Primers for genotyping	Sequences
Angptl2-loxp-tF	ATCCTAATGTCCCTCTTGGC
Angptl2-FRT-tR	CAGGCTGTGAACAGGTTAGTCATC
<i>Prx1-Cre</i> -F	AGG GGG TCT GTA AAA CGT CA
<i>Prx1-Cre</i> -R	GTA CGG TCA GTA AAT TGG ACA CC
<i>Pf4-Cre-</i> F	CCCATACAGCACACCTTTTG
<i>Pf4-Cre-</i> R	TGCACAGTCAGCAGGTT
<i>Cdh5-Cre-</i> F	ATGTCCAATTTACTGACCGTACA
Cdh5-Cre-R	CGCATAACCAGTGAAACAGCATT
<i>Tie2-Cre-</i> F	ATTTGCCTGCATTACCGGTC
<i>Tie2-Cre-</i> R	ATCAACGTTTTCTTTTCGG
Primers for qRT-PCR	Sequences
Mouse-Angptl2-F	CCACCTCGGGTCTACCAAC
Mouse-Angptl2-R	CTTGCAGGCAGTCTCTCCAT
Mouse-PPARd-F	TTCAGAAATGCCTTGCAGTG
Mouse-PPARd-R	GGACTCTGGATTCAGCTGGT
Mouse-Rora-F	GTGGAGACAAATCGTCAGGAAT
Mouse-Rora-R	TGGTCCGATCAATCAAACAGTTC
Mouse-Rab20-F	GGGAGCAGTTTCATGGTCTGG
Mouse-Rab20-R	GCAGTCATTGTTGGCTGTTTC
Mouse-Pik3r2-F	GGATGCCTGGCTTCAACGA
Mouse-Pik3r2-R	CTGGGAGTATGTGGCCTGACT
Mouse-Isg15-F	GGTGTCCGTGACTAACTCCAT
Mouse-Isg15-R	TGGAAAGGGTAAGACCGTCCT
Mouse-G0s2-F	GTGCTCGGCCTAGTTGAGAC
Mouse-G0s2-R	CACCTGGGTCATGATCTGTG
Mouse-CD49d-F	GATGCTGTTGTTGTACTTCGGG
Mouse-CD49d-R	ACCACTGAGGCATTAGAGAGC
Mouse-Egr1-F	TCGGCTCCTTTCCTCACTCA
Mouse-Egr1-R	CTCATAGGGTTGTTCGCTCGG
Mouse-Mmp2-F	CAAGTTCCCCGGCGATGTC
Mouse-Mmp2-R	TTCTGGTCAAGGTCACCTGTC
Mouse-Mmp9-F	CTGGACAGCCAGACACTAAAG
Mouse-Mmp9-R	CTCGCGGCAAGTCTTCAGAG

 Table S1. Primer sequences for genotyping and qRT-PCR.

Table S2. The list of differentially expressed gene

GenelD	GeneName	Locus	CTRI FPKM	A2 FPKM	log2(A2/CTRL) up-or-down	n value	a value
ENSG00000271590	RP11-181F10.3	2.1111959	0 551329	0	-1.79769e+30 down	0.000119	0.003742
ENSG00000251660	AC007036.5	7:3013480	0.923752	0	-179769e+308down	0.004509	0.047583
ENSG00000260583	AP00022342	21.255827	0 726751	0	-179769e+308down	0.004075	0.044865
ENSG00000226318	RPS3AP38	10.679218	1 1102	0	-1 79769e+308 down	0.000242	0.006469
ENSG00000261312	AC002550 5	16.195552	0 946634	0	-1 79769e+308 down	0.000139	0.004178
ENSG00000260570	RP11-24N18 1	16.288224	3 91865	0	-1.79769e+308 down	0.002153	0.029306
ENSG00000200010	RP11-415F23 3	3.1626515	0.855397	0	-1.79769e + 308 down	0.002157	0.029306
ENSG00000188223	AC002398 9	19:357180	0.506095	0	-1 79769e+308 down	0.001617	0.024356
ENSG00000267343	7NF833P	19.116397	0 790099	0	-1 79769e+308 down	4.09E-06	0.000302
ENSG00000283241	AC026348 1	3.1132110	0 499048	Ő	-179769e+308down	1 29F-09	4 26F-07
ENSG00000270096	RP11-362K14.6	3:1697934	0.964971	0	-1.79769e+308 down	0.000889	0.016082
ENSG00000250309	CTC-345K18.2	5:1506608	1.13775	0	-1.79769e+308 down	0.00045	0.010212
ENSG00000254528	RP11-728F11.4	11:117427	0.504466	0	-1.79769e+308 down	0.004143	0.045324
ENSG00000267655	CTD-2286N8.2	18:790692	0.719614	0	-1.79769e+308 down	0.003619	0.04173
ENSG00000279415	RP11-1102P22.1	16:171017	0.930019	0	-1.79769e+308 down	8.81E-05	0.003052
ENSG00000256928	RP11-809N8.2	11:733762	1.73927	0	-1.79769e+308 down	8.20E-06	0.000505
ENSG00000259185	RP11-56B16.4	15:518296	2.15938	0	-1.79769e+308 down	0.000427	0.009859
ENSG00000254673	RP11-598P20.5	8:4284963	1.01374	0	-1.79769e+308 down	0.003436	0.040377
ENSG00000142511	GPR32	19:507704	0	0.613931	1.79769e+308 up	0.000266	0.006851
ENSG00000248919	ATP5J2-PTCD1	7:9932589	0	1.01094	1.79769e+308 up	9.13E-08	1.43E-05
ENSG00000228170	RP1-40E16.11	6:3118373	0	1.26287	1.79769e+308 up	0.001311	0.021007
ENSG00000260914	RP11-343C2.11	16:691055	0	4.60886	1.79769e+308 up	4.94E-12	4.28E-09
ENSG00000277957	SENP3-EIF4A1	17:756187	0	0.689481	1.79769e+308 up	5.16E-07	5.31E-05
ENSG00000273331	TM4SF19-TCTEX1D2	3:1962114	0	0.743669	1.79769e+308 up	0.004373	0.046848
ENSG00000266923	RP11-693J15.4	12:924200	0	0.589533	1.79769e+308 up	5.23E-05	0.002031
ENSG00000256249	RP11-324E6.6	12:122687	0	0.638206	1.79769e+308 up	0.000823	0.015137
ENSG00000107159	CA9	9:3565828	0	0.727885	1.79769e+308 up	0.000915	0.016349
ENSG00000185345	PARK2	6:1613474	0.0640323	2.06567	5.01166 up	1.05E-06	9.26E-05
ENSG00000123689	G0S2	1:2096613	0.115794	1.57297	3.76386 up	0.000147	0.00437
