29	1.066437	0.83851	-0.3469	5.43E-06	0.000184
Ifna14	1.052369	0.827692	-0.34647	0.000288	0.002583
Kcnmb2	1.111491	0.874635	-0.34574	0.000487	0.003692
Pex14	0.999941	0.786926	-0.34561	6.39E-08	1.11E-05
9530057J20Rik	1.185141	0.932692	-0.34559	0.006032	0.022947
2310079G19Rik	1.087847	0.856322	-0.34525	0.012555	0.039277
Wdfy3	1.327881	1.045456	-0.34499	1.84E-06	8.81E-05
Supt7l	1.144158	0.90082	-0.34498	0.000125	0.001453
Ppp2r5e	1.321227	1.040586	-0.34448	0.000588	0.004197
Dnah8	1.087277	0.856368	-0.34442	0.000958	0.005913
Taar4	1.062785	0.837138	-0.34431	0.014715	0.044133
1190002N15Rik	1.163478	0.916981	-0.34348	0.000471	0.003618
Marf1	1.047499	0.825579	-0.34347	0.000128	0.001476
Ap5z1	1.032936	0.814393	-0.34295	3.05E-06	0.000127
Vmn2r11l	1.184199	0.934006	-0.34241	0.012006	0.038017
Ptpn5	1.182125	0.933073	-0.34132	0.006927	0.025374
Dicer1	1.105102	0.872359	-0.34119	4.24E-05	0.000694
Odf3l2	1.076975	0.850173	-0.34116	0.000781	0.005136
Hapln3	1.112659	0.87839	-0.34108	5.12E-08	1E-05
Spr2k	1.042115	0.8229	-0.34073	3.71E-06	0.000143
Psg29	1.079129	0.852414	-0.34024	9.54E-07	6.06E-05
Lrrc2	1.062148	0.839112	-0.34005	0.008818	0.030277
Gm14308	1.198338	0.947	-0.3396	3.95E-06	0.000149
Dnajb3	1.009275	0.797598	-0.33958	0.007013	0.025631
Ovgpl	1.205434	0.952815	-0.33928	1.98E-05	0.00044
BC048507	0.986677	0.779917	-0.33926	3.08E-07	3.19E-05
Ikzf3	1.058848	0.837092	-0.33904	0.00187	0.00967
Wdr83os	1.096303	0.866944	-0.33864	0.001675	0.008931

Fstl4	1.139191	0.900865	-0.33863	0.011338	0.036438
Gipc3	1.006219	0.795749	-0.33856	2.3E-05	0.000479
Nipal3	1.051287	0.83187	-0.33773	0.000422	0.003372
Krtap5-2	1.026659	0.812432	-0.33764	1.28E-06	7.37E-05
4932411N23Rik	1.091046	0.863433	-0.33756	0.008187	0.028714
Kcnv1	1.061626	0.840162	-0.33754	9.04E-05	0.001167
Sgtb	1.079196	0.854154	-0.33739	3.1E-06	0.000127
Dcst1	1.069959	0.846965	-0.33718	0.004438	0.018184
Gm29776	1.064134	0.842675	-0.33663	3.16E-05	0.00059
Ccdc187	1.007716	0.798019	-0.33659	5.23E-06	0.00018
Cetn1	1.014993	0.804046	-0.33612	1.4E-05	0.000348
Gm10142	1.111585	0.880656	-0.33597	0.000119	0.001407
Cacng8	1.191023	0.94374	-0.33574	2.27E-05	0.000479
Tmc4	1.220034	0.967188	-0.33505	0.014241	0.042943
Sept1	1.006994	0.798388	-0.33489	0.000887	0.005606
Lym9	1.14459	0.907617	-0.33468	9.65E-05	0.001212
Siglech	1.062033	0.842277	-0.33446	0.003689	0.015888
Lpo	1.113714	0.883422	-0.3342	0.001859	0.009635
Fam204a	1.140174	0.904513	-0.33404	0.001786	0.009354
Olfir744	1.146348	0.909507	-0.33389	3.53E-05	0.000631
Mn1	1.089978	0.864786	-0.33388	0.000133	0.00152
Cdon	1.051558	0.834526	-0.3335	8.89E-05	0.001156
Cstad	1.090493	0.866176	-0.33225	0.010297	0.033915
Acot6	1.138006	0.904274	-0.33168	0.002916	0.013396
Tas2r109	1.05128	0.835509	-0.33142	0.005815	0.022307
Kif19a	1.108277	0.880892	-0.33128	2.26E-05	0.000479
Pcdhb20	1.133761	0.901701	-0.3304	5.47E-07	4.39E-05
Tspyl1	1.051106	0.836212	-0.32997	8.84E-07	5.75E-05
Lep	1.05084	0.836601	-0.32893	8.42E-07	5.58E-05
Kcnd1	1.07026	0.852176	-0.32874	7E-07	4.82E-05
Gsdmc	1.027719	0.818327	-0.3287	0.002209	0.010856
Sec63	1.21587	0.968495	-0.32817	0.000165	0.001749
Cdh22	1.177209	0.937975	-0.32775	0.005634	0.021761

Klhdc7a	1.069387	0.852466	-0.32707	0.000117	0.001393
Gm10778	1.064747	0.848819	-0.32698	2.3E-06	0.000105
Rdh9	1.086602	0.866748	-0.32614	0.000218	0.002137
Cog8	1.060337	0.84602	-0.32576	0.000839	0.005387
Gm10324	1.028216	0.820584	-0.32542	6.75E-07	4.71E-05
Gpa33	1.05646	0.843384	-0.32498	1.88E-06	8.97E-05
Twist2	1.156448	0.923768	-0.3241	0.006237	0.023552
Ankrd12	1.192034	0.95232	-0.32391	1.68E-05	0.000388
Ccdc138	1.139178	0.910129	-0.32385	1.64E-05	0.000382
Mettl7a2	1.104307	0.882942	-0.32275	6.09E-06	0.000197
Ccer2	1.056892	0.845158	-0.32253	3.59E-05	0.000636
Sstr4	1.080698	0.864263	-0.32242	0.00666	0.024712
Ryr2	1.271042	1.016657	-0.32218	0.009707	0.032474
Adam21	1.117202	0.8937	-0.32203	0.00476	0.019152
Gkn1	1.10645	0.885101	-0.32202	0.002031	0.010277
Muc5ac	1.013734	0.811485	-0.32104	0.003309	0.014652
Lrrc10	1.161498	0.929948	-0.32077	0.004626	0.018756
Neto1	1.161541	0.929985	-0.32076	0.001285	0.007358
Btnl10	1.139001	0.912079	-0.32054	0.000692	0.004711
Galr3	1.074512	0.860466	-0.32049	0.002104	0.010536
Ifnab	1.082045	0.866685	-0.32018	0.003173	0.014233
Nudt18	1.038735	0.832227	-0.31978	0.000497	0.003743
Tmem150c	1.109503	0.888975	-0.3197	4.76E-05	0.000757
Pcdhga1	1.126447	0.902583	-0.31965	0.006455	0.024159
Sugp1	1.178833	0.944874	-0.31917	0.002503	0.011923
Hipk4	1.119059	0.896985	-0.31913	0.001877	0.009673
Ankrd34b	1.246386	0.999059	-0.31911	0.015998	0.047205
Rab40b	1.11797	0.896298	-0.31883	0.00391	0.016575
Mcam	1.1172	0.895848	-0.31856	4.63E-07	4.18E-05
Scgb1b3	1.067987	0.856563	-0.31826	0.000199	0.002006
Gm5640	1.12096	0.899255	-0.31793	0.006371	0.023946
Zfp976	1.121357	0.8999	-0.31741	1.57E-06	8.04E-05
Cwh43	1.184329	0.950958	-0.31662	0.006182	0.023376

Ano8	1.040818	0.836126	-0.31592	0.002135	0.010625
Prss28	1.120493	0.900157	-0.31588	0.000725	0.004856
9930111J21Rik1	1.136065	0.913076	-0.31524	2.82E-07	3.06E-05
Clcn6	1.174508	0.943995	-0.3152	0.003689	0.015888
Rpl34-ps1	1.12996	0.908491	-0.31473	0.000138	0.001553
Gsta4	1.140438	0.917179	-0.31431	9.8E-05	0.001222
Dusp10	1.066273	0.857671	-0.31408	0.004447	0.01821
Gata5	1.084863	0.872682	-0.31399	0.000557	0.004049
Zfp46	1.081898	0.870449	-0.31373	0.001848	0.009606
Utf1	1.043201	0.839627	-0.3132	0.000375	0.003096
Epha4	1.189176	0.957169	-0.31312	0.000447	0.003521
Nxnl1	1.107265	0.891263	-0.31308	0.009224	0.031286
Gtf2h5	1.109998	0.893511	-0.313	0.011665	0.03723
LOC102637615	1.062917	0.855622	-0.31298	4.79E-05	0.00076
Krtap5-1	1.082365	0.87151	-0.3126	0.000645	0.00448
Abhd3	1.169731	0.941858	-0.31259	0.009328	0.031538
Pou4f1	1.064565	0.857961	-0.31128	0.004175	0.017436
1700003F12Rik	1.117549	0.900985	-0.31076	3.08E-05	0.000588
Zfp970	1.102861	0.889183	-0.3107	0.00065	0.004496
Tenm4	1.060114	0.85481	-0.31054	0.000722	0.004844
Kctd8	1.211693	0.977094	-0.31045	0.006928	0.025374
Fam109b	1.083814	0.874723	-0.30922	6.51E-07	4.57E-05
Zfp609	1.067903	0.86219	-0.3087	0.000104	0.001283
Slc22a13	1.035321	0.835909	-0.30866	0.000494	0.003732
Eif4g3	1.281001	1.034283	-0.30864	0.000303	0.002689
Aldh3b3	1.105184	0.892338	-0.30862	0.000216	0.002124
Gucy2d	1.060135	0.856106	-0.30839	0.000453	0.003546
Osbpl6	1.099228	0.887797	-0.30819	0.016302	0.047929
Grin1os	1.02644	0.829019	-0.30817	0.000797	0.005223
BC051019	1.058025	0.85489	-0.30756	0.000164	0.00174
Zfp599	1.048334	0.847236	-0.30726	3.42E-05	0.000617
2610318N02Rik	1.212834	0.980281	-0.30711	0.013393	0.041004
Wnt1	1.049882	0.848697	-0.30691	0.000282	0.002549

Gabrg3	1.07902	0.872268	-0.30688	0.000581	0.004176
Igdcc3	1.044922	0.845284	-0.30589	3.34E-06	0.000135
Gm1123	1.074311	0.869241	-0.30558	0.009147	0.031104
Slc28a1	1.02944	0.833072	-0.30535	1.94E-07	2.48E-05
Vmn1r204	1.033586	0.836513	-0.3052	0.010128	0.033472
C330007P06Rik	1.056837	0.85553	-0.30486	0.000253	0.002381
Gap43	1.140536	0.923484	-0.30455	0.015006	0.044833
Gm30698	1.015369	0.822444	-0.30401	0.000939	0.005837
Mlxipl	1.03832	0.841295	-0.30357	4.49E-06	0.000162
Fryl	1.092415	0.885157	-0.30352	6.28E-06	0.000199
Pcdhb16	1.203203	0.975046	-0.30334	0.002189	0.010808
Zfp566	1.158448	0.938829	-0.30326	0.000281	0.002543
Gm46608	1.055537	0.855525	-0.3031	6.36E-07	4.56E-05
Plpp6	1.114877	0.904177	-0.30221	0.005898	0.022537
Mab2112	1.088274	0.882612	-0.30219	0.016323	0.047965
Jpt1	1.031393	0.83649	-0.30217	0.001928	0.009865
Ap5m1	1.091254	0.885519	-0.30139	0.000197	0.001997
Cldn15	1.084389	0.87998	-0.30134	0.005886	0.022515
Gm10651	1.167072	0.947101	-0.3013	0.00065	0.004496
Fam84a	1.159094	0.940653	-0.30126	0.012728	0.039631
Ppcs	1.122476	0.910977	-0.3012	0.002076	0.010436
Frat1	1.061962	0.861879	-0.30117	0.00039	0.003183
Mettl7a3	1.058594	0.859374	-0.30079	0.000214	0.002108
Ptk7	1.21749	0.988402	-0.30074	0.008109	0.0285
Rit2	1.165511	0.946224	-0.30071	0.002844	0.013162
Vps4a	1.070544	0.869141	-0.30068	9.41E-05	0.001198
Gpr25	1.074359	0.872252	-0.30066	0.003032	0.013804
Npvf	1.047962	0.850844	-0.30062	0.013862	0.042038
LOC108167597	1.093002	0.887642	-0.30025	0.014321	0.043135
Fhl3	1.119242	0.909066	-0.30006	0.000604	0.004291
Loxhd1	1.026282	0.833868	-0.29954	0.010408	0.034163
Prr9	1.068127	0.868055	-0.29922	0.006585	0.024496
Klk9	1.029726	0.836886	-0.29916	0.00459	0.018634

Kcnh4	0.976943	0.794577	-0.29809	0.000372	0.003092
U2af114	0.998868	0.812448	-0.29802	0.000247	0.002343
1700001K19Rik	1.028425	0.836716	-0.29763	2.7E-05	0.000532
Prl3b1	1.042316	0.848125	-0.29744	0.010403	0.034157
Tmem100	1.12576	0.916097	-0.29733	0.015854	0.046848
Gabra5	1.118058	0.909845	-0.2973	9.21E-05	0.00118
Gpr6	1.100735	0.895799	-0.29722	2.88E-05	0.000556
Lrrc19	1.070339	0.871291	-0.29684	0.000149	0.001643
Nelfcd	1.058328	0.861554	-0.29677	2.32E-07	2.68E-05
Actl6b	1.066073	0.867937	-0.29664	0.000216	0.002126
Rexo2	1.125971	0.916812	-0.29647	0.000279	0.002537
Ddn	1.142006	0.93024	-0.2959	0.001122	0.006619
Olf287	1.056777	0.861103	-0.29541	0.006972	0.025518
1700080G18Rik	1.130635	0.92131	-0.29537	0.010932	0.035542
Gabbr1	1.092879	0.890916	-0.29477	0.000998	0.006089
LOC101056056	1.16651	0.950983	-0.29471	0.001098	0.006504
Ptchd4	1.07076	0.872924	-0.29471	0.013313	0.040863
Hist1h4c	1.111767	0.906575	-0.29436	0.005028	0.019937
Acox3	1.151028	0.938819	-0.294	0.014357	0.04323
Ncoa5	1.071061	0.873682	-0.29386	0.004984	0.019786
Gdf3	1.03596	0.845063	-0.29384	0.000439	0.003475
Smyd4	1.108225	0.904076	-0.29373	0.000461	0.003584
Stn1	1.165004	0.950438	-0.29367	0.003749	0.016081
Klk1b21	1.142334	0.932026	-0.29354	0.000264	0.002451
Slc25a18	1.172178	0.956653	-0.29312	0.012516	0.03919
Axin2	0.978446	0.798905	-0.29247	5.84E-06	0.000191
Casp7	0.95754	0.78199	-0.29218	0.014818	0.044405
Slc30a1	1.02237	0.834945	-0.29216	9.13E-05	0.001176
Acsf2	1.046882	0.855059	-0.292	3.34E-09	1.69E-06
Pacrg	1.092826	0.892614	-0.29196	0.000172	0.001802
Cyp2d26	1.067005	0.871527	-0.29195	0.000905	0.005685
Olf173	0.986121	0.805656	-0.2916	0.000685	0.004683
Gm14325	1.154922	0.943689	-0.29141	2.72E-05	0.000532