ENSG00000231475	IGHV4-31	14:106349	0.268864	2.44689	3.186 up	0.003235	0.038741
ENSG00000105697	HAMP	19:352807	0.165958	1.44134	3.11852 up	0.002082	0.028576
ENSG00000128656	CHN1	2:1747993	0.0862273	0.708295	3.03813 up	0.000301	0.007495
ENSG00000134827	TCN1	11:598527	0.20974	1.50854	2.84648 up	0.000121	0.003756
ENSG0000088827	SIGLEC1	20:368696	0.275743	1.72356	2.644 up	0	0
ENSG00000152467	ZSCAN1	19:580340	0.198722	1.21557	2.61281 up	0.000376	0.008965
ENSG00000163735	CXCL5	4:7399564	0.213851	1.28205	2.58378 up	1.46E-06	0.000123
ENSG00000105647	PIK3R2	19:181531	0.937232	5.56827	2.57075 up	1.38E-14	2.38E-11
ENSG00000124102	PI3	20:451/48	0.440791	2.37423	2.42929 up	0.000644	0.01264
ENSG00000171657	GPR82	X:4151493	0.154171	0.816395	2.40473 up	0.002498	0.03225
ENSG00000277232	GISE1-AS1	22:462951	0.26078	1.28606	2.30206 up	0.00093	0.016478
ENSG00000229413	RP11-2/4B21.12	17:220530	0.724886	3.553/1	2.2935 UP	0.004227	0.046015
ENSG0000108691		17:342552	0.35205	28.6042	2.1708 up	0	0
EINSG000000000000000000000000000000000000		21:414203	2.51541	1 22200	2.13004 Up		0 011204
EINSGUUUUU283590		9:1372050	0.311921	1.32308	2.08405 UP	0.000528	0.011284
ENSG0000014914		11.102062	0.280052	1.1404	2.03209 Up		2 725 06
ENSG00000202400		0.1445170	0.000775	0.726725	1.95052 up	1.00E-00	3.72E-00
ENSG00000204402		0.1440179	0.209131	0.720723	1.79007 up	0.002270	0.030429
ENSC00000100122	DD12 752NI2 2	17.200992	1 26775	1 62726	1.79239 up	0.004410	0.047090
ENSC00000273103	AC002210 11	16:205240	1.30775	4.03730	1 72766 up	0.003103 0.27E 05	0.037447
ENSG00000201439		11.780157	2 20/21	11 168	1 71823 up	9.27L-05	0.003127
ENSC00000255112	$CTC_{25011/16}$	10.13150/	1 15052	3 60/81	1.68322 up	0.000610	0.000133
ENSG000002075540	XXbac_RPG252P9 9	6.3072020	1.15052	1 64034	1.00022 up	0.000013	0.012374
ENSG00000272340	LARGE1	22.331622	0 35596	1 12731	1 6631 up	0.000477	0.010001
ENSG00000155424	C15orf38-AP3S2	15.898305	0.89885	2 76817	1 62278 up	4.62F-05	0.02173
ENSG0000205927	OLIG2	21:329136	0.322656	0.98389	1.6085 up	7 24F-06	0.000473
ENSG00000137959	IFI44I	1.7861992	1 37449	4 16708	1 60015 up	7 13F-07	6.97F-05
ENSG00000225783	MIAT	22:266464	0.32039	0.969426	1.5973 up	1.15E-05	0.000668
ENSG00000105352	CEACAM4	19:416189	1.30371	3.93029	1.59202 up	5.10E-07	5.31E-05
ENSG00000274012	RN7SL2	14:498611	18.078	51.5685	1.51226 up	9.58E-11	5.51E-08
ENSG00000276085	CCL3L3	17:361832	1.84248	5.24933	1.51048 up	3.69E-07	4.25E-05
ENSG00000130589	HELZ2	20:635580	1.3346	3.6928	1.46831 up	1.35E-10	7.01E-08
ENSG00000163739	CXCL1	4:7386939	0.516566	1.39353	1.43172 up	0.004081	0.044877
ENSG00000131471	AOC3	17:428511	0.213279	0.573098	1.42604 up	0.004705	0.0488
ENSG00000257553	RP11-603J24.17	12:560798	2.51916	6.75633	1.4233 up	0.001572	0.02388
ENSG00000122035	RASL11A	13:272703	0.547983	1.45768	1.41147 up	0.003979	0.044085
ENSG00000139899	CBLN3	14:244265	0.361797	0.938307	1.37488 up	0.000517	0.011149
ENSG00000136689	IL1RN	2:1131072	25.41	64.5756	1.34559 up	0	0
ENSG00000260257	RP5-1085F17.3	20:328566	1.51331	3.84319	1.34459 up	7.75E-06	0.000495
ENSG00000111012	CYP27B1	12:577623	1.07949	2.74016	1.34392 up	0.000121	0.003756
ENSG00000161939	RNASEK-C17orf49	17:685386	2.16612	5.44244	1.32914 up	9.00E-05	0.00308

ENSCROODC1290.38 LOXLI 15:7390.60 0.9785 2.39421 1.26336 up 0.000021 0.000021 0.000021 0.000021 0.000021 0.000021 0.000021 0.000021 0.000021 0.000021 0.000021 0.000021 0.000001	ENSG00000122641	INHBA	7:4166716	0.321298	0.794889	1.30684	up	8.87E-05	0.003056
ENSCO000194848 ANRC025 1.145966 0.28845 0.08113 1.22711 up 0.002281 0.01513 ENSCO00017451 HH2/A 1.271608 1.27008 1.22008 up 0.002281 0.011805 ENSCO000017520 TMP2 1.211678 0.680173 1.22008 up 0.000121 0.00012 0.0	ENSG00000129038	LOXL1	15:739080	0.997365	2.39421	1.26336	up	0.000101	0.003307
LNS30000154940 FIIST11441 E227780 150034 37305 12403 µp 0000517 0012551 ENSQ0000127870 FIRSCA 1251171 051223 212224 122316 µp 0010517 0112551 ENSQ0000127870 FIRSCA 1251173 051224 122316 µp 0000517 0011676 0204561 ENSQ0000126705 FIRSCA 1234540 04725 319683 113322 µp 0000356 0004556 0000577 FIRSCA 0000576 0004566 0004556 0004556 0004556 040715 319683 114248 µp 0000576 0001123 020846 0011123 020846 0011123 011232 0112344 0112344 0112	ENSG00000198483	ANKRD35	1:1458665	0.286955	0.68113	1.24711	up	0.000821	0.01513
ENS.COMOUT.94:1 1-14/2 1:271094 1:271094 1:2224 1:2224 1:22124 1:2124 1:2186 up 0:001186 0:001187 0:001186 0:001187 0:001187 0:001187 0:001187 0:001187 0:001187 0:001187 0:001187 0:001187 0:001187 0:001186 0:001187 0:001186 0:001186 0:001186 0:001186 0:001186 0:001186 0:001186 0:0001187 0:001186 0:001186 0:001186 0:001186 0:001186 0:001186 0:001186 0:001186 0:001186 0:001186 0:001186 0:001186 0:001186 0:001186 0:001186 0:001186 0:0001186	ENSG00000158406	HIST1H4H	6:2627760	1.58014	3.73305	1.2403	up	0.002881	0.035519
ENS.COM.001231.49 PIRS.C - A2 1 996.17.11 0 912205 2 12244 1.21819 up 0.00012 0.00012 ENS.COM.00027.11 FRANCE ADDRESS 1.218173 0 863773 1.56213 1.19132 up 0.00178 0.000388 0.00001182 0.000386 0.04027 0.000376 0.000376 0.000376 0.000376 0.000386 0.04027 0.000376 0.000386 0.0402 0.000386 0.0402 0.000386 0.04022 0.000376 0.04024 0.000386 0.04022 0.000376 0.04024 0.000376 0.04024 0.000376 0.04024 0.000376 0.04024 0.000376 0.04024 0.000376 0.04024 0.000376 0.04024 0.000376 0.0402	ENSG000001/3451	THAP2	12:/16094	1.27078	2.98502	1.23203	up	0.000571	0.011804
ENSLOUDQUEDGE/30 INP3 4 121134 0 984-05 2.0000 1.2038 up 0.001876 0.024801 ENSCOUDQUESTING CCT-523723 13.948490 1.40776 3.19563 1.18322 up 0.001876 0.024801 ENSCOUDQUESTING CCT-5237233 13.948490 1.40776 3.19563 1.18322 up 0.001876 0.024801 ENSCOUDQUESTING FI6 1.2776406 1.60777 37.668 1.14903 up 1.0057.08 0.000279 0.000279 0.000279 0.000279 0.0000277 0.000279 0.0000279 0.0000279 0.0000279 0.0000279 0.0000279 0.0000279 0.0000279 0.00001969 ISR 1.9352443 0.12731 1.70655 1.1027 up 0.002710 0.0002710 0.0002710 0.0002710 0.0002710 0.0002710 0.002710 0.0002710 0.002710 0.0002710 0.0002710 0.0002710 0.0002710 0.0002710 0.0002710 0.0002710 0.0002710 0.0002710 0.0002710 0.0002710 0.0002710 <td>ENSG00000231789</td> <td>PIK3CD-AS2</td> <td>1:9651731</td> <td>0.912205</td> <td>2.12224</td> <td>1.21816</td> <td>up</td> <td>0.001988</td> <td>0.027793</td>	ENSG00000231789	PIK3CD-AS2	1:9651731	0.912205	2.12224	1.21816	up	0.001988	0.027793
ENS.0000115.119 (MP12 12.116.78 0.0887/3 1.1912 up C0.00386 0.09385 ENS.00000207757 EMIZ-AS1 19.44640 140725 31.8663 11.8322 up 0.00386 0.09385 ENS.0000020757 EMIZ-AS1 19.44640 14072 55.9447 1.14280 up 0.001386 0.00385 ENS.00000126695 KRT10 1.740151 1.5752 55.4447 1.14280 up 0.001132 0.10184 ENS.00000175326 3-Mar 1.740451 3.87387 1.13685 up 0.00279 0.002764 ENS.00000175326 18.4443 0.16677 1.76415 3.87397 1.13685 up 1.027-14 1.98-11 ENS.00000175326 18.4445 0.700833 1.7063 1.05787 up 1.027-14 1.98-11 ENS.0000017639 RAAE0 1.3246429 0.22748 1.03176 up 0.0027 0.00278 ENS.00000176408 EMA68 1.946249 0.2774 1.0324 up	ENSG00000050730	INIP3	4:1211314	0.894563	2.0606	1.20381	up	0.00012	0.003756
ENSLANDUZ2010 CI-5-267.33 13:434940 1417/2 31:953 1.137251 UD 0000386 0004376 ENSGODD027757 EMIZ-ASJ 13:454040 1.1477 37:658 1.117751 UD 0001376 0046763 ENSGODD027757 EMIZ-ASJ 13:45400 1.1672 UD 1.1622 1.1312 001324 001312 001324 001313 001313 001313 001313 001313 001313 001313 001313 001313 001313 001313 001313 001313 001314 1151252 52:6489 12:329 107971 10:26:6000010194 19:46:60 0003313 0042379 0000374 000027 0000374 0000374 0000374 0000374 0000077 00000779 00000274 0000374 0000374 </td <td>ENSG00000135119</td> <td>RNF12</td> <td>12:116738</td> <td>0.683773</td> <td>1.56213</td> <td>1.19192</td> <td>up</td> <td>0.001676</td> <td>0.024961</td>	ENSG00000135119	RNF12	12:116738	0.683773	1.56213	1.19192	up	0.001676	0.024961