Fam124b	0.995315	0.813327	-0.29132	0.00013	0.001487
Tpbgl	1.157754	0.946081	-0.29129	0.002094	0.010496
Rapgef5	1.142558	0.934854	-0.28945	0.000154	0.001676
Zfp931	1.150612	0.941571	-0.28926	6.7E-05	0.000952
Il27	1.097488	0.898333	-0.28888	0.000217	0.002128
Clpsl2	1.092636	0.894554	-0.28857	0.009043	0.030839
Cend1	1.109838	0.908821	-0.28828	4.06E-05	0.000679
Krtap5-4	1.064411	0.871625	-0.28828	7.77E-05	0.001051
Npr2	1.070543	0.876831	-0.28797	0.001017	0.006169
Myo18b	1.010414	0.82759	-0.28796	0.00018	0.00187
2410137M14Rik	1.110323	0.909729	-0.28747	0.006937	0.025397
Gm11938	1.165321	0.954999	-0.28716	5.14E-05	0.000794
Tex28	1.093565	0.896248	-0.28707	0.011337	0.036438
Lrsam1	1.067716	0.875349	-0.2866	1.12E-05	0.000295
Icam4	1.085083	0.88959	-0.28659	0.013647	0.04153
Gm34478	1.070063	0.877318	-0.28652	0.006539	0.02438
Fanca	1.103207	0.904502	-0.28651	0.004192	0.017484
Olf1373	1.020324	0.836831	-0.28602	6.18E-05	0.000904
Ccdc115	1.080511	0.886251	-0.28593	0.003318	0.014657
Krtap19-5	1.099329	0.901739	-0.28584	0.000705	0.004794
Nol10	1.108951	0.90971	-0.28572	0.001693	0.008985
Slc6a16	1.023002	0.83922	-0.28569	0.000367	0.003058
Krtap4-8	1.067496	0.875749	-0.28564	0.003391	0.014902
Grasp	1.104016	0.905926	-0.2853	0.000637	0.00445
Cwc25	1.049129	0.861341	-0.28453	0.000109	0.001327
Pcdhgc5	1.112931	0.913893	-0.28427	0.009421	0.031731
Slc38a11	1.236907	1.01619	-0.28357	0.012545	0.039268
Borcs7	1.034831	0.850206	-0.28351	1.05E-05	0.000281
Spsb1	1.06406	0.874325	-0.28334	0.001282	0.007352
Creg2	0.990461	0.81392	-0.28321	0.000449	0.003528
Myo3b	1.053725	0.866566	-0.28212	0.002355	0.011398
Gprc5a	1.058948	0.871571	-0.28094	2.85E-05	0.000553
Zfp992	1.068615	0.879622	-0.28079	0.004221	0.017595

Akr1b8	1.076572	0.886727	-0.27988	0.001791	0.009369
Wdr45b	1.209328	0.9963	-0.27955	0.015302	0.045597
Uts2r	0.994036	0.819169	-0.27914	0.000158	0.001705
Ankrd35	1.107301	0.912624	-0.27895	0.000916	0.005734
Vwc2	1.126831	0.928834	-0.27878	0.005792	0.022235
Pclaf	1.051458	0.86708	-0.27815	6.1E-05	0.000896
Inafm1	1.095085	0.903287	-0.27779	3.85E-05	0.000661
Lcn12	1.085593	0.895842	-0.27717	0.00083	0.005367
Tlnrd1	1.057644	0.872808	-0.27712	0.000495	0.003737
Pla2g16	1.045155	0.862558	-0.27702	6.3E-07	4.56E-05
Trim37	1.059648	0.874671	-0.27677	0.000204	0.002039
Fndc10	1.068742	0.882385	-0.27643	0.001433	0.007942
Nsa2	1.019635	0.841987	-0.27618	5.68E-07	4.4E-05
Kif28	1.011733	0.835564	-0.27601	1.8E-06	8.72E-05
Ust	1.037188	0.856756	-0.27572	5.59E-05	0.000844
Vsig10	1.057719	0.873769	-0.27563	0.000376	0.003101
Prh1	1.039435	0.858889	-0.27526	9.95E-06	0.000272
Arxes1	1.030655	0.85169	-0.27516	6.24E-05	0.00091
Prss37	1.155568	0.955098	-0.27488	0.014131	0.042696
Dock3	1.090245	0.901245	-0.27466	0.008475	0.029404
Lrrc38	1.074749	0.888472	-0.2746	0.002349	0.01139
Magee1	1.101126	0.910382	-0.27444	4.94E-06	0.000172
Tex44	1.007818	0.833446	-0.27407	3.5E-05	0.000627
Rnf121	1.158166	0.957943	-0.27383	0.002072	0.01043
Impg1	1.11586	0.923576	-0.27285	3.15E-05	0.00059
Ifnl3	1.060904	0.878232	-0.27262	0.000123	0.001441
Itpr1	1.133411	0.938256	-0.27262	0.003162	0.014194
Dagla	1.049794	0.86934	-0.27212	0.001877	0.009673
Gm4841	1.099752	0.910904	-0.27181	7.34E-05	0.001014
1700019N19Rik	1.092351	0.904855	-0.27168	0.014105	0.042641
Mnat1	1.022106	0.846803	-0.27145	2.89E-05	0.000557
Itga4	1.113659	0.922876	-0.2711	0.001244	0.007171
1700031F05Rik	1.079616	0.894774	-0.27092	0.000537	0.003953

Nsun3	1.049371	0.870128	-0.27023	0.00032	0.002785
Zfp936	1.034303	0.85789	-0.26979	3.03E-06	0.000127
Eif2s2	1.133826	0.940519	-0.26967	7.38E-05	0.001016
B3gnt11	1.127202	0.935381	-0.26912	0.007157	0.02604
Bnip3	1.080079	0.896658	-0.26851	4.34E-08	8.9E-06
1700007K09Rik	1.048814	0.871022	-0.26798	8.24E-05	0.001099
Rsg1	1.000767	0.831272	-0.26771	0.000411	0.00331
Tmco3	1.132524	0.941268	-0.26686	0.001203	0.006994
Olf1443	1.088575	0.904744	-0.26686	1.44E-06	7.82E-05
Slc38a8	1.058452	0.879847	-0.26663	0.008235	0.028796
Prlhr	1.048343	0.871469	-0.26659	0.000268	0.002464
Thsd7a	1.072325	0.891634	-0.26622	0.00033	0.002849
Rabl6	1.177356	0.979237	-0.26582	3.62E-06	0.000141
Slc1a4	1.057574	0.879912	-0.26533	0.000468	0.003606
Fibcd1	1.132345	0.942236	-0.26515	0.013942	0.042257
Rasd2	1.072646	0.892703	-0.26492	0.002117	0.010574
Prss48	0.990095	0.824386	-0.26425	2.64E-05	0.000527
Dusp12	1.139871	0.949159	-0.26415	1.25E-05	0.000318
Shc2	1.043147	0.868727	-0.26397	4.58E-09	2.02E-06
Mettl2	1.007292	0.838961	-0.26381	0.00215	0.010679
Ppp1r27	1.085983	0.904607	-0.26364	0.006095	0.023122
Gm11595	0.99988	0.833041	-0.26337	0.006419	0.024068
Epn3	1.096772	0.913992	-0.26301	3.2E-05	0.000593
Olf1279	1.040998	0.867695	-0.26271	2.66E-07	2.97E-05
Nup210	1.06255	0.885746	-0.26257	0.002478	0.011836
Fam83f	1.044404	0.870946	-0.26202	3.06E-06	0.000127
Tdgfl	1.138895	0.950081	-0.26151	0.003518	0.015361
Tmem81	1.092592	0.911475	-0.26148	0.009962	0.033036
Usp17ld	1.055586	0.880679	-0.26136	0.003223	0.014372
Cd300ld	0.997539	0.832253	-0.26135	0.000372	0.003091
Ap5b1	1.025879	0.855931	-0.26129	6.62E-06	0.000206
Bcl2l13	1.08145	0.902419	-0.2611	2.78E-06	0.00012
Slc7a14	1.147652	0.957714	-0.26102	0.008218	0.028767

Lce1l	1.02053	0.851713	-0.26088	0.000578	0.00416
Nap1l5	1.118811	0.934014	-0.26045	0.001044	0.006272
Tmem143	1.030815	0.860626	-0.26033	7.24E-10	5.91E-07
Cbx7	1.114153	0.930261	-0.26024	1.36E-07	2.01E-05
Samd10	1.040096	0.868443	-0.26021	1.41E-06	7.8E-05
Slc27a1	1.040667	0.869093	-0.25993	1.22E-06	7.14E-05
Bid	1.108939	0.926166	-0.25984	7.03E-05	0.000979
G6pc	1.027396	0.858448	-0.25919	0.002748	0.012801
Casq2	1.078199	0.900944	-0.25911	0.001877	0.009673
Zfp930	1.116665	0.933278	-0.25882	1.82E-06	8.78E-05
L3mbtl1	1.114269	0.931395	-0.25863	0.00752	0.027017
Proser3	1.120745	0.937049	-0.25826	0.000541	0.003967
Gm14391	1.123235	0.939354	-0.25792	2.42E-05	0.000495
Rmdn1	1.089705	0.911441	-0.25772	0.003344	0.014735
Fkbp1b	1.080248	0.903729	-0.2574	0.000134	0.001522
Hcn1	1.101807	0.921998	-0.25704	0.000393	0.003197
Jph3	1.085372	0.908426	-0.25675	0.00035	0.002966
Mctp2	1.101672	0.922165	-0.2566	0.010395	0.034142
Zfpm2	1.18135	0.98887	-0.25658	0.000104	0.001283
Cep170b	1.023454	0.856908	-0.25623	0.000147	0.001625
Cracr2a	1.094399	0.916389	-0.25611	0.000778	0.005117
Gla	1.131749	0.947693	-0.25606	0.000832	0.005368
Naip5	1.010622	0.846322	-0.25597	7.11E-06	0.000217
Rnf207	1.249971	1.046825	-0.25587	0.005396	0.021066
Gm14124	1.079226	0.903963	-0.25566	8.47E-06	0.000241
Fam135b	1.19216	0.998638	-0.25554	0.003101	0.014015
Rgs7bp	1.125582	0.942873	-0.25554	0.003109	0.014026
Arl8a	1.094969	0.91759	-0.25497	1.6E-06	8.12E-05
Gm29735	1.107739	0.928423	-0.25476	0.000105	0.001289
Ly6g5b	1.016017	0.851563	-0.25474	2.41E-06	0.000109
Rasgrp1	1.075904	0.901826	-0.25463	0.003679	0.015883
Mal2	1.111394	0.931635	-0.25453	0.000416	0.003331
Hkdc1	1.105551	0.926805	-0.25443	0.009321	0.031534

Krtap10-4	1.041398	0.873129	-0.25425	0.002531	0.012014
Fastkd1	1.088864	0.913176	-0.25386	0.000953	0.005902
Ubiad1	1.084966	0.909982	-0.25374	0.008028	0.028298
Gm17778	1.03849	0.871072	-0.25362	0.009704	0.032474
Lmcd1	1.077791	0.904353	-0.25312	7.85E-05	0.001058
Gabra1	1.112432	0.933456	-0.25306	0.001007	0.006135
Cplx1	1.107858	0.929878	-0.25266	0.003119	0.014054
Pygo1	1.071431	0.899695	-0.25203	0.013461	0.041164
Reep5	0.998548	0.838841	-0.25144	6.25E-06	0.000199
Usp34	1.163099	0.977186	-0.25127	0.000249	0.00236
Ras110b	1.064307	0.89428	-0.25112	9.45E-07	6.04E-05
Ppp1r26	1.072319	0.901586	-0.2502	0.007357	0.026601
Decr2	1.094124	0.920135	-0.24986	0.000954	0.005904
Tmem89	1.021281	0.859137	-0.24942	0.008755	0.030187
Nsmce3	1.067052	0.897683	-0.24935	0.002574	0.012164
Mppe1	1.113201	0.936967	-0.24864	0.000843	0.005409
Khsrp	1.132026	0.952939	-0.24845	0.008039	0.028326
Slc36a1	1.168654	0.983838	-0.24835	0.004423	0.018143
Gna14	1.021008	0.859652	-0.24817	0.008362	0.029089
Npas3	1.053278	0.88689	-0.24806	0.010048	0.03327
Gad2	1.097484	0.924253	-0.24784	0.002153	0.010688
Gnaq	0.994811	0.83793	-0.24759	0.00045	0.003533
Sphkap	1.067119	0.899014	-0.24731	0.000541	0.003967
Olf1r1225	1.046911	0.882051	-0.24721	0.00654	0.02438
Scrn3	1.110289	0.935869	-0.24656	1.94E-05	0.000433
Pced1b	1.040272	0.876959	-0.24638	0.004477	0.018297
Evx2	1.041474	0.878084	-0.2462	0.000288	0.002583
Cog1	1.075889	0.907123	-0.24616	0.002635	0.012375
Ppp1r9b	1.054702	0.889268	-0.24615	1.21E-05	0.000311
Stard10	1.114947	0.94051	-0.24546	0.001693	0.008985
Slitrk4	1.042355	0.879318	-0.24539	0.00025	0.002364
Stard5	1.159121	0.978275	-0.24472	0.002594	0.012226
Sfxn4	1.073996	0.906559	-0.24451	0.005306	0.020798

Cdhr2	1.048782	0.885509	-0.24414	0.000501	0.003772
Srxn1	1.072171	0.905376	-0.24395	0.000163	0.001736
Gcgr	1.014805	0.857046	-0.24376	5.9E-07	4.5E-05
MacroD2	1.050162	0.886921	-0.24373	7.04E-05	0.000979
Sag	1.066941	0.901135	-0.24367	0.000812	0.005283
Dcps	1.126356	0.951705	-0.24308	0.00185	0.009606
AnkrD28	1.031536	0.871647	-0.24298	0.000823	0.005332
Id2	1.035699	0.875223	-0.24288	0.00032	0.002785
Mettl17	1.12149	0.947774	-0.2428	0.000728	0.004871
Tmem144	1.12466	0.950501	-0.24273	0.000169	0.001782
Lmo3	1.078516	0.911544	-0.24266	0.007828	0.027797
Chp1	1.134382	0.958961	-0.24236	0.00052	0.003877
Nrip3	1.080389	0.913419	-0.2422	0.000297	0.002653
Usf2	1.009326	0.853389	-0.24212	1.37E-06	7.66E-05
Lims2	1.008871	0.853034	-0.24207	0.01467	0.04401
Chrne	1.048397	0.886494	-0.242	0.00417	0.017426
Sec61a2	1.023464	0.865433	-0.24197	9.27E-05	0.001184
Uck1	1.058901	0.895476	-0.24184	0.011596	0.037044
Nt5dc3	1.03837	0.878219	-0.24167	4.31E-05	0.000703
Chst15	1.070446	0.905684	-0.24113	0.001924	0.009852
TimmDc1	1.133457	0.959045	-0.24106	0.002006	0.01017
Mex3b	1.144998	0.968821	-0.24104	0.014886	0.04457
Lrp5	1.035364	0.876149	-0.24089	9.01E-05	0.001166
Ep300	1.011946	0.856572	-0.24049	0.000188	0.001925
Crebl2	1.248011	1.056396	-0.24048	0.000255	0.002391
Npy1r	1.059536	0.896876	-0.24045	0.001889	0.009714
Tbl3	1.037502	0.878254	-0.2404	0.000861	0.005484
Rtn4rl2	1.100617	0.931897	-0.24007	2.72E-05	0.000532
Tmem170b	1.077855	0.912855	-0.2397	5.82E-05	0.000866
Ppif	1.109262	0.939498	-0.23964	0.003317	0.014657
Tnks	1.205567	1.02112	-0.23956	0.003492	0.015267
NeuroD1	1.094129	0.926933	-0.23925	7.04E-05	0.000979
Arhgef4	1.075	0.910757	-0.2392	4.11E-05	0.000679

Vmn1r192	1.071256	0.907691	-0.23903	0.006118	0.023183
Osbpl10	1.075729	0.911639	-0.23878	0.007971	0.028175
Tlr9	1.047596	0.887845	-0.2387	5.31E-07	4.39E-05
Tuba3a	1.002453	0.849762	-0.2384	0.000464	0.003593
Gm34396	1.00989	0.856082	-0.23838	0.000171	0.001794
Tvp23a	1.037353	0.87941	-0.2383	4.89E-05	0.00077
Nvl	1.181016	1.001272	-0.23819	0.000187	0.001921
Slc22a28	1.066736	0.904689	-0.23771	0.0005	0.003762
Dzip3	1.247815	1.058337	-0.2376	0.000653	0.004509
Samd11	1.078274	0.914654	-0.23743	6.39E-05	0.000923
Vmn2r3	1.056893	0.896671	-0.23718	0.004379	0.018031
Psme3	1.097581	0.931313	-0.23699	0.000836	0.005382
Aldh5a1	1.049454	0.890498	-0.23695	1.63E-05	0.000382
Siglece	1.007606	0.855023	-0.2369	4.84E-06	0.000169
Slc24a3	1.081698	0.917936	-0.23683	0.000892	0.005623
Dstyk	1.116831	0.948191	-0.23616	0.003472	0.015198
Spred3	1.109549	0.942082	-0.23605	0.007699	0.027427
Baz1b	1.225812	1.041215	-0.23547	0.003568	0.015537
H2-Q4	1.132241	0.962389	-0.23449	6.46E-06	0.000202
Pde4d	1.236449	1.050971	-0.23448	0.001555	0.008436
Ndufa8	1.010913	0.859432	-0.2342	1.4E-07	2.01E-05
Ccdc74a	1.065075	0.905697	-0.23385	0.002762	0.012845
Heatr3	1.025092	0.87192	-0.23348	5.54E-05	0.000838
Dhx37	0.992822	0.844508	-0.23342	0.00045	0.003533
Fam20b	1.034554	0.88005	-0.23335	1.56E-06	8.04E-05
Zfp663	1.092319	0.929526	-0.23283	0.000104	0.001283
Pyroxd1	1.13607	0.96692	-0.23258	6.37E-05	0.000921
Gm14440	1.079407	0.918714	-0.23255	4.15E-05	0.000683
Ube2e2	1.086925	0.925133	-0.23252	0.001493	0.008193
Vmn1r217	1.154647	0.983178	-0.23193	0.011077	0.035914
Lsm14b	1.065513	0.907324	-0.23186	0.004563	0.018564
Mrs2	1.124219	0.957431	-0.23168	0.003098	0.014014
Neill	0.992964	0.845721	-0.23156	0.00236	0.011413

Rab11fip4	1.107667	0.943446	-0.23151	2.7E-05	0.000532
Acnat1	1.074679	0.9155	-0.23127	6.33E-05	0.00092
Erich6	1.099256	0.936483	-0.2312	0.002564	0.012141
Fam19a1	1.052016	0.896263	-0.23116	0.000896	0.005644
Gm29738	1.052779	0.897147	-0.23079	0.003967	0.016737
Ubr1	1.14401	0.974993	-0.23064	0.006303	0.023742
Herc2	1.092571	0.931179	-0.2306	0.003229	0.014391
Ms4a4c	1.074265	0.915694	-0.23041	1.91E-05	0.000431
Arhgef15	1.068214	0.910964	-0.22973	0.00039	0.003183
Dus4l	1.06932	0.911997	-0.22959	0.012973	0.040134
Sertm1	1.057978	0.902791	-0.22885	0.001515	0.008275
Riok3	1.13015	0.964581	-0.22854	0.00441	0.018117
Rpa2	1.03234	0.881178	-0.22841	0.014657	0.043985
Gm4924	1.082479	0.924094	-0.22823	0.00529	0.020759
Timm17a	1.080523	0.92278	-0.22767	1.17E-05	0.000302
Pcdhac2	1.137417	0.971544	-0.22741	0.000159	0.001708
Nrg2	1.150106	0.982488	-0.22726	0.006828	0.025156
Lrrc3c	1.016289	0.868377	-0.22692	0.000306	0.002698
Srprb	1.13931	0.973518	-0.22688	0.004175	0.017436
Garem1	1.090231	0.931602	-0.22685	0.012009	0.038017
Fam189a1	1.103911	0.943325	-0.2268	0.000854	0.005454
Rnasel	1.06463	0.909884	-0.2266	0.006237	0.023552
Mrpl33	1.133546	0.968944	-0.22636	0.004497	0.018361
Zfp442	1.083826	0.926526	-0.22623	5.32E-05	0.000814
Gm35257	0.975349	0.834015	-0.22585	0.000128	0.001476
Nomol	1.064968	0.910739	-0.2257	3.25E-07	3.28E-05
Nudt16	1.094448	0.936194	-0.22532	1.14E-06	6.88E-05
Ube2q11	1.072291	0.917325	-0.22519	0.001069	0.006367
Rimbp3	1.055816	0.903383	-0.22495	0.002209	0.010856
Rapgef11	1.088391	0.931262	-0.22494	0.013479	0.041194
Zfp648	1.024398	0.876685	-0.22465	0.00121	0.007027
Gm7735	1.031682	0.883046	-0.22444	0.000684	0.004678
Gm14295	1.0645	0.911208	-0.22432	0.000355	0.00299

Prtg	1.097866	0.940009	-0.22396	0.012453	0.039027
Krtap5-3	1.034877	0.886164	-0.22381	0.000127	0.00147
Spatc11	1.013993	0.868365	-0.22367	0.001505	0.008233
Smad7	1.145794	0.98126	-0.22364	0.002626	0.012336
Scg5	1.140897	0.977181	-0.22347	0.001065	0.006354
Ipo8	1.110945	0.95156	-0.22342	5.01E-05	0.000784
Ephb3	1.069866	0.916428	-0.22334	5.73E-06	0.000189
Galnt18	1.124029	0.962853	-0.22329	0.002831	0.01311
Exoc6b	1.06055	0.908574	-0.22314	0.001456	0.008028
Rab2a	1.192189	1.021699	-0.22264	0.00566	0.021845
Ovch2	0.975827	0.83635	-0.22252	0.000898	0.005646
Senp5	1.197971	1.026769	-0.22248	0.002987	0.013636
Odf3	1.081036	0.926746	-0.22217	0.001582	0.008561
Alg6	1.017651	0.872478	-0.22205	0.015307	0.045599
Bloc1s2	1.151078	0.986969	-0.22191	0.003131	0.014091
Crim1	1.156006	0.991229	-0.22186	8.55E-05	0.00113
Usp11	1.064942	0.913237	-0.22171	0.000322	0.002791
Ubxn2a	1.182124	1.013733	-0.2217	0.002801	0.012994
Htr4	1.092614	0.937175	-0.22139	0.005968	0.022763
Nsg1	1.074816	0.921924	-0.22137	1.29E-05	0.000326
Ndc1	1.059328	0.908723	-0.22124	1.17E-06	6.98E-05
Ppp6r1	1.105293	0.948218	-0.22114	0.000185	0.001905
Gm715	0.984505	0.844621	-0.22109	0.000689	0.004699
Fam198b	1.029629	0.88369	-0.22051	0.001161	0.006813
Zfp608	1.040678	0.893206	-0.22046	0.000974	0.005977
Ttll10	1.042054	0.894405	-0.22043	0.003916	0.016589
Cbx6	1.021092	0.876489	-0.22031	3.31E-05	0.000602
Cops8	1.026503	0.881155	-0.22027	5.45E-05	0.000828
Rab39b	1.125754	0.9664	-0.2202	0.013854	0.042038
Apex1	1.025303	0.880263	-0.22004	0.000182	0.001883
4933440N22Rik	0.98741	0.847761	-0.21999	0.00982	0.03272
Vstm2b	1.145353	0.983605	-0.21964	0.002481	0.011843
Acat3	1.116419	0.95883	-0.21953	0.005654	0.02183

Cox4i2	1.004578	0.863198	-0.21883	0.000843	0.005409
Rhox3f	0.988349	0.849284	-0.21877	0.013144	0.040427
Cdkl1	1.070942	0.920494	-0.2184	0.0085	0.02947
Cdh11	1.174981	1.010197	-0.218	0.00365	0.015791
Vps13b	1.017482	0.87514	-0.21742	4.63E-05	0.000742
Ccdc711	1.031831	0.887788	-0.21692	0.003107	0.014024
Gm6710	1.110317	0.955519	-0.21662	0.000461	0.003582
Lgi1	1.051186	0.9047	-0.21651	0.001202	0.006994
St6galnac5	1.070527	0.9215	-0.21627	0.001693	0.008985
Eid2	1.029291	0.886036	-0.21621	5.03E-05	0.000786
Gm31606	1.21937	1.049854	-0.21595	0.003267	0.014507
Fam212a	1.058521	0.911433	-0.21584	0.000656	0.004521
Tspan17	1.020362	0.878607	-0.21579	0.002371	0.011435
H1fx	1.1048	0.951465	-0.21556	0.007094	0.025865
Aoc2	1.089626	0.938455	-0.21547	0.00012	0.001415
Rab2b	1.047842	0.902661	-0.21517	0.000156	0.001692
Ssxb8	1.017233	0.87665	-0.21458	0.015764	0.04667
Sema7a	1.019533	0.878759	-0.21437	0.000627	0.00441
Hgsnat	1.083993	0.934359	-0.21431	1.9E-05	0.00043
Cacng7	1.113466	0.96002	-0.21392	5.71E-05	0.000857
Zfp956	1.056472	0.910929	-0.21384	0.000557	0.004049
Adsl	1.091787	0.941385	-0.21384	0.000151	0.001656
Rfk	1.08568	0.936149	-0.21379	5.36E-08	1E-05
Ifrd1	1.109485	0.956743	-0.21369	0.002085	0.010466
Lrrn1	1.099437	0.948213	-0.21348	0.004035	0.016963
Hrc	1.013084	0.873885	-0.21324	0.001872	0.009671
Rin1	1.026058	0.885126	-0.21316	0.010733	0.034961
Shb	1.061511	0.915812	-0.213	0.011384	0.036529
Smarcal1	1.041348	0.898578	-0.21274	1.41E-05	0.000348
Smg9	1.107076	0.955364	-0.21263	4.07E-05	0.000679
Mafa	1.095956	0.945792	-0.21259	0.000178	0.001856
Stmn2	1.06707	0.920908	-0.21253	9.48E-05	0.001203
Def6	1.030261	0.889311	-0.21225	0.003221	0.014372

Dnph1	1.047604	0.904342	-0.21215	0.000559	0.004065
Npl	1.100097	0.949836	-0.21188	0.005045	0.019966
Gm996	1.049204	0.9059	-0.21187	4.89E-05	0.00077
Prmt8	1.005095	0.867846	-0.21182	0.009435	0.031768
Grm2	1.075552	0.9288	-0.21164	0.002325	0.011312
Dffb	1.025767	0.886069	-0.21121	0.004692	0.018975
Plekhg3	1.061746	0.91721	-0.21112	0.00011	0.001338
Wdr89	1.079479	0.933029	-0.21034	6.75E-05	0.000958
Tmem28	1.018528	0.880549	-0.21001	0.003785	0.016196
Srpr	1.224088	1.058272	-0.21	0.0006	0.004272
Cep70	1.059092	0.915997	-0.20941	2.31E-05	0.000479
Sgsh	1.086062	0.939508	-0.20913	8.04E-06	0.000234
Hdac2	1.116053	0.965459	-0.20912	0.017144	0.049729
Pdp2	1.094171	0.946897	-0.20856	2.37E-05	0.000487
Tmem191c	1.071355	0.927305	-0.20832	0.000831	0.005367
Zbtb38	1.153924	0.99879	-0.2083	0.001718	0.009094
Frg1	1.210606	1.047903	-0.20822	0.000708	0.004806
Btbd16	0.997343	0.863462	-0.20796	2.74E-06	0.000119
Jsrp1	1.12301	0.972317	-0.20787	0.011822	0.037628
Scaf1	1.026589	0.888849	-0.20785	0.011391	0.036543
Dhx36	1.222083	1.058262	-0.20765	4.04E-05	0.000678
Ints13	1.092181	0.94588	-0.20748	0.001687	0.008974
Bcl11b	1.18394	1.025478	-0.2073	0.012997	0.040182
Utp6	1.101438	0.954035	-0.20727	5.33E-05	0.000814
Zfp286	1.033323	0.895181	-0.20704	0.004935	0.019613
Acyp2	1.067108	0.924597	-0.20681	0.009358	0.031587
Mb21d2	1.034569	0.896496	-0.20666	0.000257	0.0024
March4	1.016804	0.881126	-0.20662	0.01138	0.036528
Tmem50b	1.066738	0.924752	-0.20607	0.000122	0.001436
Rwdd2b	1.071586	0.929006	-0.20599	6.35E-05	0.000921
Krt79	1.066231	0.924428	-0.20589	0.002873	0.013264
Ift57	1.044433	0.905576	-0.20581	0.005706	0.021985
Slc45a1	1.085238	0.940999	-0.20575	0.014802	0.044367

Erp27	0.999896	0.867202	-0.20541	0.000409	0.0033
Cd209g	1.036993	0.899582	-0.20508	0.000179	0.001864
Angptl8	1.059699	0.919298	-0.20505	0.008147	0.028606
Snrnp200	1.084689	0.941048	-0.20494	3.22E-05	0.000594
Unc80	1.043245	0.905116	-0.2049	1.14E-05	0.000298
Srbd1	1.045353	0.906948	-0.2049	0.009094	0.030963
Smim13	0.984293	0.85434	-0.20428	4.5E-06	0.000162
Abcb8	1.065726	0.925176	-0.20404	3.36E-05	0.000608
Bdkrb1	0.946531	0.821751	-0.20395	0.000189	0.001928
Mcmcdc2	1.120724	0.973032	-0.20387	1.32E-05	0.000332
Tmem209	1.042791	0.905645	-0.20343	0.007675	0.027391
Adgrl3	1.046139	0.908843	-0.20297	0.007519	0.027017
Apba1	1.036637	0.900629	-0.20291	4.16E-05	0.000685
Dcaf6	0.981268	0.85262	-0.20275	0.002785	0.012931
Zfp93	1.092308	0.949104	-0.20274	0.003253	0.014449
Lmln	1.23071	1.069555	-0.20248	0.002416	0.011575
Tmem239	1.080979	0.939512	-0.20235	0.000166	0.00176
Vmn1r46	1.024388	0.890492	-0.20209	0.004495	0.018359
Zfp534	1.085831	0.943911	-0.20208	0.000105	0.00129
Smg5	1.10624	0.961823	-0.20182	0.004361	0.017984
Zfp595	1.124361	0.977897	-0.20135	0.006924	0.025374
Ube2e1	1.010238	0.878744	-0.20118	0.002395	0.011514
Sdr42e1	1.094245	0.952	-0.2009	0.006534	0.024376
Rasal2	1.140169	0.991967	-0.20088	0.012793	0.039715
P2rx1	1.021107	0.888479	-0.20072	0.011466	0.036715
Ccdc177	1.039448	0.904494	-0.20063	0.003103	0.014015
Epm2a	1.05137	0.914973	-0.20047	0.015362	0.045714
Sdr39u1	1.040737	0.905776	-0.20038	0.009221	0.031286
Kcnq3	1.14483	0.996421	-0.20031	0.015679	0.04651
Btn1a1	1.078488	0.938929	-0.19992	7.78E-05	0.001051
Mapre1	1.065236	0.927513	-0.19973	0.006713	0.024807
Mrpl27	1.00731	0.877513	-0.19901	1.75E-05	0.000402
Gmppb	1.109618	0.966977	-0.19851	0.001943	0.00991

Frmpd2	1.079631	0.941002	-0.19827	0.000211	0.002085
Dyrk3	1.03755	0.904817	-0.19748	0.005729	0.022056
Got1	1.076668	0.939142	-0.19716	0.000161	0.001719
Vmn1r25	1.065837	0.930338	-0.19616	0.008898	0.030482
Epdr1	1.013229	0.884905	-0.19537	5.17E-05	0.000798
Guca1b	1.081205	0.944498	-0.19502	0.001777	0.009322
Thoc2	1.114104	0.973284	-0.19495	0.000189	0.001928
Prps1	1.065811	0.931135	-0.19489	0.000634	0.004435
Helb	0.983144	0.85894	-0.19484	0.012164	0.038384
Ash11	1.157912	1.011883	-0.19448	8.37E-06	0.00024
Ccin	1.034797	0.904385	-0.19434	0.000156	0.001692
Nsun4	1.028334	0.89874	-0.19433	0.000524	0.003891
Acot2	1.002837	0.876716	-0.19391	0.00415	0.017352
Cnr1	1.091088	0.954017	-0.19368	0.008091	0.028483
Pif1	1.123887	0.982766	-0.19358	5.89E-05	0.000874
Chst8	1.090215	0.953468	-0.19336	0.001172	0.006849
Dph1	1.018886	0.891256	-0.19308	0.000412	0.003312
Dnajb12	1.001562	0.876288	-0.19277	0.001009	0.00614
Tbcc	0.99109	0.867475	-0.19219	0.001888	0.009712
Rad54l2	1.071303	0.937823	-0.19198	0.010393	0.034142
Map3k13	1.018461	0.891581	-0.19195	0.008381	0.029135
Cacna1e	1.110406	0.972096	-0.19192	0.016983	0.049386
Fam131a	1.05211	0.921085	-0.19188	0.007673	0.027391
Rcl1	1.047784	0.917321	-0.19184	1.52E-05	0.000366
Nxph1	1.094672	0.958607	-0.19149	0.01337	0.040965
Naa30	1.038884	0.909833	-0.19136	0.001041	0.00626
Wdr48	1.126376	0.986533	-0.19125	0.000247	0.002343
Dtna	1.095103	0.959237	-0.19111	0.008278	0.028886
Tdrkh	1.006072	0.881466	-0.19076	0.000231	0.002241
Rpl13a	1.10167	0.965466	-0.1904	2.29E-07	2.68E-05
Zbtb1	1.018176	0.892479	-0.1901	0.013345	0.040918
Mms22l	1.084922	0.950999	-0.19007	0.000215	0.002119
Sprn	1.025923	0.899582	-0.1896	0.013992	0.042358