ENS.COUQUE / 17 ENS.COUQUE / 18 ENS.COUUP / 18 </td <td>ENSG00000280106</td> <td>CIC-523E23.3</td> <td>19:349490</td> <td>1.40725</td> <td>3.19563</td> <td>1.18322</td> <td>up</td> <td>0.000398</td> <td>0.009325</td>	ENSG00000280106	CIC-523E23.3	19:349490	1.40725	3.19563	1.18322	up	0.000398	0.009325
ENSEQUOD126103 ITOS 1.078/0 7.088 1.1841 Up 1.078-6 1.081-6 1.081-6 1.081-6 0.00113 1.1840 Up 1.078-6 0.0781-6 ENSEGD0000175713 INGT1H2BH 6.2261-05 0.000276 0.000274 0.00027	ENSG00001267757	EMILZ-ASI	19:456069	1.14240	2.57513	1.17251	up		0.046/63
ENSCOUDDIA'S DE 1400113 11332 2.3447 1.14901 00 1.061-00 4.075-00 ENSCOUDDIA'S DE 1114281 6.262.165 0.002173 1.14903 00 1.061-00 0.00137 0.00137 ENSCOUDDIA'S DE 11114281 6.262.165 0.002173 1.14903 00 0.001376 0.001376 0.001376 0.001376 0.001376 0.001376 0.001376 0.001376 0.001376 0.001376 0.001376 0.0013719	ENSG0000120709		1.1001127	11 252	37.038	1.1047	up	1.70E-12	1.83E-09
ENSCOUCD/06/39 Nr10 1/4/021 2/0224 0.00822 1/4/23 Up 0.001278 0.001278 ENSCOUCD/07/322 3-Mar 5/2/5677 1.02677 1.02793 1.0307 Up 0.001278 0.001278 ENSCOUCD/07/322 CARA 1.130570 UP 0.001278 0.001278 ENSCOUCD/01079 LSSA 1.130570 UP 0.001278 0.001278 ENSCOUCD/01079 LSSA 1.130573 C.26469 1.2329 1.07617 up 0.00271 0.00274 ENSCOUCD/010743 RP4-E69K10.8 1.224445 0.707849 2.02478 1.04567 up 0.00271 0.00274 ENSCOUCD/012595 SCL12A8 11245028 1.4414 2.93781 1.00248 up 0.00218 0.00218 0.00218 0.00248 0.00248 0.00248 0.00248 0.00248 0.00248 0.00248 0.00248 0.002418 0.002418 0.002418 0.002415 0.00245 0.002415 0.00245 0.002415 0.002415 0.002415 0.002415 0.000241 0.002414 0.0024	ENSG00000107000	ISGIS KDT10	1.1001137	2 70024	20.0407	1.13097	up	1.09E-00	4.07E-00
International (1) International (1) International (1) International (1) International (1) International (1) International (1) Internatio	ENSC00000100395		17.400101 6.2625165	2.70924	1 70021	1.14903	up	1.03E-00	9.202-03
ENSCO0000105690 LSR 10557481 0.81573 1.75005 1.1027 0.0003965 60.003965 ENSCO00011070 MSAAA 1162652 22828 1.07817 up 1.042-14 1.985 ENSCO00011070 MSAAA RPA-E66810.8 1.282446 0.708313 1.05084 0.0003719 0.0003719 0.0003719 0.0003719 0.0003719 0.000371 0.000371 0.000371 0.000371 0.000374 0.000371 0.000374 <td>ENSG00000273713</td> <td>2 Mar</td> <td>- 5.1268677</td> <td>1 76/15</td> <td>2 87027</td> <td>1.14420</td> <td>up</td> <td>0.001132</td> <td>0.010904</td>	ENSG00000273713	2 Mar	- 5.1268677	1 76/15	2 87027	1.14420	up	0.001132	0.010904
ENSCODOUDLIGD79 MKLA4A 11.602805 237826 6.08108 1.07913 up 1.446-05 0.000975 ENSCODOUDLSSOT RFT 1.62525 2.24498 1.3229 1.07877 up 0.803719 0.482379 ENSCODOUDLSSOT ELMC3 1.165128 0.20074 2.1773 1.04567 up 0.800719 0.482379 ENSCODOUDLSSO ELMC3 1.657190 0.900349 2.12478 1.013176 0.000224 0.000234 ENSCODOUDLS200 ELMC3 3.1258026 1.46141 2.9751 1.012481 p 0.000340 0.000234 ENSCODOUDLS200 SED10 1.4440948 1.04788 2.9995 1.00228 decwn 0.002486 0.02139 ENSCODOUDLS20147 RX22557.10 2.1476882 3.95605 1.97721 -1.00378 decwn 0.02486 0.03218 ENSCODOUDLS287 ATRP 3.444670 5.2577 2.61128 1.01038 decwn 0.02415 0.031578 ENSCODOUDLS287 ATRP 3.4	ENSG00000175920	I SP	10.352/83	0.815273	1 75085	1 1027	up	0.000279	0.007070
ENSG0000718507 IR77 II 612552 E.26489 II 2229 II 17877 II 0277 II 0278 II 0277 II 0278	ENSG00000103033	Μςλαλα	11.602805	2 87826	6.08108	1 07013	up	1 94F_05	0.04402
ENSCODOUCT2443 PP4-669K10.8 1285445 0.70833 1.47063 1105098 up 0.005719 0.02737 0.0242379 ENSGODOUTCA9800 ELMG3 1667190 0.90349 2.02478 1.03176 up 0.800324 0.000032 ENSGODOUTC28800 ELMG3 1.6167190 0.4414 1.04589 1.03176 up 0.000324 0.000032 ENSGODOUTC22009 BTD13 1.4480844 1.04788 2.09995 1.0228 up 0.00131 0.146617 ENSGODOUTC2007 WDR17 4.1760663 3.96605 1.97721 -1.00358 down 0.002488 0.012186 ENSGODOUTC20000221647 BX22557.10 2.14520802 4.2472 2.1486 -1.02277 down 8.556-05 0.002382 ENSGODOUTC200585 CTRAS1 1.270802 4.42720 2.14867 -1.10277 down 0.002415 0.00332 ENSGODOUTC30585 CTRAS1 1.2708020 4.42732 2.14867 -1.12076 down 0.00522 0.00232 ENSGODOUTC30585 CTRAS1 1.270802	ENSG00000110075	IRF7	11.612552	6 26/89	13 2320	1 07877	up	1.04L-00	1 Q8F_11