Epg5	1.082306	0.949066	-0.18953	1.5E-05	0.000362
Dtnbp1	1.060365	0.929975	-0.1893	0.000867	0.005514
Ano3	1.127361	0.988878	-0.18909	0.00183	0.009533
Nkain1	1.029107	0.902791	-0.18893	0.001043	0.006268
Ifit1bl2	1.023552	0.898262	-0.18838	0.002104	0.010536
Swap70	1.04824	0.91997	-0.18831	0.000848	0.005431
Tmod1	1.032603	0.906364	-0.18812	0.016559	0.048549
Nxpe3	1.048684	0.920544	-0.18802	0.00107	0.006371
Dkc1	1.048606	0.920498	-0.18799	0.002727	0.012717
Ercc2	1.111016	0.9755	-0.18767	0.009907	0.032928
Crcp	1.051284	0.923182	-0.18747	0.000113	0.001359
Map2k6	1.071101	0.941198	-0.18652	0.002183	0.010791
Samd8	1.140257	1.002095	-0.18634	0.011156	0.036039
Pa2g4	1.128217	0.991563	-0.18627	0.000139	0.001565
Nkrf	1.035551	0.910239	-0.18608	0.010003	0.033154
Tmem18	1.000648	0.879639	-0.18595	0.000497	0.003744
Slc9a6	1.029011	0.904577	-0.18594	0.000395	0.003209
Zfand5	1.027973	0.903997	-0.18541	0.0011	0.006511
Mcee	0.989375	0.87027	-0.18505	0.003207	0.014328
Pdcl3	1.023713	0.900527	-0.18497	0.003736	0.016054
Hyls1	1.048994	0.922985	-0.18463	0.01594	0.047062
Dusp8	1.038659	0.913909	-0.1846	0.000289	0.002583
Fam69a	1.031127	0.907646	-0.18402	0.004334	0.017901
Dynlt3	1.140677	1.004149	-0.18392	3.01E-05	0.000576
Gys1	1.139047	1.002856	-0.18371	0.000331	0.002853
D430019H16Rik	1.031118	0.907885	-0.18363	0.000897	0.005645
Tlk1	1.037984	0.913979	-0.18355	4.76E-05	0.000757
Zcchc9	1.087382	0.957691	-0.18323	0.002187	0.010807
Ndufaf6	1.081952	0.953208	-0.18277	4.5E-05	0.000728
Dact3	1.095644	0.965314	-0.18271	0.000551	0.004015
Ermap	1.047137	0.922588	-0.18269	0.001287	0.007367
Selenov	1.031495	0.908813	-0.18268	0.00166	0.008862
Rad50	1.046734	0.922269	-0.18264	0.00116	0.00681

Etnk1	1.113783	0.981446	-0.18249	0.000321	0.002791
Drp2	1.048683	0.924357	-0.18206	0.001782	0.009336
Med18	1.063399	0.937359	-0.18201	0.005505	0.021398
Krt10	0.950426	0.837989	-0.18164	0.005523	0.021452
Pdhx	1.054182	0.929554	-0.18151	0.000478	0.003639
Rasgrf2	1.047797	0.924255	-0.181	0.000989	0.006045
Pak4	1.073799	0.947251	-0.18091	0.000123	0.001441
Cdk7	1.11158	0.980767	-0.18063	0.000767	0.005055
Vstm5	1.073463	0.947166	-0.18058	0.013666	0.041562
Ralgapa2	1.190578	1.050745	-0.18025	0.008508	0.029487
Slc6a6	1.128749	0.996179	-0.18025	0.000452	0.003539
Cd80	1.056016	0.932322	-0.17973	0.000633	0.004435
2310009B15Rik	1.028974	0.908629	-0.17944	3E-05	0.000574
Tmem591	1.079717	0.953687	-0.17907	0.003419	0.015013
Klhl24	1.14733	1.013492	-0.17894	0.002668	0.012494
Prss12	1.072369	0.947524	-0.17857	0.002553	0.012105
Usp36	1.232334	1.089097	-0.17826	0.006688	0.024747
Sacs	1.054283	0.931848	-0.1781	0.000755	0.005007
Rtca	1.0451	0.923859	-0.1779	0.00022	0.002152
Fry	1.045878	0.924793	-0.17751	0.000251	0.002368
Kcp	1.012931	0.895959	-0.17703	0.002125	0.010591
Hnmt	1.087941	0.962312	-0.17702	0.004716	0.019034
Snn	1.082156	0.957454	-0.17663	0.000951	0.005896
Srp14	1.065281	0.942663	-0.17642	0.00061	0.00432
Nell1	1.023232	0.905891	-0.17572	0.000304	0.00269
Diras2	1.053825	0.932985	-0.17571	0.000508	0.003814
Krtap19-1	1.046558	0.926577	-0.17567	0.000954	0.005904
Cblb	1.071184	0.948491	-0.1755	0.011148	0.036039
Srek1	1.070771	0.948197	-0.17539	0.000122	0.001432
Chgb	1.012533	0.896693	-0.17528	0.009014	0.030771
Pstk	1.036435	0.91788	-0.17525	0.011529	0.036874
Exoc5	1.02646	0.90917	-0.17505	1.99E-05	0.00044
F830016B08Rik	1.121327	0.993323	-0.17487	0.005224	0.020547

Prm3	1.021299	0.904765	-0.17479	0.000423	0.003377
Shank1	1.077574	0.954873	-0.17441	0.005379	0.021014
Fkrp	1.063088	0.942191	-0.17417	0.000532	0.003931
Gpr3	1.061413	0.940762	-0.17408	0.003811	0.016268
Necap1	0.996171	0.882998	-0.17398	0.001065	0.006354
Manbal	0.987351	0.875395	-0.17363	4.99E-05	0.000782
Manea	1.052441	0.933258	-0.17339	0.004921	0.01959
Robo2	1.071852	0.950528	-0.1733	0.013014	0.040191
Hace1	1.045585	0.927359	-0.17311	0.001599	0.008635
Mysm1	0.97903	0.868338	-0.1731	0.003191	0.014284
Cox11	1.053331	0.934309	-0.17299	5.83E-05	0.000866
Zfp957	1.152499	1.022355	-0.17287	0.00542	0.021137
Olf1153	0.987979	0.876784	-0.17226	0.008783	0.030247
Rpl21	1.090663	0.967965	-0.17218	0.000455	0.003548
Ostm1	1.087741	0.965467	-0.17204	0.001317	0.007483
Ppp4r4	1.077782	0.956674	-0.17197	0.004327	0.017882
Dmwd	1.07286	0.952623	-0.17148	0.000717	0.004824
Syng3	1.014914	0.901372	-0.17116	0.000474	0.003622
Ly6g6c	0.999475	0.887751	-0.17102	6.43E-05	0.000923
Dph6	1.014418	0.901028	-0.17101	0.015736	0.046615
Eef1a2	0.980316	0.870774	-0.17095	0.001179	0.006886
Mrpl3	1.048215	0.931133	-0.17088	0.0003	0.002663
5730455P16Rik	1.030505	0.915493	-0.17073	0.008172	0.028672
Zfp575	1.006516	0.894213	-0.17068	0.000765	0.005049
Igflr	1.073723	0.953942	-0.17065	0.004933	0.019613
Rdh14	1.04585	0.929479	-0.17018	0.001467	0.008075
Spr2a2	1.092159	0.970712	-0.17007	0.000495	0.003737
Ids	1.069285	0.950597	-0.16974	0.005216	0.020529
Arl6ip6	1.076919	0.957582	-0.16944	0.00051	0.003827
Lage3	0.954384	0.848679	-0.16935	0.010239	0.033744
Stum	1.069499	0.951357	-0.16888	0.002278	0.011119
Fam110b	1.043858	0.928568	-0.16884	0.001624	0.008719
Slit3	1.098677	0.977393	-0.16876	0.010189	0.033633

Pop7	1.019174	0.906721	-0.16867	0.001132	0.006675
Fam160b2	1.043078	0.928269	-0.16823	0.007381	0.026662
Lpar4	1.016158	0.904384	-0.16812	0.01255	0.039274
Zfp260	1.059111	0.942781	-0.16786	0.000155	0.001691
Slc25a23	1.080155	0.96157	-0.16777	0.002247	0.011004
Stxbp6	1.038931	0.924922	-0.1677	0.016832	0.04912
Mmachc	1.025472	0.913201	-0.16728	0.000729	0.004872
Mras	1.124333	1.0013	-0.16719	0.001781	0.009336
Slc25a16	1.086143	0.967326	-0.16714	0.012847	0.039828
Atrip	1.069138	0.952234	-0.16706	0.006073	0.023063
Zbtb7c	1.000529	0.89116	-0.16701	0.007291	0.026411
Plppr4	1.013462	0.902728	-0.16693	0.007368	0.026625
Tmem35a	1.079619	0.961677	-0.1669	0.00483	0.019371
Vstm2l	1.115249	0.993421	-0.16689	0.000344	0.002938
Abhd12	1.03343	0.920715	-0.16661	0.014264	0.042987
Babam2	1.066547	0.951145	-0.16521	0.001976	0.010038
Atp6v1d	1.060984	0.946313	-0.16501	2.1E-05	0.000456
Zmat2	1.043537	0.930773	-0.16498	0.000629	0.00442
Crebbp	1.109968	0.990154	-0.16479	2.21E-05	0.000472
Panx1	1.045568	0.932748	-0.16473	0.000156	0.001694
Cacna2d3	1.03054	0.919487	-0.1645	0.000848	0.005434
Sorcs2	1.032455	0.921409	-0.16416	0.00811	0.0285
1110059E24Rik	1.027201	0.916863	-0.16394	0.001534	0.008353
Phb	1.029525	0.919024	-0.1638	0.000522	0.003882
Cdk17	1.105061	0.987045	-0.16294	0.011185	0.036121
Dmxl2	1.133574	1.013461	-0.16159	0.003465	0.015174
Ypel5	1.045871	0.935248	-0.16128	0.000152	0.001661
Zfp512b	1.013357	0.906223	-0.1612	0.003141	0.01412
Sub1	1.060277	0.948413	-0.16085	1.56E-05	0.000372
Tmem74	1.134469	1.015207	-0.16024	0.011885	0.037739
Gm20594	1.085974	0.971956	-0.16003	0.003576	0.015561
Ikzf5	1.051809	0.941388	-0.16001	0.004279	0.01777
Hemgn	1.083125	0.969541	-0.15982	3.92E-05	0.000665

Hs3st1	1.021716	0.91462	-0.15975	0.012196	0.038437
Hspb11	1.028151	0.920487	-0.15958	0.009001	0.030744
Serpini1	1.05328	0.943037	-0.1595	0.00612	0.023183
Zbtb4	1.049477	0.939729	-0.15935	0.000742	0.004935
Elovl6	1.065245	0.954015	-0.1591	0.013157	0.040455
Mtfr2	1.052529	0.942671	-0.15903	0.001111	0.006566
Ddx3x	1.051079	0.941403	-0.15899	0.000711	0.004814
Orai3	0.976463	0.874663	-0.15884	0.000466	0.003598
Hic2	1.001912	0.897621	-0.15858	0.000829	0.005367
Zfp937	1.096813	0.982685	-0.15852	6.53E-05	0.000932
Cwfl19l2	1.019531	0.91378	-0.15799	0.009812	0.032703
Cnnm1	1.119255	1.003393	-0.15765	0.003399	0.01493
Mettl22	1.038432	0.9312	-0.15724	0.010947	0.035569
Pnpo	1.092998	0.980203	-0.15714	0.002978	0.0136
Ndufab1	1.029052	0.922918	-0.15704	6.52E-05	0.000931
Tsr1	1.028974	0.923116	-0.15662	0.003963	0.016728
Pcdhb17	0.979047	0.878339	-0.1566	0.008993	0.030739
Atxn7	1.061548	0.952485	-0.1564	0.001432	0.007939
Eea1	1.16189	1.042571	-0.15633	0.000716	0.004822
Kidins220	1.070905	0.960943	-0.15631	0.0016	0.008635
Lrrc4	1.089289	0.977573	-0.15611	0.001851	0.009606
Fam3c	1.051487	0.944107	-0.15541	0.004571	0.018592
Man2a2	1.046906	0.940037	-0.15534	1.57E-05	0.000374
Are1l	1.017022	0.913303	-0.15519	0.000956	0.00591
Nop14	1.112655	0.999461	-0.15478	0.016763	0.049018
2510002D24Rik	0.978772	0.87943	-0.15441	0.005313	0.020817
Rbm22	1.046723	0.940809	-0.15391	0.006897	0.025325
Olfrl229	1.00337	0.901981	-0.15368	0.001611	0.008666
Crtc1	1.02321	0.919834	-0.15366	0.012758	0.039678
Nudcd3	1.075147	0.966572	-0.15358	0.011694	0.037309
Fam213b	1.078207	0.969529	-0.15328	0.008091	0.028483
Fam184a	1.151311	1.035402	-0.15309	0.015626	0.046379
Dennd1a	0.997179	0.896853	-0.15298	0.000268	0.002464

Vcp	0.993561	0.893641	-0.15291	0.003562	0.015531
Eif3j2	1.07669	0.968497	-0.15278	0.008761	0.030197
Zfp947	1.040947	0.936495	-0.15255	0.01402	0.042424
Slc2a13	1.022223	0.920069	-0.1519	0.011269	0.036284
Ttc33	1.062101	0.956276	-0.15142	0.001361	0.007653
Cables2	0.998639	0.899539	-0.15078	0.005374	0.021014
Begain	1.032534	0.930244	-0.15051	0.010483	0.034357
Sdhaf4	1.026969	0.925334	-0.15035	0.003551	0.015486
Tmem186	1.048632	0.945045	-0.15005	0.00612	0.023183
Camk2n1	1.068346	0.962866	-0.14997	0.014482	0.043557
Alg2	1.015259	0.915099	-0.14985	0.001744	0.009191
Olfrl368	1.03767	0.93541	-0.14968	0.006777	0.024995
Zc2hc1a	1.001624	0.902994	-0.14955	0.001818	0.009486
Uba1y	1.029037	0.927818	-0.14938	0.006569	0.024457
Alkbh6	1.107205	0.998496	-0.14909	0.000116	0.001389
Smdt1	1.067141	0.962447	-0.14897	0.011407	0.03656
Slc25a17	0.993568	0.896136	-0.1489	0.005461	0.021268
Larp6	1.021533	0.921434	-0.14878	0.001086	0.006443
2410002F23Rik	1.034125	0.932973	-0.1485	0.005764	0.022143
Herc1	1.15344	1.040672	-0.14843	0.000722	0.004843
LOC109729085	1.04655	0.944242	-0.14841	0.015008	0.044833
Rnf26	1.023033	0.923283	-0.14801	0.000583	0.00418
Acat1	1.071942	0.967546	-0.14783	0.001203	0.006994
Sms	1.004871	0.907055	-0.14775	0.010518	0.034427
Uba5	1.081865	0.976652	-0.1476	0.008822	0.030278
Mrpl16	1.032266	0.931902	-0.14756	4.8E-05	0.00076
D630045J12Rik	1.05047	0.948493	-0.14733	0.005752	0.022134
Syt16	1.05439	0.952105	-0.14721	0.016216	0.047743
Klhl11	1.127178	1.01785	-0.14719	0.015505	0.046057
Dynl1c	1.022793	0.923729	-0.14697	0.009397	0.031689
Gnl1	1.04819	0.946705	-0.14691	0.002973	0.013588
Akap6	1.036651	0.936629	-0.14638	0.000149	0.001639
Fam228b	1.12006	1.012453	-0.14572	0.002569	0.012155

Lsm11	1.028257	0.929521	-0.14564	0.008766	0.030206
Atpaf1	1.112043	1.005268	-0.14563	0.002526	0.012001
Kcnmb4	1.021721	0.923762	-0.14541	0.005209	0.02051
Nme1	1.03294	0.933993	-0.14527	0.010728	0.034954
Morf4l1b	1.013963	0.916923	-0.14513	0.000262	0.002439
Cyp46a1	1.048817	0.94859	-0.14491	0.016862	0.049161
Clqbp	1.055238	0.954408	-0.14489	9.84E-05	0.001225
Zfp995	1.063269	0.961703	-0.14484	0.015637	0.046397
Lmbr1	1.031442	0.933199	-0.14441	0.000128	0.001477
Cct6a	1.010287	0.914183	-0.14421	0.003311	0.014652
Pfdn1	1.148209	1.039111	-0.14404	0.010431	0.034207
Itpa	1.018839	0.922107	-0.14392	0.004579	0.018601
Stx12	1.012186	0.91641	-0.14341	5.26E-06	0.00018
Brinp2	1.0665	0.965826	-0.14305	0.00317	0.014224
Trappc10	1.019209	0.923102	-0.14289	0.000429	0.003407
Paip2b	1.038986	0.941052	-0.14283	0.005094	0.020114
Trim35	1.034653	0.937143	-0.14281	0.000122	0.001432
Tm2d1	1.01197	0.916599	-0.1428	0.003615	0.015679
Kpna4	1.046334	0.947888	-0.14256	0.004712	0.019026
Ap3s2	1.039299	0.941532	-0.14253	0.003955	0.016708
Eif3e	1.040764	0.942944	-0.1424	0.000221	0.002161
Tubb2a	1.033547	0.936628	-0.14206	0.000156	0.001694
Vsnl1	1.019527	0.924201	-0.14162	0.001484	0.008157
Efna2	1.052777	0.954412	-0.14152	0.013352	0.040925
Elk4	1.01805	0.923027	-0.14136	0.013432	0.041098
Rab10	1.051603	0.953557	-0.1412	0.001376	0.007712
Slc25a3	1.046141	0.948608	-0.14119	0.007303	0.026445
Fbxl15	1.079408	0.979016	-0.14084	0.006855	0.025238
Tln2	1.158104	1.050472	-0.14073	0.004401	0.018088
Map1b	1.1655	1.057192	-0.14071	0.003775	0.016167
Ski	1.104787	1.002367	-0.14036	0.012474	0.039076
Malsu1	1.027377	0.932338	-0.14004	0.000224	0.002188
Gdap1	1.083358	0.983264	-0.13986	0.004776	0.019204

Mpi	1.06882	0.970156	-0.13973	0.000282	0.002549
Gbf1	1.137184	1.032259	-0.13966	0.009335	0.031548
Zfp617	1.071325	0.972497	-0.13963	0.011308	0.036373
Fam102a	1.045533	0.949151	-0.13953	7.53E-06	0.000225
Taf7l	1.057715	0.960265	-0.13945	0.009469	0.031821
Gabbr1	1.036627	0.941352	-0.13909	0.003317	0.014657
Cltc	1.010098	0.917303	-0.13903	3.63E-05	0.000641
Maneal	1.029372	0.935096	-0.13858	6.9E-05	0.00097
Caskin1	1.026323	0.932328	-0.13858	0.00911	0.031006
Ccdc112	1.007685	0.915659	-0.13816	0.002664	0.01249
1700020L24Rik	1.010252	0.918563	-0.13726	0.004429	0.018152
Sat2	1.032294	0.938696	-0.13712	0.008818	0.030277
Saraf	1.03883	0.944885	-0.13675	0.001521	0.008303
Mfsd2b	1.06947	0.972986	-0.1364	0.000968	0.005952
Selenom	1.06296	0.967197	-0.13621	0.001893	0.009725
Zfp612	1.013922	0.922757	-0.13592	0.012432	0.038973
Fbxl16	1.014949	0.923987	-0.13546	0.007582	0.027178
Tmsb15b1	1.030266	0.938203	-0.13504	0.016156	0.047605
Ppp2ca	1.023453	0.932012	-0.13503	0.000205	0.002039
E130311K13Rik	1.011138	0.920833	-0.13497	0.012984	0.040157
Omg	1.032932	0.940708	-0.13493	0.003245	0.014429
Ugcg	1.082186	0.985833	-0.13453	0.011122	0.035993
Noa1	1.022019	0.931085	-0.13444	9.21E-05	0.00118
Ptges	1.025837	0.934572	-0.13442	0.001061	0.006349
Ndufa4	0.995744	0.907255	-0.13427	0.001655	0.008841
Arih2	1.027818	0.936645	-0.13401	2.06E-05	0.00045
Tmem30a	0.997696	0.90947	-0.13357	0.00234	0.011366
Cmas	1.046921	0.954366	-0.13354	0.013122	0.040416
Fh1	1.012275	0.923146	-0.13297	0.000581	0.004176
1810009N02Rik	0.999063	0.9111	-0.13297	0.000761	0.005032
Sirt5	1.01262	0.923565	-0.13281	0.003222	0.014372
Mtdh	1.112394	1.014862	-0.13238	0.002201	0.010823
Snrpal	1.051242	0.959152	-0.13226	0.000572	0.00413

Sf3b1	1.058517	0.965963	-0.13201	0.007949	0.028132
Lrpprc	1.021936	0.932776	-0.1317	0.001644	0.008793
Ube2r2	1.017379	0.92863	-0.13168	4.93E-05	0.000775
Usp32	1.02003	0.931231	-0.1314	0.001064	0.006354
Snx25	1.084295	0.990099	-0.13111	0.008288	0.028886
Cbl	1.120924	1.023668	-0.13094	0.001011	0.006147
Slc35b2	1.000372	0.913666	-0.1308	0.012769	0.039683
Zfp932	1.028726	0.939585	-0.13076	0.000409	0.0033
Coq2	0.989222	0.903517	-0.13074	0.002692	0.012569
Zrsr1	1.0732	0.98058	-0.13021	0.000193	0.001969
Sephs2	1.072536	0.980208	-0.12987	0.001327	0.007515
Gng13	1.047116	0.957007	-0.12982	0.015771	0.04667
Bcl2l2	1.061343	0.970226	-0.1295	0.002262	0.011065
Zfp523	1.05812	0.96729	-0.12948	0.000747	0.004969
Sparcl1	1.045818	0.95617	-0.12929	0.001961	0.009973
Tnks1bp1	1.024734	0.937016	-0.1291	0.0049	0.019536
Mllt11	1.030776	0.942578	-0.12905	0.000947	0.005875
Nlgn2	1.041283	0.952409	-0.12871	0.002952	0.013518
Zcchc16	1.079455	0.987536	-0.1284	0.01687	0.049164
Rsrc1	1.170186	1.070555	-0.12838	0.01132	0.036401
Pigs	1.024031	0.937117	-0.12796	0.001415	0.007856
Dek	1.139459	1.042866	-0.1278	0.007266	0.026339
Mrpl17	1.024267	0.938116	-0.12675	0.001634	0.008761
Copg2	1.02914	0.942631	-0.12667	0.006319	0.023792
Uqcrfs1	1.040744	0.953489	-0.12633	0.001313	0.007468
Ccdc82	1.074139	0.984117	-0.12628	0.003103	0.014015
1700020D05Rik	1.038076	0.951276	-0.12598	0.007003	0.025603
4931440F15Rik	1.039611	0.952713	-0.12593	0.01165	0.037194
Nsf	1.06853	0.979478	-0.12554	0.01369	0.041623
Mettl25	1.006908	0.923133	-0.12532	0.003995	0.016829
Ctxn2	1.036211	0.950243	-0.12495	0.006249	0.023586
Mtx3	1.014863	0.930737	-0.12484	0.000917	0.005735
Rnf115	1.065887	0.977704	-0.12458	0.001071	0.006374

At1l	1.025179	0.94083	-0.12387	0.002117	0.010574
Pcdhb18	0.970053	0.890385	-0.12363	0.012476	0.039076
Cfap36	1.0292	0.944716	-0.12357	0.00761	0.02723
Gdpd1	1.006896	0.924475	-0.12321	0.002685	0.012554
Kdm3b	1.083239	0.994692	-0.12303	0.010198	0.033651
Rpl7a	0.993305	0.912355	-0.12264	1.5E-05	0.000362
Ccz1	1.015921	0.933195	-0.12254	0.000789	0.005177
Asrgl1	1.094125	1.005108	-0.12243	0.000142	0.001586
Tom20	1.023882	0.940585	-0.12242	1.2E-05	0.00031
Clstn2	0.968531	0.889808	-0.1223	0.002043	0.010309
Gpbp1l1	1.100685	1.011473	-0.12194	0.000982	0.006009
Gapvd1	0.979086	0.899835	-0.12177	0.006298	0.02374
1700047I17Rik2	1.071439	0.985027	-0.12131	0.006502	0.024283
Cdkn2d	1.028255	0.945327	-0.12131	0.000403	0.00326
Ppm1a	0.984145	0.904969	-0.121	0.012753	0.039674
Pfn2	1.044606	0.96068	-0.12083	0.001814	0.00947
Gm20604	1.02846	0.945832	-0.12083	0.007078	0.025816
Kcnn1	1.040366	0.956834	-0.12075	0.00769	0.027407
Slc35e3	1.008451	0.927713	-0.12039	0.007468	0.026912
Scn3a	1.027468	0.945267	-0.1203	0.006047	0.022996
Pcbd2	1.041314	0.958057	-0.12022	0.008915	0.030511
Bpifc	1.042724	0.959378	-0.12019	0.001448	0.008
Wdr34	0.979955	0.90176	-0.11997	0.002137	0.010625
Slc25a4	1.070923	0.985576	-0.11982	0.012084	0.038209
Kdm5a	1.033582	0.951313	-0.11966	0.006672	0.02473
Tbc1d10a	1.018586	0.937519	-0.11965	0.014452	0.043492
Rpl5	1.000206	0.920929	-0.11913	4.4E-06	0.00016
Pi4k2a	0.995251	0.916476	-0.11896	0.001447	0.007999
Cox7b	1.01665	0.936223	-0.1189	0.000355	0.00299
Ccdc124	1.038866	0.956707	-0.11886	0.000647	0.004481
Arl6ip1	1.055145	0.972737	-0.11732	0.007451	0.02686
Trnp1	1.030699	0.950238	-0.11726	0.013737	0.041706
Ncan	1.028174	0.948567	-0.11626	0.006544	0.024389

Plrg1	1.052328	0.970991	-0.11605	0.01606	0.047348
Ctps	1.031074	0.951484	-0.1159	0.0115	0.0368
Capza1	1.050049	0.969083	-0.11576	0.012608	0.039408
Sfxn1	1.016729	0.938362	-0.11572	0.003704	0.015944
Zfp358	1.009983	0.932142	-0.11571	0.002398	0.011514
Metap2	1.028844	0.949597	-0.11564	0.009779	0.032633
Pbrm1	1.066787	0.984816	-0.11535	0.005607	0.021722
Atp1a3	1.047183	0.966851	-0.11515	0.00071	0.004814
Ndufb6	1.028316	0.949623	-0.11486	0.001029	0.006205
Aimp1	1.007458	0.930497	-0.11465	4.33E-06	0.000159
Synj1	1.006968	0.93009	-0.11458	0.005591	0.021675
Gng3	1.032175	0.953504	-0.11438	0.010973	0.035642
Mrpl18	0.986901	0.911812	-0.11417	0.000427	0.003392
Bzw2	1.032929	0.954485	-0.11395	0.01557	0.046238
Pebp1	1.079667	0.997785	-0.11378	0.010053	0.033275
Gpr158	0.957658	0.885282	-0.11337	0.002124	0.010591
Ndufb2	1.000998	0.925385	-0.11331	0.000692	0.004712
Ptprn2	1.050498	0.971188	-0.11325	0.009736	0.032533
Igip	1.017818	0.94186	-0.11189	0.016353	0.048026
Ubqln4	1.042944	0.965615	-0.11114	0.00258	0.012175
Rnf187	0.993368	0.919722	-0.11113	0.00029	0.002594
Psmc1	1.021301	0.94569	-0.11097	0.008797	0.030253
Sec23a	1.056634	0.97869	-0.11055	0.009466	0.031821
Nhp2	1.051218	0.973712	-0.1105	0.014021	0.042424
Sesn2	1.038109	0.961612	-0.11043	0.006905	0.025334
Immp2l	1.050869	0.973765	-0.10994	0.011342	0.036439
Gtpbp10	1.039733	0.963644	-0.10964	0.007959	0.028158
Stmn3	1.038832	0.963032	-0.10931	0.003687	0.015888
Mtpn	0.972269	0.901379	-0.10922	0.010081	0.033349
Ywhah	1.020667	0.946317	-0.10912	0.000688	0.004699
Zmat3	0.976902	0.905938	-0.1088	0.003311	0.014652
Exoc3	1.01544	0.941704	-0.10876	0.002296	0.011197
Xpo5	1.05428	0.978028	-0.10831	0.005377	0.021014

Kif5c	1.042577	0.967245	-0.1082	0.001608	0.008666
Gpatch1	1.049783	0.97399	-0.10811	0.013125	0.040416
Hectd4	1.024757	0.951044	-0.1077	0.000298	0.002655
Rnf149	1.021508	0.94836	-0.10719	0.003093	0.014004
Susd4	1.10182	1.023123	-0.10691	0.006073	0.023063
Snap47	1.039091	0.964962	-0.10678	0.007193	0.026111
Mlycd	1.024191	0.951335	-0.10646	0.003093	0.014004
Fem1a	1.018166	0.945795	-0.10637	0.014931	0.044666
Slc20a2	1.029994	0.957112	-0.10588	0.013528	0.04126
Atp5b	1.028926	0.95623	-0.10571	0.010411	0.034164
Adprh	1.007738	0.936542	-0.10571	0.008332	0.029013
Mrpl45	1.034662	0.961759	-0.10541	0.005113	0.020163
Snrnp25	1.045099	0.971478	-0.10539	0.01511	0.045112
Gmds	0.994396	0.926123	-0.10262	0.015835	0.046817
Elac1	1.035137	0.964156	-0.10248	0.010532	0.034464
Wdr82	1.081691	1.007608	-0.10235	0.011429	0.036619
Impad1	1.033785	0.963606	-0.10142	0.005848	0.022401
Pgam1	1.025633	0.956043	-0.10137	0.000981	0.006006
Pin1	1.025925	0.956711	-0.10077	0.001432	0.007939
Tsen2	1.018841	0.950835	-0.09966	0.003894	0.016529
Spryd3	1.014034	0.946535	-0.09938	0.004573	0.018594
Tspan3	1.01422	0.946727	-0.09935	0.003073	0.013951
Pi4ka	1.053641	0.984017	-0.09863	0.014206	0.042885
Ank	1.04139	0.973255	-0.09762	0.005756	0.022134
Atn1	1.005965	0.940196	-0.09755	0.01601	0.047227
Ppia	1.061682	0.993307	-0.09604	0.003434	0.015068
Brk1	1.006029	0.941266	-0.096	0.007478	0.026931
Gpn1	1.021199	0.955724	-0.0956	0.011224	0.036181
Ywhab	1.000393	0.936583	-0.09509	0.009675	0.03241
Fkbp3	1.028933	0.96332	-0.09506	0.000124	0.001446
Cdc16	1.017132	0.952359	-0.09493	0.01115	0.036039
Cntnap1	0.997147	0.933668	-0.0949	0.014157	0.04276
Eif1ad	1.049979	0.983154	-0.09487	0.016765	0.049018

Frs2	1.027028	0.96195	-0.09444	0.004458	0.018245
Pik3cb	0.988105	0.925497	-0.09444	0.015874	0.046878
Dcaf5	1.001875	0.939203	-0.09319	0.011894	0.037743
Vdac1	1.019167	0.956232	-0.09196	0.001163	0.006821
Sdha	1.059027	0.994092	-0.09129	0.011034	0.035799
Uhrf1bp1l	1.026487	0.963615	-0.09119	0.003464	0.015174
Tspan7	1.001578	0.94063	-0.09058	0.007649	0.027344
Vps33b	1.03165	0.969094	-0.09025	0.015476	0.045999
Letm1	1.073585	1.008971	-0.08955	0.009735	0.032533
Rab5b	0.99524	0.935988	-0.08855	0.003212	0.014338
Gabarapl2	1.029207	0.96814	-0.08825	0.003738	0.016054
Strap	1.049933	0.987773	-0.08805	0.011933	0.037844
Ifnar1	1.05539	0.993104	-0.08776	0.011744	0.037435
Lemd3	1.038746	0.97771	-0.08736	0.005756	0.022134
Akt3	1.008001	0.94977	-0.08585	0.007494	0.026981
Ssu72	1.007661	0.949693	-0.08548	0.003184	0.014265
Pcsk1n	0.989605	0.93291	-0.08512	0.008241	0.028799
Zfp688	1.021103	0.962795	-0.08483	0.000405	0.003275
Dcp1b	1.014303	0.956667	-0.0844	0.001941	0.009908
Eid1	0.996119	0.939605	-0.08426	0.007804	0.027736
Serinc1	0.99872	0.943025	-0.08278	0.007167	0.026058
Cycs	1.018828	0.963983	-0.07983	0.00923	0.031295
Mark4	1.015842	0.961258	-0.07968	0.013482	0.041194
Eef1a1	1.006155	0.952342	-0.0793	0.000812	0.005283
Ppp2cb	1.01069	0.956688	-0.07922	0.004852	0.019428
Setx	1.003851	0.950376	-0.07898	0.013953	0.042266
Fam171b	0.999782	0.946599	-0.07886	0.011216	0.036176
Ccni	0.975043	0.924804	-0.07632	0.003676	0.015879
Cwc15	0.999156	0.948152	-0.07559	0.010708	0.034931
Cox6a1	1.03715	0.985303	-0.07398	0.007912	0.028046
Trim24	1.003177	0.953203	-0.07372	0.007161	0.026047
Fam216a	1.00609	0.956023	-0.07364	0.01289	0.039928
Amfr	0.98576	0.936784	-0.07352	0.013526	0.04126

Dus3l	0.992565	0.943795	-0.07269	0.009916	0.032929
Gatad1	1.039831	0.988759	-0.07266	0.01275	0.039674
Slc25a11	1.02408	0.974474	-0.07163	0.012965	0.040122
Vbp1	1.034619	0.9853	-0.07046	0.015578	0.04625
Rprd1a	1.00463	0.956945	-0.07016	0.002312	0.011265
Cox5a	1.023538	0.975385	-0.06952	0.00042	0.003366
Rbbp7	1.008067	0.961541	-0.06817	0.016048	0.047328
Anapc4	1.025829	0.978617	-0.06797	0.013601	0.041414
Lysmd2	1.003004	0.957121	-0.06755	0.015948	0.04707
Rasl2-9	1.006302	0.960801	-0.06675	0.007992	0.028227
Mrps30	1.028349	0.9819	-0.06668	0.013105	0.040412
Rnf139	0.985052	0.940862	-0.06622	0.015772	0.04667
Atg2b	1.027961	0.982768	-0.06486	0.016942	0.049331
Mrps18c	1.003883	0.960477	-0.06377	0.015007	0.044833
Cisd1	0.997394	0.958388	-0.05755	0.003647	0.015782
Tmem259	0.998495	0.970645	-0.04081	0.017073	0.049563

Supplementary Table 7. The gene list of overlapped in each group.