ENSCODOUCIS8822 PAR20 12110723 2.07201 42773 1.04567 0 368E-05 000153 ENSCODOUCIS805 ELVAGB 19454259 0.512044 1.04589 1.0314 0 0.00027 0006939 ENSCODOUCIS2095 SIC12A4 1.04788 2.0995 1.10228 0 0.000421 0.046617 ENSCODOUCIS2055 SIC12A4 1.04788 2.0995 1.10228 0.000421 0.046617 ENSCODOUCIS607 WORT 41760658 3.95665 1.37721 -1.00356 down 6.802486 0.802416 0.812456 0.812456 0.812456 0.812456 0.812456 0.812456 0.812456 0.8144566	ENSG00000103307	RP4-669K10.8	1.2854445	0.20403	1 47063	1 05088	up	0.003719	0.042379
ENSG000012890 ELMC3 16:671991 0.990349 2.02478 1.03176 0.00027 0.00021 0.00141 0.04617 1.00788 0.000156 0.00248 0.002488 0.002488 0.002488 0.002488 0.002488 0.002488 0.002488 0.002488 0.002488 0.002488 0.002488 0.002488 0.002488 0.002415 0.002485 0.002485 0.002485 0.002485 0.002485 0.002485 0.002485 0.002415 0.012475 0.012486 0.002485 0.002415 0.011652 ENSG00000156186 CRE-451 1.270620 4.44773 2.144699 -1.12776 0.000162 0.011652 ENSG00000156186 CRF1-44 4.6666759 2.21719 1.49996	ENSG00000139832	RAB20	13.110523	2 07201	4 2773	1 04567	up	3 68F-05	0.001533
ENSG0000157680 SEMAÃB 19.454/59 0.512044 1.0480 1.0304 0.00027 0.00027 ENSG0000222009 BTED19 1.4480448 1.04788 2.09955 1.00288 0.000341 0.040218 ENSG0000222009 BTED19 1.4480448 1.04788 2.00058 0.000396 ENSG0000215447 BX322557.10 2.1452880 2.6021 1.29782 -1.00378 down 5.85-06 0.00248 0.00218 ENSG0000025887 ATRIP 3.4444670 5.25776 2.6128 -1.00688 down 7.052-07 0.00232 0.002342 0.002415 0.002342 0.002415 0.002415 0.002415 0.002415 0.002415 0.002415 0.002415 0.002415 0.002415 0.002412 0.002412 0.002412 0.002412 0.002412 0.005485 0.001155 ENSG0000021864 RP11-16413.1 1.427127 0.33622 -1.13514 down 0.02485 0.001477 0.040048 0.024850 0.001477 0.003882 0.004380 0.004680 0.001480	ENSG00000102890	FLMO3	16.671991	0,990349	2 02478	1 03176	up	0.000324	0.008009
ENSCO000221955 SiC12A8 3125022 146141 29751 102481 500-002 ENSG000022009 BTBD19 14480848 104788 20995 100288 000431 0.046617 ENSG0000215447 BX32257.10 2145280 2.6021 129782 -1.0058 down 0.002415 0.002385 ENSG0000025857 ATRIP 3484470 5.25776 2.6128 -1.0058 down 0.556-05 0.002395 ENSG000002585 CRL-A51 1.2708020 44779 2.14697 -1.00285 down 0.002415 0.0131578 ENSG0000012585 CRL-A51 1.2708020 44779 2.14697 -1.0276 down 0.00212 0.003157 ENSG000001585 CRL-A51 1.2708020 44779 2.14697 -1.12076 down 0.000212 0.00155 ENSG0000012586 CRL+A51 1.2708020 448793 -1.6025 -1.1414 449740 0.24955 0.24955 0.00157 0.004170 0.00288 0.00288 0.000757 <td< td=""><td>ENSG00000167680</td><td>SEMA6B</td><td>19:454259</td><td>0.512044</td><td>1.04589</td><td>1.0304</td><td>up</td><td>0.00027</td><td>0.006939</td></td<>	ENSG00000167680	SEMA6B	19:454259	0.512044	1.04589	1.0304	up	0.00027	0.006939
ENSG00001222009 BTBD19 1.448084 1.04788 2.09955 1.00288 u 0.00431 0.00431 ENSG000015627 WDR17 1.176658 3.95605 1.97721 -1.00058 down 0.832-06 0.00248 0.00242 0.00242 0.00242 0.00242 0.00242 0.00228 0.00288 0.00212 0.00589 UNIS 0.00581 NR1-1641131 1.147127 1.93429 0.42976 -1.1313 down 0.0212 0.00589 UNIS 0.000212 0.00589 UNIS 0.02288 0.02289 CA:147 2.74784 0.1556 UNIS 0.000212 0.00589 UNIS 0.02288 0.02289 CA:147 2.74744 2.7474 -1.141413	ENSG00000221955	SLC12A8	3:1250826	1.46141	2.97351	1.02481	au	5.80E-05	0.00219
ENSG0000150827 WDR17 4:176658 395605 197721 -1.00059 down 5.83E-06 0.002488 ENSG0000156011 PSD3 8:185730 3.03748 1.51477 -1.00358 down 8.55E-05 0.002488 ENSG0000256885 CIRL-AS1 1.270802C 4.2729 2.142588 -1.00358 down 6.25E-05 0.002418 ENSG00000256865 CIRL-AS1 1.270802C 4.24729 2.14452 -1.07263 down 6.25E-05 0.002415 ENSG0000013318 TGC1D81 1.706802 3.27189 1.44697 -1.12076 down 0.000212 0.001565 ENSG00000258461 RP11-16413.1 15.42204 1.8248 0.832976 -1.13153 down 2.49E-05 0.01155 ENSG00000124495 TPC1 3.147274 6.4714 2.775465 -1.1436 down 0.00473 0.004873 0.004873 0.048070 0.02248 0.004873 0.048070 0.02248 0.004873 0.048070 0.004737 0.048040 0.048540	ENSG00000222009	BTBD19	1:4480848	1.04788	2.09995	1.00288	qu	0.00431	0.046617