(A) Upregulated genes both in 12 and 52 weeks

0610030E20Rik	Adgrl4	Asah1	Ccbe1	Cep76	Csgalnact2	Dpp7
1500015O10Rik	Adi1	Asap3	Ccdc102a	Cetn2	Csrp2	Dppa5a
1700016K19Rik	Adora3	Asb2	Ccdc113	Cetn4	Cst7	Drc3
1700020N15Rik	Agpat2	Atp10b	Ccdc141	Cfap126	Ctdspl	Drc7
1700028P14Rik	Aif1	B2m	Ccdc146	Cfap52	Ctnna1	Dstn
1700029I15Rik	Aim2	Baz2a	Ccdc153	Cfap65	Ctsd	Dtx3l
1700029J07Rik	Ak8	Bcas2	Ccdc173	Cfap69	Ctse	Dusp23
1700094D03Rik	Aldh1a2	Bcl2a1d	Ccdc24	Cfh	Cxcl10	Dynlrb2
1810037I17Rik	Aldob	Bco2	Ccdc38	Chil1	Cxcl13	Efcab14
2810428I15Rik	Alg8	Bend4	Ccdc66	Chrm4	Cyb56l	Ehd2
4833427G06Rik	Alx4	Bmp6	Ccdc81	Cldn11	Cyp51	Eif2ak2
5730508B09Rik	Ang4	Bok	Ccdc88c	Clic1	Cyth4	Eif3a
8030411F24Rik	Ang6	Bst2	Ccl3	Cmtm8	Daam2	Eif4ebp1
A2m	Ankrd44	Btk	Ccl4	Cnih4	Dalrd3	Elavl1
A430078G23Rik	Anln	C1qb	Ccl5	Cnksr3	Ddr2	Elmo3
Aaed1	Anp32b	C1qc	Ccl6	Cnn2	Ddx58	Elof1
Aasdh	Anpep	C1s2	Ccl9	Cnn3	Dennd1c	Eno4
Abca4	Anxa1	C2	Ccny11	Coasy	Dhx58	Eny2
Abcg2	Anxa2	C430049E01Rik	Cd14	Col12a1	Dlx4	Erbp2
Abhd14b	Ap4m1	C4b	Cd209f	Col1a1	Dnaaf3	Erich2
Abracl	Aprt	Cab39l	Cd274	Col1a2	Dnah11	Ezr
Acaa1a	Arf5	Carns1	Cd48	Col6a4	Dnah2	F11r
Acaa2	Arfgap3	Casc3	Cd52	Col9a3	Dnaic1	F5
Acad8	Arhgap31	Casp12	Cd99	Cope	Dnajc15	Fa2h
Acadl	Arhgef18	Casp2	Cdc23	Cpt1a	Dnajc25	Fam129b
Acadvl	Arhgef5	Casp4	Cdc42ep1	Cpt2	Dnali1	Fam167a
Acta2	Arid4a	Casp6	Cdkn1b	Crtap	Dock5	Fam173b
Actb	Arpc1b	Cat	Cds1	Crybg1	Dock8	Fam32a
Adcy4	Arsj	Cavin1	Cenpj	Csad	Dok2	Fam46c
Adgra2	Arsk	Cavin3	Cep290	Csflr	Dpm3	Fap

Farsa	H2-D1	Ifitm3	Layn	Map3k15	Mthfd2	Nptx2
Fbln7	H2-DMb1	Ifitm7	Lbp	Matn2	Mvb12a	Nr2f6
Fcer1g	H2-Eb1	Ifi22	Letmd1	Mccc1	Mycbpap	Nup85
Fcgr1	H2-Ke6	Ifi27	Lgals3bp	Mcm4	Myg1	Nxn
Fcgr4	H2-L	Ifi52	Lman2	Mcoln1	Myh9	Oas1a
Fdxacb1	H2-M3	Igflr1	Lmf2	Mcur1	Myl12a	Oas1f
Fhod1	H2-Q2	Igtp	LOC547349	Mdfic	Myl9	Oas1l
Fkbp9	H2-Q8	Ii10rb	Loxl1	Mfng	Mylk	Oas12
Foxc2	H2-T23	Ii13ra1	Lpl	Mgl2	Myo10	Oat
Foxj1	H2-T9	Ii3ra	Lpxn	Mgp	Myo1e	Ocln
Gatb	H2-T-ps	Ilkap	Lrguk	Mia	Myo1f	Ofd1
Gbp2	Hacd2	Inmt	Lrig3	Micall1	Myo1g	Olf1484
Gbp5	Hba-a1	Iqcg	Lrrc23	Micu3	Myoc	Omd
Gbp6	Hba-a2	Iqub	Lrrc34	Miip	Naaladl2	Oxnad1
Gcm1	Hcls1	Irgm1	Lrrc46	Mitd1	Nabp2	Parp12
Gcn111	Hexa	Irgm2	Lsg1	Mmrn2	Naip6	Parp14
Gigyf1	Hexb	Isg15	Ltbp3	Mndal	Napepld	Parp9
Gkap1	Hey2	Isyna1	Ltbr	Mpeg1	Nat8f5	Pawr
Glb11	Hist3h2a	Itih2	Lvrn	Mrc1	Ncf2	Paxbp1
Glis2	Hspb3	Ivd	Ly86	Mrc2	Nckap11	Pcdha12
Glmf	Hspg2	Jag1	Lyl1	Mrgprf	Ncoa3	Pcolce
Gm11127	Iars2	Katna1	Lysmd3	Mrpl42	Nestn	Pdgfd
Gm45935	Idi1	Kbtbd2	Lyve1	Mrpl48	Ndufc2	Perp
Gm5431	Ifi204	Kcnj13	Maats1	Mrpl51	Neur12	Pex11a
Gm5741	Ifi30	Kctd11	Maf	Ms4a6d	Nid1	Pgghg
Gng5	Ifi35	Kctd15	Mamdc4	Msl3	Nlrc5	Pgpep1
Gpx8	Ifi44	Klk1b22	Manba	Msn	Nlrp1a	Phf11a
Grin2c	Ifi1	Klk1b24	Map2k3	Msrb3	Nme5	Phf11b
Gsdmd	Ifi3	Krt85	Map3k1	Mss51	Nme6	Phf11d
H2-Ab1	Ifi3b	Krtap4-6	Map3k14	Msx1	Nos3	Piezo2

Pih1d2	Ptgds	Rsad2	Slc13a4	Tagap	Tnfsf10	Ufsp2	Zfp433
Pirb	Ptges3	Rsb11	Slc16a9	Tagln2	Tor1b	Uggt2	Zfp462
Plac8	Ptges3l	Rsl1	Slc22a6	Tap2	Tor3a	Ugt1a6b	Zfp511
Plau	Ptgr1	Rsph1	Slc2a5	Tax1bp3	Tpm4	Uox	Zfp52
Pld4	Ptpn13	Rsph3b	Slc35e1	Tbc1d15	Tppp3	Usp18	Zfp579
Plekho1	Ptpn18	Rsu1	Slc39a1	Tbxas1	Tpt1	Usp21	Zfp58
Plod3	Rab29	Rtfdc1	Slc39a4	Tceanc	Tradd	Vamp3	Zfp677
Plscr1	Rab9	Rtkn2	Slc6a13	Tepsin	Trf	Vamp8	Zfp689
Plxnd1	Rbks	Rtp4	Slc7a10	Tgds	Trib3	Vangl1	Zfp800
Pm20d1	Rbm12b1	Samd9l	Smim11	Tgfbi	Trim12a	Vcam1	Zfp87
Pnp	Rbm42	Sap130	Snape2	Tgfbr3	Trim30a	Vim	Zfp933
Polr2i	Rbms1	Scamp2	Sned1	Tgtp2	Trim34a	Vpreb1	Zfp963
Pon3	Rbpms2	Scand1	Snrpc	Themis2	Trir	Vps33a	Zfp97
Pot1b	Rdh10	Sclt1	Snrpf	Thy1	Trmt11	Vwa1	Zfp982
Ppcdc	Reep4	Scepe1	Snx20	Timp3	Trp53i13	Vwf	
Ppox	Rela	Scrg1	Snx29	Tln1	Trp53inp2	Was	
Prdm15	Rem1	Scrn2	Socs4	Tlr2	Tsc22d1	Wasf2	
Prdm6	Rgl3	Sdc4	Sod3	Tm4sf1	Tsen54	Wdfy4	
Procr	Rgs10	Sec14l4	Sowahc	Tmed3	Tsnaxip1	Wdr1	
Prodh	Rhoh	Selplg	Spaca9	Tmem109	Tspo	Wdr31	
Pros1	Rhox8	Serhl	Spata6	Tmem119	Ttr	Wdr78	
Prr14	Ripk4	Serping1	Srf	Tmem140	Txnl4b	Wdr86	
Prr32	Rnaseh2a	Setd4	Ssbp4	Tmem212	Tyms	Wfdc2	
Prrg2	Rnaset2a	Sfi1	St3gal6	Tmem25	Tyrobp	Wfikkn2	
Prss23	Rnf166	Sft2d2	Stat2	Tmem35b	Uaca	Zbed6	
Psg23	Rnf169	Sh3tc1	Stxbp2	Tmem37	Uba7	Zbtb12	
Psemb8	Rnf213	Sil1	Syng2	Tmem88	Ubald1	Zfp114	
Psemb9	Rock1	Six5	Synpo2	Tmsb4x	Ube2d3	Zfp236	
Psme2b	Rplp1	Slc11a1	Sys1	Tnfaip8l2	Ube2f	Zfp263	
Psph	Rps13	Slc13a3	Taf8	Tnfrsf1a	Ufc1	Zfp367	

(B) Downregulated genes both in 12 and 52 weeks

1110059E24Rik	Aldh3b2	B3gnt1	Cd47	Crim1	Eid2	Fkbp1b
1700001C02Rik	Aldh5a1	Babam2	Cdcp1	Crygd	Eif1ad	Fkbp3
1700003F12Rik	Alg6	BC024139	Cdh22	Crym	Eif3e	Fn3krp
1700019N19Rik	Alkbh6	BC027072	Cdk17	Cts7	Emc10	Foxh1
1810009N02Rik	Alpk1	BC051019	Cdk7	Ctnbp2	Entpd4	Foxm1
2310009B15Rik	Angptl8	Bcl2l13	Cend1	Cyp2c70	Epg5	Fpr2
2310011J03Rik	Ankrd35	Begain	Cep170b	Cyp2d26	Epha3	Fry
2310079G19Rik	Ap3s2	Bid	Cep44	D430019H16Rik	Ephb3	Fstl4
2410002F23Rik	Apba1	Bnip3	Ces5a	D630045J12Rik	Erich5	Fxyd6
2810021J22Rik	Apex1	Bpifa5	Cfap54	Dact3	Erich6	Gabbr1
3110079O15Rik	Apoh	Brinp2	Chp1	Dcps	Evx2	Gabra1
4930447C04Rik	Apol8	Brk1	Chrna5	Dest1	Exd1	Gabrg3
4930563E22Rik	Aqp11	Btn1a1	Chst12	Ddn	Exoc3	Gabbr2
4933440N22Rik	Aqp2	C1qbp	Chst8	Dgke	Exoc5	Galnt18
A2ml1	Arel1	C1ql2	Ckmt1	Diras2	Fam102a	Garem1
A430033K04Rik	Arhgef15	C330021F23Rik	Clcnkb	Dmwd	Fam110b	Gatad1
Abca17	Arhgef4	C7	Cldnd2	Dnah8	Fam124b	Gdpd1
Abhd12	Arl8a	Cabp7	Cmya5	Dph1	Fam131a	Gins3
Abhd3	Armex3	Cacna2d3	Cnnm1	Dpysl4	Fam160b2	Git1
Acacb	Armex6	Card10	Coil	Drp2	Fam189a1	Glrp1
Actl6b	Arxes1	Cblb	Col11a1	Dtd1	Fam205a2	Gm11595
Adam23	Arxes2	Cbx6	Cops8	Dtnbp1	Fam210b	Gm14305
Adam26b	At1l	Cbx7	Cox11	Dus3l	Fam212a	Gm14391
Adat2	Atp1a2	Ccdc124	Cox4i2	Dusp12	Fam213b	Gm14440
Adcy10	Atp1a3	Ccdc177	Cplx1	Dusp8	Fam217a	Gm17660
Adgrg3	Atp6v1d	Ccdc42	Cplx4	Dyrk3	Fam84a	Gm1987
Adgrl3	Atp6v1g3	Ccdc82	Cptp	E130311K13Rik	Fbxl16	Gm20604
Afg3l2	Atp7b	Ccer2	Cracr2a	E330017A01Rik	Fgfbp3	Gm20878
Agmat	Atrip	Ccnd1	Crcp	Eef1a2	Fhl3	Gm2696
Akap6	Azgp1	Cd276	Crebrf	Efcab3	Fibcd1	Gm30698

Gm3448	Ido2	Krtap10-4	Map1s	Ndufa8	Olfr1444	Pin1
Gm35257	Ids	Krtap11-1	Map3k10	Ndufaf6	Olfr197	Pitx3
Gm5093	Ifnl3	Krtap5-3	Mapre1	Ndufb6	Olfr279	Pla2g4e
Gm5617	Ifrd1	Krtap5-4	Mark4	Neb	Olfr319	Plpp6
Gm6588	Ift46	Krtap9-1	Mc4r	Nell1	Olfr339	Plrg1
Gm996	Ift57	Ksr2	Me3	Nepn	Olfr46	Pnpo
Gnaq	Ikzf3	L3mbtl1	Med18	Neto1	Olfr570	Ppan
Gng13	Il27	Lcelj	Mettl22	Nkain1	Olfr60	Ppia
Gng3	Imp4	Lcn12	Mettl24	Nlgn2	Olfr699	Ppif
Got1	Impg1	Lctl	Mettl7a3	Nlrp2	Olfr744	Ppp1r26
Gpc4	Inafm1	Lelp1	Mios	Nme1	Olfr745	Ppp1r9b
Gpr101	Itga4	Lims2	Mllt11	Nmnat3	Olfr845	Ppp2ca
Gpr25	Iws1	Lmed1	Mms221	Noa1	Olfr885	Ppp5c
Grasp	Jaml	LOC102637615	Mn1	Nomo1	Olfr933	Prag1
Grem2	Jph3	LOC109729085	Mpc2	Nppc	Oosp3	Prim2
Grid1	Jpt1	Lonrf2	Mpi	Npr2	Osbp110	Prlhr
Grm2	Kend1	Lrig1	Mppe1	Npy1r	Ostm1	Prmt8
Gsr	Kenmb4	Lrrc19	Mrpl16	Nrsn1	P2rx5	Prpmp5
Hapln3	Kenn1	Lrrc3c	Mrpl33	Nsg1	Pacrg	Prps1
Has1	Kcnq3	Lrrn1	Ms4a4c	Nsun4	Padi1	Prr15
Hcn1	Kenv1	Ly6g5b	Msi1	Nt5dc3	Panx1	Prr29
Hcn2	Kctd8	Lypd5	Mtfr2	Nudcd3	Pcdha9	Prr36
Hcn4	Kidins220	Lyplal1	Myh8	Nudt18	Pcdhb16	Prrx2
Hddc3	Kif26b	Lym9	Myl2	Nudt5	Pcsk1n	Prss12
Hectd4	Kif5c	MacroD2	Myo18b	Nyap2	Pdhh	Prss37
Hgsnat	Klhl14	Madcaml	Nanos2	Odf3l2	Pdhx	Prune2
Hipk4	Kntc1	Magee1	Nap115	Olfm11	Pdp2	Psmc1
Hkdc1	Kras	Mal2	Ncan	Olfr1026	Pex14	Pthlh
Hlcs	Krt79	Man2a2	Ndnf	Olfr1093	Pfn2	Ptprn2
Htr4	Krt9	Manea	Ndst4	Olfr128	Pgam1	Pxt1