ENSG00001215447 EX322557.10 21.452880 2.6021 1.29782 -1.00378 down 0.002488 0.002488 ENSG0000126827 ATRP 3.4944670 5.25776 2.6128 -1.00378 down 6.55E-07 6.97E-07 6.97E-07 6.97E-05 ENSG0000017006 TMEM154 4.152616 4.47212 2.14869 -1.04297 down 0.002415 0.0012322 ENSG0000017006 TMEM154 4.152616 4.47212 2.14869 -1.02823 down 0.000212 0.000212 ENSG00000124874 CCC1448 1.7185112 3.1335 1.49996 -1.1252 down 0.000747 0.01155 ENSG0000025861 RP11-164133.1 1.542204 1.67021 0.755465 -1.1436 down 0.00288 0.02888 0.02888 0.02888 0.02888 0.02882 0.44869 0.823276 -1.13513 down 0.003882 0.44869 0.823276 -1.1436 down 0.003882 0.44869 0.823276 -1.14613 down 0.02868 0.02869 0.02885 0.003882 0.44869 0.823212 -1.146865 <t< td=""><td>ENSG00000150627</td><td>WDR17</td><td>4:1760658</td><td>3.95605</td><td>1.97721</td><td>-1.00059</td><td>down</td><td>5.83E-06</td><td>0.000396</td></t<>	ENSG00000150627	WDR17	4:1760658	3.95605	1.97721	-1.00059	down	5.83E-06	0.000396
ENSG0000156011 PSD3 8:185723 3:03748 1:51477 -1:00378 down 8:55E-05 0:002985 ENSG000028882 CIRL-ASI 12:708020 4:2729 2:1469 -1:04297 down 0:002415 0:031578 ENSG000017006 TMEM154 4:152166 4:44741 2:11452 -1:07263 down 6:25E-05 0:002212 0:00552 ENSG00000258461 RP11-164131 1:5422084 1:8248 0:832976 -1:13514 down 0:00212 0:001455 ENSG00000258461 RP11-06024 1:1471727 0:396222 4:26252 -1:13514 down 0:00289 0:002895 ENSG00000258461 RP11-06024 1:7:47240 1:67021 0:35645 -1:1436 down 0:03573 0:48608 ENSG00000224188 RP11-265N6.1 1:424912 0:15665 -1:1404 down 0:03682 0:03832 ENSG00000124297 RP11-265N6.1 1:7:142844 2:16726 -1:1404 down 0:03682 0:003762 0:03762 ENSG00000124297 RP11-1:09M24.6 1:7:85668 </td <td>ENSG00000215447</td> <td>BX322557.10</td> <td>21:452880</td> <td>2.6021</td> <td>1.29782</td> <td>-1.00358</td> <td>down</td> <td>0.002488</td> <td>0.032183</td>	ENSG00000215447	BX322557.10	21:452880	2.6021	1.29782	-1.00358	down	0.002488	0.032183
ENSG00002282827 ATRIP 3:4844670 5:28776 2:6128 -1:00885 Own 7:08E-07 6:97E-05 ENSG0000205685 C1RAS1 1:2708020 4:4729 2:14869 -1:04293 down 0:00215 0:000162 0:001652 0:001652 ENSG00000154674 CDCC144B 1:7385112 3:1336 1:46857 -1:1252 down 0:000212 0:000747 0:01052 ENSG00000124861 RP11-164113.1 1:5422064 1:471727 0:382276 -1:13153 down 0:00288 0:02889 ENSG00000124863 TRPC1 3:1427240 1:67021 0:755465 -1:1446 0:004573 0:44809 ENSG00000226184 RP11-265N61 1:5424912 6:47144 2:16783 0:484561 -1:16883 down 0:03578 0:48565 ENSG00000224186 CSorf66 5:1350277 4:8448 2:16783 -1:4864 0:40004 1:6354-05 0:003839 0:427628 ENSG000002727608 RP11-1:099M246 1:32125 0:84551 -1:16494	ENSG00000156011	PSD3	8:1852730	3.03748	1.51477	-1.00378	down	8.55E-05	0.002985
ENSG00001205885 CIRL-ASI 12.708020 4.4729 2.14869 -1.04297 0.002415 0.031578 ENSG0000133138 TBCLD88 X1068026 1.79942 0.84793 -1.08235 down 0.000522 0.000592 ENSG0000123865 CBCr1448 17.185112 3.19356 1.46857 -1.12057 0.000747 0.01406 ENSG00000258461 RP11-164113.1 15.422084 1.82498 0.832976 -1.13153 down 0.000242 0.0005892 ENSG00000123855 CBCr444 35666759 0.93222 -1.1435 down 0.00288 0.028455 ENSG00000163625 WDFY3 43466966 5.8145 2.53212 -1.1404 down 0.03882 0.43634 ENSG0000012839 CACNE4 2.1517889 0.948566 0.421918 -1.1649 down 0.00382 0.43634 ENSG0000012829 CACNE4 1.754668 1.32256 0.84561 -1.1763 0.040001 0.00389 0.002379 0.31389 ENSG0000014207760 RP11-1099	ENSG00000282827	ATRIP	3:4844670	5.25776	2.6128	-1.00885	down	7.09E-07	6.97E-05