Rab11fip4	Rnf207	Shank3	Sorcs3	Timm17a	Ttl2	Wnt2
Rab2b	Rnf224	Shb	Sorl1	Tlk1	Tubb1	Wsb2
Rab39b	Rnf26	Shc2	Spag4	Tlnrd1	Tubb2a	Xirp1
Rab40b	Rpe65	Sim2	Sparc1	Tmem100	Tvp23a	Xk
Rad50	Rpl21	Ski	Spatc1	Tmem132d	U2af114	Xxylt1
Rap1gap2	Rsg1	Slc22a13	Spatc11	Tmem143	Uba5	Zbtb16
Rap2b	Rtca	Slc22a28	Spdl1	Tmem150c	Ubash3b	Zc2hc1a
Rapgef5	Rwdd2b	Slc24a3	Spred3	Tmem186	Ube2e1	Zfp260
Rapgef11	Ryr2	Slc25a16	Spr2a2	Tmem191c	Ube2e2	Zfp330
Rarres1	S1pr1	Slc25a18	Spr2b	Tmem200c	Ube2l3	Zfp523
Rasd2	Sacs	Slc25a46	Spry3	Tmem202	Ube2q11	Zfp566
Rasgrf2	Sag	Slc28a1	Srek1	Tmem35a	Ube2r2	Zfp617
Rasgrp1	Samd10	Slc34a1	Srp14	Tmem59l	Uchl1	Zfp648
Ras10b	Samd8	Slc36a1	Srxn1	Tmem74b	Uck1	Zfp931
Rasl2-9	Scg5	Slc5a5	St6galnac5	Tmem81	Unc80	Zfp936
Rb1	Scn4a	Slc6a16	St8sia3	Tmod1	Uqcrfs1	Zfp951
Rbbp9	Sdha	Slc7a14	Stmn3	Tmsb15b1	Ush1g	Zfp956
Rbm20	Sdhaf4	Slc9a6	Stn1	Tox2	Usp11	Zfp970
Rcl1	Sdr39u1	Slit3	Sub1	Tpbgl	Ust	Zfp972
Rex2	Sec23a	Slitrk4	Sugp1	Tpgs1	Vbp1	Zfp976
Rgs4	Selenom	Smarc11	Syce1	Trappc10	Vcp	Zfp983
Rif1	Sema7a	Smdt1	Syt16	Trim35	Veph1	Zmat2
Rin1	Serpina3j	Smim13	Syt17	Trim72	Vps33b	Zrsr1
Riok3	Serpina3n	Smyd4	Tbc1d10a	Trnp1	Vsnl1	Zswim4
Rit2	Serpini1	Snap47	Tbl3	Tspan17	Vstm21	
Rnase1	Sertm1	Snn	Tcf15	Tspear	Wars2	
Rnase1	Sfxn4	Snrnp25	Tcl1b5	Tspsyl1	Wbp11	
Rnf121	Sgtb	Snrpa1	Tctel1	Tsr1	Wdr83os	
Rnf157	Shank1	Sohlh2	Tex44	Ttc34	Wdr89	
Rnf180	Shank2	Sorcs2	Tgif2lx1	Ttl1	Wfs1	

(C) The Genes of upregulated in 12 weeks and downregulated in 52 weeks

Secisbp21
Cd80
Herc1
Pde4d
Slc38a11

(D) The Genes of downregulated in 12 weeks and upregulated in 52 weeks

1700025G04Rik
H2afj
Pcbp4
Nrd1
Tubg1
Bap1
Fmn12
Hist2h2aa2
Gtf2b
Dgcr8
Lrp1
Hist1h2bb
2410015M20Rik

Supplementary Table S. The list of 330 BP terms in the pathway and functional analysis of upregulated genes both in 12 and 52 weeks.

GO ID	Description	LogP	Number of gene
GO:0034341	response to interferon-gamma	-12	23
GO:0051607	defense response to virus	-11	31
GO:0035456	response to interferon-beta	-11	17
GO:0140546	defense response to symbiont	-11	31
GO:0019882	antigen processing and presentation	-11	21
GO:0009615	response to virus	-11	34
GO:0048002	antigen processing and presentation of peptide antigen	-10	17
GO:0035458	cellular response to interferon-beta	-10	15
GO:0032103	positive regulation of response to external stimulus	-9.9	42
GO:0031347	regulation of defense response	-9.8	52
GO:0050778	positive regulation of immune response	-9.5	52
GO:0002831	regulation of response to biotic stimulus	-9.3	36
GO:0045088	regulation of innate immune response	-9.1	28
GO:0030031	cell projection assembly	-8.7	38
GO:0031349	positive regulation of defense response	-8.6	31
GO:0050900	leukocyte migration	-8.5	27
GO:0071346	cellular response to interferon-gamma	-8.3	17
GO:0002833	positive regulation of response to biotic stimulus	-8.1	23
GO:0120031	plasma membrane bounded cell projection assembly	-8	36
GO:0045071	negative regulation of viral genome replication	-7.9	13
GO:0035455	response to interferon-alpha	-7.9	10
GO:0030036	actin cytoskeleton organization	-7.8	42
GO:0002478	antigen processing and presentation of exogenous peptide antigen	-7.6	10
GO:0002474	antigen processing and presentation of peptide antigen via MHC class I	-7.2	12
GO:0030029	actin filament-based process	-7.1	43
GO:0071674	mononuclear cell migration	-6.8	15
GO:0001578	microtubule bundle formation	-6.7	17
GO:0044782	cilium organization	-6.7	30
GO:0019884	antigen processing and presentation of exogenous antigen	-6.7	10

GO:0060271	cilium assembly	-6.6	28
GO:0048525	negative regulation of viral process	-6.5	15
GO:0035082	axoneme assembly	-6.3	14
GO:0097435	supramolecular fiber organization	-6.2	39
GO:0001819	positive regulation of cytokine production	-6.2	37
GO:0002428	antigen processing and presentation of peptide antigen via MHC class Ib	-6.2	9
GO:0001914	regulation of T cell mediated cytotoxicity	-6	11
GO:0097529	myeloid leukocyte migration	-6	17
GO:0019886	antigen processing and presentation of exogenous peptide antigen via MHC class II	-6	7
GO:0045089	positive regulation of innate immune response	-5.9	17
GO:0002475	antigen processing and presentation via MHC class Ib	-5.8	9
GO:0032731	positive regulation of interleukin-1 beta production	-5.7	11
GO:0050729	positive regulation of inflammatory response	-5.7	17
GO:0019885	antigen processing and presentation of endogenous peptide antigen via MHC class I	-5.7	9
GO:0002483	antigen processing and presentation of endogenous peptide antigen	-5.7	9
GO:0001916	positive regulation of T cell mediated cytotoxicity	-5.7	10
GO:0097530	granulocyte migration	-5.7	14
GO:0002495	antigen processing and presentation of peptide antigen via MHC class II	-5.6	7
GO:0006954	inflammatory response	-5.6	36
GO:1990266	neutrophil migration	-5.5	13
GO:0002274	myeloid leukocyte activation	-5.5	18
GO:0002504	antigen processing and presentation of peptide or polysaccharide antigen via MHC class II	-5.5	7
GO:0002697	regulation of immune effector process	-5.4	33
GO:0019883	antigen processing and presentation of endogenous antigen	-5.4	9
GO:0002699	positive regulation of immune effector process	-5.4	26
GO:0045069	regulation of viral genome replication	-5.3	13
GO:0001817	regulation of cytokine production	-5.3	47
GO:0050792	regulation of viral process	-5.3	18
GO:0002476	antigen processing and presentation of endogenous peptide antigen via MHC class Ib	-5.3	8
GO:0002484	antigen processing and presentation of endogenous peptide antigen via	-5.3	8

	MHC class I via ER pathway		
GO:0072676	lymphocyte migration	-5.3	11
GO:0002819	regulation of adaptive immune response	-5	21
GO:0032732	positive regulation of interleukin-1 production	-5	11
GO:1903900	regulation of viral life cycle	-4.9	16
GO:0002822	regulation of adaptive immune response based on somatic recombination of immune receptors built from immunoglobulin superfamily domains	-4.9	20
GO:0030866	cortical actin cytoskeleton organization	-4.9	8
GO:0070925	organelle assembly	-4.9	45
GO:0002824	positive regulation of adaptive immune response based on somatic recombination of immune receptors built from immunoglobulin superfamily domains	-4.8	16
GO:0030865	cortical cytoskeleton organization	-4.8	10
GO:0051345	positive regulation of hydrolase activity	-4.8	35
GO:0032970	regulation of actin filament-based process	-4.7	29
GO:0008360	regulation of cell shape	-4.7	16
GO:0010939	regulation of necrotic cell death	-4.6	8
GO:0002687	positive regulation of leukocyte migration	-4.6	16
GO:0002685	regulation of leukocyte migration	-4.6	20
GO:0060335	positive regulation of interferon-gamma-mediated signaling pathway	-4.6	4
GO:0060332	positive regulation of response to interferon-gamma	-4.6	4
GO:0002821	positive regulation of adaptive immune response	-4.6	16
GO:0032760	positive regulation of tumor necrosis factor production	-4.6	13
GO:0002709	regulation of T cell mediated immunity	-4.6	13
GO:0002481	antigen processing and presentation of exogenous protein antigen via MHC class Ib, TAP-dependent	-4.6	3
GO:0002477	antigen processing and presentation of exogenous peptide antigen via MHC class Ib	-4.6	3
GO:0002711	positive regulation of T cell mediated immunity	-4.5	11
GO:0019221	cytokine-mediated signaling pathway	-4.5	24
GO:1903557	positive regulation of tumor necrosis factor superfamily cytokine production	-4.5	13
GO:0071621	granulocyte chemotaxis	-4.5	11

GO:0010631	epithelial cell migration	-4.4	13
GO:0002703	regulation of leukocyte mediated immunity	-4.4	23
GO:0045824	negative regulation of innate immune response	-4.4	11
GO:0002486	antigen processing and presentation of endogenous peptide antigen via MHC class I via ER pathway, TAP-independent	-4.4	7
GO:0045321	leukocyte activation	-4.4	39
GO:0090132	epithelium migration	-4.3	13
GO:0002237	response to molecule of bacterial origin	-4.3	27
GO:0060334	regulation of interferon-gamma-mediated signaling pathway	-4.3	5
GO:0060330	regulation of response to interferon-gamma	-4.3	5
GO:0090130	tissue migration	-4.2	13
GO:2000147	positive regulation of cell motility	-4.2	36
GO:0001775	cell activation	-4.2	42
GO:0030593	neutrophil chemotaxis	-4.1	10
GO:0050764	regulation of phagocytosis	-4.1	13
GO:0001912	positive regulation of leukocyte mediated cytotoxicity	-4.1	11
GO:0071219	cellular response to molecule of bacterial origin	-4.1	22
GO:0002443	leukocyte mediated immunity	-4	26
GO:0050727	regulation of inflammatory response	-4	25
GO:0007368	determination of left/right symmetry	-3.9	13
GO:0042119	neutrophil activation	-3.9	6
GO:0032956	regulation of actin cytoskeleton organization	-3.9	25
GO:0040017	positive regulation of locomotion	-3.9	36
GO:0060759	regulation of response to cytokine stimulus	-3.9	14
GO:0032651	regulation of interleukin-1 beta production	-3.9	11
GO:0071222	cellular response to lipopolysaccharide	-3.9	21
GO:0071223	cellular response to lipoteichoic acid	-3.9	4
GO:0070391	response to lipoteichoic acid	-3.9	4
GO:0002683	negative regulation of immune system process	-3.8	29
GO:0007015	actin filament organization	-3.8	20
GO:0002221	pattern recognition receptor signaling pathway	-3.8	11
GO:0043542	endothelial cell migration	-3.8	10
GO:1903555	regulation of tumor necrosis factor superfamily cytokine production	-3.8	16

GO:0030199	collagen fibril organization	-3.7	8
GO:0009855	determination of bilateral symmetry	-3.7	13
GO:0035457	cellular response to interferon-alpha	-3.7	5
GO:0032652	regulation of interleukin-1 production	-3.7	12
GO:0009799	specification of symmetry	-3.7	13
GO:0048247	lymphocyte chemotaxis	-3.7	7
GO:0002503	peptide antigen assembly with MHC class II protein complex	-3.7	4
GO:0002399	MHC class II protein complex assembly	-3.7	4
GO:0072678	T cell migration	-3.7	6
GO:0031343	positive regulation of cell killing	-3.6	11
GO:0030595	leukocyte chemotaxis	-3.6	13
GO:0036230	granulocyte activation	-3.6	6
GO:0071216	cellular response to biotic stimulus	-3.6	22
GO:0110053	regulation of actin filament organization	-3.6	20
GO:0030335	positive regulation of cell migration	-3.5	33
GO:0042742	defense response to bacterium	-3.5	29
GO:0032496	response to lipopolysaccharide	-3.5	24
GO:0002218	activation of innate immune response	-3.5	8
GO:0001910	regulation of leukocyte mediated cytotoxicity	-3.5	12
GO:0002252	immune effector process	-3.4	31
GO:0070269	pyroptosis	-3.4	6
GO:0002753	cytoplasmic pattern recognition receptor signaling pathway	-3.4	5
GO:0031341	regulation of cell killing	-3.4	13
GO:0060760	positive regulation of response to cytokine stimulus	-3.4	8
GO:0002705	positive regulation of leukocyte mediated immunity	-3.4	15
GO:0034340	response to type I interferon	-3.4	6
GO:0002548	monocyte chemotaxis	-3.4	6
GO:0032680	regulation of tumor necrosis factor production	-3.3	15
GO:0002693	positive regulation of cellular extravasation	-3.3	5
GO:2001056	positive regulation of cysteine-type endopeptidase activity	-3.3	13
GO:0010950	positive regulation of endopeptidase activity	-3.2	14
GO:0003341	cilium movement	-3.2	15
GO:0002449	lymphocyte mediated immunity	-3.2	21

GO:0060339	negative regulation of type I interferon-mediated signaling pathway	-3.2	5
GO:0042730	fibrinolysis	-3.2	4
GO:0032231	regulation of actin filament bundle assembly	-3.2	11
GO:0031032	actomyosin structure organization	-3.1	11
GO:0060337	type I interferon signaling pathway	-3.1	5
GO:0071357	cellular response to type I interferon	-3.1	5
GO:0002832	negative regulation of response to biotic stimulus	-3.1	11
GO:0032722	positive regulation of chemokine production	-3.1	9
GO:0001959	regulation of cytokine-mediated signaling pathway	-3.1	12
GO:1990869	cellular response to chemokine	-3.1	8
GO:1990868	response to chemokine	-3.1	8
GO:0002396	MHC protein complex assembly	-3.1	4
GO:0002501	peptide antigen assembly with MHC protein complex	-3.1	4
GO:0060700	regulation of ribonuclease activity	-3.1	4
GO:0042574	retinal metabolic process	-3.1	4
GO:0090521	podocyte cell migration	-3.1	3
GO:0032741	positive regulation of interleukin-18 production	-3.1	3
GO:0043547	positive regulation of GTPase activity	-3.1	18
GO:0052547	regulation of peptidase activity	-3.1	26
GO:0002460	adaptive immune response based on somatic recombination of immune receptors built from immunoglobulin superfamily domains	-3	21
GO:0002456	T cell mediated immunity	-3	7
GO:0010952	positive regulation of peptidase activity	-3	14
GO:0002708	positive regulation of lymphocyte mediated immunity	-3	13
GO:2000116	regulation of cysteine-type endopeptidase activity	-3	17
GO:0030097	hemopoiesis	-3	39
GO:0044458	motile cilium assembly	-3	8
GO:0032232	negative regulation of actin filament bundle assembly	-3	6
GO:0007264	small GTPase mediated signal transduction	-2.9	17
GO:1902622	regulation of neutrophil migration	-2.9	7
GO:0052548	regulation of endopeptidase activity	-2.9	22
GO:0072683	T cell extravasation	-2.9	3
GO:0051091	positive regulation of DNA-binding transcription factor activity	-2.9	18

GO:0046415	urate metabolic process	-2.9	4
GO:0030099	myeloid cell differentiation	-2.9	19
GO:0070098	chemokine-mediated signaling pathway	-2.8	7
GO:0045785	positive regulation of cell adhesion	-2.8	28
GO:0110149	regulation of biomineralization	-2.8	10
GO:0050766	positive regulation of phagocytosis	-2.8	9
GO:0002706	regulation of lymphocyte mediated immunity	-2.8	16
GO:1902624	positive regulation of neutrophil migration	-2.8	6
GO:0030198	extracellular matrix organization	-2.8	18
GO:0022409	positive regulation of cell-cell adhesion	-2.8	20
GO:0008285	negative regulation of cell population proliferation	-2.7	38
GO:0043062	extracellular structure organization	-2.7	18
GO:0045229	external encapsulating structure organization	-2.7	18
GO:1902965	regulation of protein localization to early endosome	-2.7	3
GO:1902966	positive regulation of protein localization to early endosome	-2.7	3
GO:0032661	regulation of interleukin-18 production	-2.7	3
GO:0007159	leukocyte cell-cell adhesion	-2.7	7
GO:0062208	positive regulation of pattern recognition receptor signaling pathway	-2.7	6
GO:0050777	negative regulation of immune response	-2.7	14
GO:0030220	platelet formation	-2.7	4
GO:0045123	cellular extravasation	-2.6	6
GO:0051092	positive regulation of NF-kappaB transcription factor activity	-2.6	12
GO:0045669	positive regulation of osteoblast differentiation	-2.6	8
GO:0002253	activation of immune response	-2.6	22
GO:0097193	intrinsic apoptotic signaling pathway	-2.6	13
GO:1901222	regulation of NIK/NF-kappaB signaling	-2.6	9
GO:0050819	negative regulation of coagulation	-2.6	6
GO:0032495	response to muramyl dipeptide	-2.6	4
GO:0070423	nucleotide-binding oligomerization domain containing signaling pathway	-2.6	3
GO:0070431	nucleotide-binding oligomerization domain containing 2 signaling pathway	-2.6	3
GO:0002230	positive regulation of defense response to virus by host	-2.6	5

GO:0051492	regulation of stress fiber assembly	-2.6	9
GO:0014911	positive regulation of smooth muscle cell migration	-2.5	7
GO:0032728	positive regulation of interferon-beta production	-2.5	6
GO:1902905	positive regulation of supramolecular fiber organization	-2.5	13
GO:0097722	sperm motility	-2.5	11
GO:0051495	positive regulation of cytoskeleton organization	-2.5	14
GO:0001913	T cell mediated cytotoxicity	-2.5	4
GO:0002577	regulation of antigen processing and presentation	-2.5	4
GO:0036344	platelet morphogenesis	-2.5	4
GO:0003177	pulmonary valve development	-2.5	4
GO:1903901	negative regulation of viral life cycle	-2.5	5
GO:0051497	negative regulation of stress fiber assembly	-2.5	5
GO:1902903	regulation of supramolecular fiber organization	-2.5	22
GO:0033628	regulation of cell adhesion mediated by integrin	-2.5	6
GO:0008630	intrinsic apoptotic signaling pathway in response to DNA damage	-2.5	8
GO:1903039	positive regulation of leukocyte cell-cell adhesion	-2.5	17
GO:2000406	positive regulation of T cell migration	-2.5	5
GO:0060142	regulation of syncytium formation by plasma membrane fusion	-2.5	5
GO:0034770	histone H4-K20 methylation	-2.4	3
GO:0006183	GTP biosynthetic process	-2.4	3
GO:0035872	nucleotide-binding domain, leucine rich repeat containing receptor signaling pathway	-2.4	3
GO:0006144	purine nucleobase metabolic process	-2.4	4
GO:0035634	response to stilbenoid	-2.4	4
GO:0097202	activation of cysteine-type endopeptidase activity	-2.4	4
GO:0010039	response to iron ion	-2.4	4
GO:1903037	regulation of leukocyte cell-cell adhesion	-2.4	21
GO:0071396	cellular response to lipid	-2.4	29
GO:0022407	regulation of cell-cell adhesion	-2.4	26
GO:0031638	zymogen activation	-2.4	8
GO:0016236	macroautophagy	-2.4	12
GO:0060326	cell chemotaxis	-2.4	14
GO:0032675	regulation of interleukin-6 production	-2.4	12

GO:1901224	positive regulation of NIK/NF-kappaB signaling	-2.4	7
GO:0033630	positive regulation of cell adhesion mediated by integrin	-2.4	4
GO:0043087	regulation of GTPase activity	-2.4	20
GO:0042110	T cell activation	-2.4	20
GO:0048514	blood vessel morphogenesis	-2.4	24
GO:0070167	regulation of biomineral tissue development	-2.3	9
GO:0001960	negative regulation of cytokine-mediated signaling pathway	-2.3	7
GO:0002579	positive regulation of antigen processing and presentation	-2.3	3
GO:0071281	cellular response to iron ion	-2.3	3
GO:0140289	protein mono-ADP-ribosylation	-2.3	3
GO:0033539	fatty acid beta-oxidation using acyl-CoA dehydrogenase	-2.3	3
GO:0001568	blood vessel development	-2.3	28
GO:0001525	angiogenesis	-2.3	19
GO:0060285	cilium-dependent cell motility	-2.3	11
GO:0001539	cilium or flagellum-dependent cell motility	-2.3	11
GO:0031663	lipopolysaccharide-mediated signaling pathway	-2.3	5
GO:0009595	detection of biotic stimulus	-2.3	5
GO:0030048	actin filament-based movement	-2.3	8
GO:0032481	positive regulation of type I interferon production	-2.3	7
GO:0032642	regulation of chemokine production	-2.3	9
GO:0042531	positive regulation of tyrosine phosphorylation of STAT protein	-2.2	6
GO:0001961	positive regulation of cytokine-mediated signaling pathway	-2.2	6
GO:0110020	regulation of actomyosin structure organization	-2.2	9
GO:0043306	positive regulation of mast cell degranulation	-2.2	4
GO:0033008	positive regulation of mast cell activation involved in immune response	-2.2	4
GO:0062098	regulation of programmed necrotic cell death	-2.2	4
GO:0060547	negative regulation of necrotic cell death	-2.2	4
GO:0043589	skin morphogenesis	-2.2	3
GO:0009437	carnitine metabolic process	-2.2	3
GO:1905668	positive regulation of protein localization to endosome	-2.2	3
GO:0002283	neutrophil activation involved in immune response	-2.2	3
GO:0042590	antigen processing and presentation of exogenous peptide antigen via MHC class I	-2.2	3

GO:0019724	B cell mediated immunity	-2.2	15
GO:2000403	positive regulation of lymphocyte migration	-2.2	5
GO:0014068	positive regulation of phosphatidylinositol 3-kinase signaling	-2.2	7
GO:0060761	negative regulation of response to cytokine stimulus	-2.2	7
GO:0030317	flagellated sperm motility	-2.2	10
GO:0008015	blood circulation	-2.2	23
GO:0031348	negative regulation of defense response	-2.2	15
GO:0001944	vasculature development	-2.2	29
GO:0002886	regulation of myeloid leukocyte mediated immunity	-2.2	7
GO:0031664	regulation of lipopolysaccharide-mediated signaling pathway	-2.2	4
GO:0060343	trabecula formation	-2.2	4
GO:0051493	regulation of cytoskeleton organization	-2.2	27
GO:0050870	positive regulation of T cell activation	-2.2	15
GO:0016485	protein processing	-2.1	14
GO:0006635	fatty acid beta-oxidation	-2.1	6
GO:0032757	positive regulation of interleukin-8 production	-2.1	6
GO:0032677	regulation of interleukin-8 production	-2.1	7
GO:1905666	regulation of protein localization to endosome	-2.1	3
GO:0010940	positive regulation of necrotic cell death	-2.1	3
GO:0051259	protein complex oligomerization	-2.1	15
GO:0007265	Ras protein signal transduction	-2.1	12
GO:0060338	regulation of type I interferon-mediated signaling pathway	-2.1	5
GO:0061041	regulation of wound healing	-2.1	10
GO:0001818	negative regulation of cytokine production	-2.1	17
GO:2000341	regulation of chemokine (C-X-C motif) ligand 2 production	-2.1	4
GO:0032069	regulation of nuclease activity	-2.1	4
GO:1901223	negative regulation of NIK/NF-kappaB signaling	-2.1	4
GO:0003013	circulatory system process	-2.1	24
GO:0006520	cellular amino acid metabolic process	-2.1	15
GO:0061919	process utilizing autophagic mechanism	-2.1	16
GO:0006914	autophagy	-2.1	16
GO:0002275	myeloid cell activation involved in immune response	-2.1	7
GO:0001667	ameboidal-type cell migration	-2.1	14

GO:0045601	regulation of endothelial cell differentiation	-2.1	5
GO:0043254	regulation of protein-containing complex assembly	-2.1	22
GO:0002262	myeloid cell homeostasis	-2.1	11
GO:0002250	adaptive immune response	-2.1	24
GO:0051894	positive regulation of focal adhesion assembly	-2	4
GO:0070372	regulation of ERK1 and ERK2 cascade	-2	18
GO:0060294	cilium movement involved in cell motility	-2	10
GO:0060347	heart trabecula formation	-2	3
GO:0051451	myoblast migration	-2	3
GO:1902337	regulation of apoptotic process involved in morphogenesis	-2	3
GO:0006577	amino-acid betaine metabolic process	-2	3
GO:0002730	regulation of dendritic cell cytokine production	-2	3
GO:0032429	regulation of phospholipase A2 activity	-2	3
GO:0042116	macrophage activation	-2	6
GO:0050691	regulation of defense response to virus by host	-2	5
GO:0043038	amino acid activation	-2	5
GO:0032102	negative regulation of response to external stimulus	-2	21
GO:0050863	regulation of T cell activation	-2	20
GO:0070663	regulation of leukocyte proliferation	-2	16

Supplementary Table 9. The list of 90 BP terms in the pathway and functional analysis of downregulated genes both in 12 and 52 weeks.

GO ID	Description	LogP	Number of gene
GO:0098907	regulation of SA node cell action potential	-4.8	4
GO:0042391	regulation of membrane potential	-4.5	29
GO:0034765	regulation of ion transmembrane transport	-3.9	30
GO:0019693	ribose phosphate metabolic process	-3.8	24
GO:0030534	adult behavior	-3.7	15
GO:0009259	ribonucleotide metabolic process	-3.6	23
GO:0043269	regulation of ion transport	-3.5	38
GO:0035725	sodium ion transmembrane transport	-3.5	10
GO:1900194	negative regulation of oocyte maturation	-3.4	3
GO:0032412	regulation of ion transmembrane transporter activity	-3.4	19
GO:0098660	inorganic ion transmembrane transport	-3.4	28
GO:0006163	purine nucleotide metabolic process	-3.2	22
GO:0022898	regulation of transmembrane transporter activity	-3.2	19
GO:0009117	nucleotide metabolic process	-3.2	26
GO:0034220	ion transmembrane transport	-3.1	32
GO:0072521	purine-containing compound metabolic process	-3.1	23
GO:0006813	potassium ion transport	-3.1	13
GO:0009150	purine ribonucleotide metabolic process	-3.1	21
GO:0006753	nucleoside phosphate metabolic process	-3.1	26
GO:0009199	ribonucleoside triphosphate metabolic process	-3.1	14
GO:1904062	regulation of cation transmembrane transport	-3	23
GO:0034762	regulation of transmembrane transport	-3	31
GO:0061732	mitochondrial acetyl-CoA biosynthetic process from pyruvate	-3	3
GO:0006086	acetyl-CoA biosynthetic process from pyruvate	-3	3
GO:0032409	regulation of transporter activity	-3	19
GO:0007214	gamma-aminobutyric acid signaling pathway	-2.9	5
GO:0009165	nucleotide biosynthetic process	-2.8	15
GO:1900193	regulation of oocyte maturation	-2.8	3
GO:0055086	nucleobase-containing small molecule metabolic process	-2.8	27

GO:1901293	nucleoside phosphate biosynthetic process	-2.7	15
GO:0007626	locomotory behavior	-2.7	16
GO:0098662	inorganic cation transmembrane transport	-2.7	24
GO:0009205	purine ribonucleoside triphosphate metabolic process	-2.7	13
GO:0009141	nucleoside triphosphate metabolic process	-2.7	14
GO:0016358	dendrite development	-2.7	11
GO:0071805	potassium ion transmembrane transport	-2.7	11
GO:0031503	protein-containing complex localization	-2.6	12
GO:0046390	ribose phosphate biosynthetic process	-2.6	13
GO:0050808	synapse organization	-2.6	18
GO:0009144	purine nucleoside triphosphate metabolic process	-2.6	13
GO:0035418	protein localization to synapse	-2.6	7
GO:0035384	thioester biosynthetic process	-2.6	4
GO:0071616	acyl-CoA biosynthetic process	-2.6	4
GO:0060292	long-term synaptic depression	-2.6	4
GO:0098719	sodium ion import across plasma membrane	-2.6	4
GO:2001257	regulation of cation channel activity	-2.6	13
GO:0035640	exploration behavior	-2.5	5
GO:0010923	negative regulation of phosphatase activity	-2.5	5
GO:0098655	cation transmembrane transport	-2.5	25
GO:0000413	protein peptidyl-prolyl isomerization	-2.5	4
GO:0006814	sodium ion transport	-2.5	12
GO:0097120	receptor localization to synapse	-2.5	6
GO:0060996	dendritic spine development	-2.5	5
GO:0006090	pyruvate metabolic process	-2.4	7
GO:0009191	ribonucleoside diphosphate catabolic process	-2.4	3
GO:0051481	negative regulation of cytosolic calcium ion concentration	-2.4	4
GO:0006164	purine nucleotide biosynthetic process	-2.4	12
GO:0009260	ribonucleotide biosynthetic process	-2.4	12
GO:0046034	ATP metabolic process	-2.4	11
GO:0099111	microtubule-based transport	-2.3	13
GO:1903430	negative regulation of cell maturation	-2.3	3
GO:0018095	protein polyglutamylation	-2.3	3

GO:0010288	response to lead ion	-2.3	3
GO:2000463	positive regulation of excitatory postsynaptic potential	-2.3	5
GO:0051932	synaptic transmission, GABAergic	-2.3	4
GO:0007610	behavior	-2.3	32
GO:0072522	purine-containing compound biosynthetic process	-2.3	12
GO:0098930	axonal transport	-2.3	6
GO:0098901	regulation of cardiac muscle cell action potential	-2.2	4
GO:0007268	chemical synaptic transmission	-2.2	19
GO:0098916	anterograde trans-synaptic signaling	-2.2	19
GO:1901137	carbohydrate derivative biosynthetic process	-2.2	25
GO:0009134	nucleoside diphosphate catabolic process	-2.2	3
GO:0000479	endonucleolytic cleavage of tricistronic rRNA transcript (SSU-rRNA, 5.8S rRNA, LSU-rRNA)	-2.2	3
GO:0006085	acetyl-CoA biosynthetic process	-2.2	3
GO:0000478	endonucleolytic cleavage involved in rRNA processing	-2.2	3
GO:0009152	purine ribonucleotide biosynthetic process	-2.1	11
GO:0043393	regulation of protein binding	-2.1	13
GO:0042775	mitochondrial ATP synthesis coupled electron transport	-2.1	6
GO:0090200	positive regulation of release of cytochrome c from mitochondria	-2.1	4
GO:1902686	mitochondrial outer membrane permeabilization involved in programmed cell death	-2.1	3
GO:0051604	protein maturation	-2.1	16
GO:0006029	proteoglycan metabolic process	-2.1	7
GO:0051648	vesicle localization	-2	11
GO:0006942	regulation of striated muscle contraction	-2	7
GO:0006084	acetyl-CoA metabolic process	-2	4
GO:0070979	protein K11-linked ubiquitination	-2	4
GO:0072599	establishment of protein localization to endoplasmic reticulum	-2	5
GO:0042773	ATP synthesis coupled electron transport	-2	6
GO:0099537	trans-synaptic signaling	-2	19