ENSG0000170006 TMEM154 41526186 44741 2.11452 -107263 down 6.25E-05 0.002322 ENSG000013487 CCDC144B 17:185112 3.19356 1.46857 -1.12076 down 0.000747 0.01406 ENSG0000213865 CBorH44 8:666759 3.27189 1.49996 -1.1252 down 0.000747 0.01406 ENSG00001258461 RP11-164113.1 1542204 1.82489 0.822976 -1.13153 down 0.00288 0.282595 ENSG0000163625 WDY3 43466966 5.8145 5.25212 -1.13163 down 0.00382 0.048008 ENSG0000124186 CSorf66 5.1350277 4.8448 2.16723 -1.1643 down 0.00382 0.043320 ENSG00000224186 CSorf66 1.7785668 1.99256 0.421918 -1.16863 down 0.00389 0.43202 ENSG0000124237 PEKHAPP1 1.2451703 3.8208 1.12621 down 0.00389 0.43202 ENSG00000124237 PEKHAP	ENSG00000205885	C1RL-AS1	12:708020	4.42729	2.14869	-1.04297	down	0.002415	0.031578
ENSG0000133138 TECLD8B X1068026 1.79942 0.849793 -1.0225 down 0.000562 0.011652 ENSG0000124865 CBort44 8:666759 3.27189 1.49856 -1.1225 down 0.000747 0.01406 ENSG0000278811 LINC00624 1:1471277 0.936222 0.42652 -1.13153 down 0.02686 0.001155 ENSG00000278811 LINC00624 1:471277 0.936222 0.426525 -1.13153 down 0.00382 0.043634 ENSG00000163625 WDFY3 42466960 5.58145 2.5212 -1.1404 down 0.00382 0.043634 ENSG0000122146 CSoff66 5.1350277 48448 2.16723 -116049 down 0.0382 0.043634 ENSG00000122760 RP11-2623.1 17.785668 1.93125 0.84651 -1.17613 down 9.06760 0.002776 ENSG0000012706 RP11-5C23.1 17.785668 1.93125 0.84651 -1.17613 down 0.002520 0.033389	ENSG00000170006	TMEM154	4:1526186	4.44741	2.11452	-1.07263	down	6.25E-05	0.002322
ENSG0000128487 CCDC144B 17.185112 3.19356 1.46857 -1.1276 down 0.000212 0.005892 ENSG0000228461 RP11-164113.1 15.422084 1.82498 0.832976 -1.13153 down 2.49E-05 0.001495 ENSG0000163625 MDF3 4.8466960 5.58145 2.53212 -1.1403 down 9.35E-08 1.44E-05 ENSG00001261684 RP11-265N61 15.424212 6.47174 2.87455 -1.15486 own 0.004573 0.04808 ENSG00001261684 RP11-1099M24.6 17.785668 1.93125 0.84448 2.16723 -1.16883 down 0.01967 0.027628 ENSG00000280046 RP11-1099M24.6 17.785668 1.93125 0.845651 -1.12613 down 0.03839 0.043202 ENSG00000272766 RP11-5C23.1 7.1549284 3.02926 1.22651 down 0.002629 0.03389 ENSG0000028046 RP11-1099M24.6 10.7785668 1.93125 0.40045 1.20877 down 0.002629 0.03389 ENSG00000124975 CCCC39 3.180601	ENSG00000133138	TBC1D8B	X:1068026	1.79942	0.849793	-1.08235	down	0.000562	0.011652
ENSG0000218865 C8orf44 8:6666759 3:27189 1.49996 -1.1252 down 0.000747 0.01465 ENSG0000258461 P11-164113.1 15:42208 0.832976 -1.13153 down 2.942652 -1.13153 down 0.92688 0.02688 0.02288 0.02288 0.02288 0.02288 0.02288 0.02288 0.02288 0.022818 CSor001155 FNSG0000144935 TRPC1 3:142724 1.67021 0.735465 -1.1446 down 0.003882 0.048008 ENSG00001221486 CSorf66 5:135027 4.84448 2.16723 -1.16893 down 0.00389 0.043202 ENSG00000280046 RP11-1099M246 17.785668 1.93125 0.84651 -1.17613 down 9.86E-06 0.00389 0.043202 ENSG00000124207760 PELKHABP1 1.2451730 3.8208 1.65302 -1.21832 down 0.002269 0.03334 ENSG00000145075 CCDC39 3.1806021 0.93152 0.400456 -1.21861 down 0.002657 <t< td=""><td>ENSG00000154874</td><td>CCDC144B</td><td>17:185112</td><td>3.19356</td><td>1.46857</td><td>-1.12076</td><td>down</td><td>0.000212</td><td>0.005892</td></t<>	ENSG00000154874	CCDC144B	17:185112	3.19356	1.46857	-1.12076	down	0.000212	0.005892
ENSG0000278811 LINC00624 1:147172 0.93622 0.42625 -1.13153 down 2.49E-05 0.001155 ENSG0000278811 LINC00624 1:147177 0.93622 0.42625 -1.13514 down 0.002808 0.028595 ENSG0000261684 RP11-265N6.1 15.424912 6.47174 2.87445 -1.15865 down 0.003882 0.043634 ENSG0000261684 RP11-265N6.1 15.424912 6.47174 2.87445 -1.15865 down 0.003882 0.043634 ENSG0000224186 C5orf66 5:1350277 4.84448 2.15723 -1.16049 down 1.63E-05 0.00087 ENSG00000280046 RP11-5C23.1 7:154928 0.94596 0.421918 -1.1683 down 0.001967 0.027562 ENSG00000134297 PLEXHA8P1 12.451730 3.8208 1.55302 -1.19229 down 0.003839 0.043202 ENSG00000134297 PLEXHA8P1 12.451730 3.8208 1.65302 -1.20877 down 0.002287 0.0031389 ENSG00000145075 CCDC39 3:1806021 0.931952 0.40456 -1.21861 down 0.002658 0.0006757 ENSG00000249087 PFN2 3:1497611 1.60886 0.693904 -1.21801 down 0.002629 0.033394 ENSG00000146075 CCDC39 3:1806021 0.931952 0.40456 -1.22851 down 0.002628 0.003694 ENSG00000170087 PFN2 3:1497611 1.26518 0.216766 -1.22854 down 0.003126 0.0039411 ENSG00000128483 TMEM236 10:17752 0.51058 0.216766 -1.22651 down 0.003127 0.037636 ENSG0000128754 TLF5 1.223109 1.17640 4.89513 -1.22651 down 0.003127 0.037636 ENSG0000157547 ZNF436-A51 1.2335944 0.826194 0.344482 -1.26631 down 0.003127 0.037636 ENSG0000157547 ZNF436-A51 1.2335944 0.826194 0.344682 -1.26631 down 0.003127 0.037636 ENSG00001279767 AL51352.2 1.155778 0.55755 2.14665 -1.37223 down 0.003312 0.039411 ENSG0000279767 FX L51352.2 1.155778 0.55755 2.14657 -1.3723 down 0.00312 0.036286 ENSG0000157420 PTH1-111422 1.76381 2.79909 1.03831 -1.44295 down 0.00330 0.036286 ENSG0000016515 KIF27 9.8382965 2.49388 0.949272 -1.3935 down 0.00312 0.036286 ENSG00000157420 FX X.7394432 3.3519 1.25847 -1.4143 down 0.00130 0.003628 ENSG0000016514 ZNF15 1.1682194 1.1653 0.434366 -1.424737 down 0.002457 0.036286 ENSG0000016344 ZNF53 11.5604791 1.5995 0.588331 -1.44295 down 4.86E-06 0.00044 ENSG00000279576 APO0769.1 1.165477 5.3935 down 0.002577 0.036286 ENSG00000179240 FX 1.11142.2 1176581 2.47973 1.3339 0.406129 -1.53966 down 0.002457 0.036286 ENSG0	ENSG00000213865	C8orf44	8:6666759	3.27189	1.49996	-1.1252	down	0.000747	0.01406
ENSG0000148355 WDFY3 4846666 5.5814 2.5322 0.426252 -1.1403 down 9.35E-08 1.44E-05 ENSG0000144935 TRPC1 3.1427240 1.67021 0.755465 -1.1446 down 0.004573 0.048008 ENSG00000224186 C50766 5.1350277 4.84448 2.16723 -1.16049 down 1.63E-05 0.000877 ENSG0000028046 RP11-265N6.1 15.42912 6.41714 2.87445 -1.15865 down 0.003882 0.043634 ENSG0000028046 RP11-1099K24.6 17.785668 1.93125 0.854651 -1.17613 down 9.86E-06 0.000594 ENSG0000027760 RP11-5C23.1 7.1549284 3.02926 1.32563 -1.19229 down 0.003839 0.043202 ENSG000007087 PLEXHA8P1 1.2451730 3.8208 1.65302 -1.20877 down 0.002287 0.033394 ENSG00000258559 AC005519.4 1474284 1.9789 0.845551 -1.21861 down 0.002629 0.033394 ENSG000001285559 AC005519.4 1474284 1.9789 0.845551 -1.22661 down 0.002280 0.00677 ENSG00000258559 AC005519.4 1474284 1.9789 0.845551 -1.22661 down 0.002628 0.006757 ENSG00000128559 AC005519.4 1474284 1.9789 0.845551 -1.22651 down 0.002628 0.006757 ENSG00000227976 RP12 3.149761 1.6088 0.26194 0.344482 -1.22605 down 0.003314 0.039411 ENSG0000012254 HS3T2 1.622814 0.826194 0.344482 -1.2605 down 0.003127 0.037636 ENSG000001279767 AL51352.2 1.1537280 5.5705 2.14665 -1.37223 down 0.00310 0.03668 ENSG000001279767 AL51352.2 1.1537280 5.5705 2.14665 -1.37223 down 0.00313 0.004061 ENSG000001279767 AL51352.2 1.1537280 5.5705 2.14665 -1.37223 down 0.00313 0.004616 ENSG000001279767 AL51352.2 1.1537280 5.5705 2.14665 -1.37223 down 0.00313 0.004616 ENSG000001279767 AL51352.2 1.1537280 5.5705 2.14665 -1.37223 down 0.00313 0.004664 ENSG00000127940 RP11-111M22.2 1.763813 2.7999 1.0383 -1.43073 down 5.51E-07 5.59E-05 ENSG00000179240 RP11-111M22.2 1.763813 2.7999 1.0383 -1.43073 down 0.023240 0.003520 ENSG00000174240 RP11-111M22.2 1.763813 2.7999 1.0383 -1.43073 down 0.02727 0.032626 ENSG00000179240 RP11-111M22.2 1.763813 2.7999 1.0383 -1.43073 down 0.02727 0.032626 ENSG0000015962 CUC2 X.155276 2.05847 0.33902 -1.64253 down 0.004254 0.003542 ENSG00000279576 RO007691 1.165497 5.393931 1.9336 -1.61901 down 4.00E-05 0.000748 ENSG00000279576 RPAN 1.5248236 0.61076 0.19065 -1.6123	ENSG00000258461	RP11-164J13.1	15:422084	1.82498	0.832976	-1.13153	down	2.49E-05	0.001155
ENSG00001434935 TRPC1 3142740 167021 0.755465 -1.1446 down 0.004573 0.048008 ENSG00002414935 TRPC1 3142740 167021 0.755465 -1.1446 down 0.004573 0.048008 ENSG0000024186 C50rf66 5.15150277 4.84448 2.16723 -1.16049 down 1.63E-05 0.000877 ENSG0000028046 RP11-109M24.6 17.785668 1.93125 0.854651 -1.17613 down 9.86E-06 0.001947 ENSG00000134297 PLEXHA8P1 12.451730 3.8208 1.65302 -1.20877 down 0.003839 0.043202 ENSG00000145075 CCDC39 31.806021 0.931925 0.404564 -1.21861 down 0.002287 0.0006757 ENSG00000145075 CCDC39 31.806021 0.931952 0.400456 -1.21861 down 0.002280 0.006757 ENSG00000148403 TMEM236 10.177522 0.510558 0.242191 -1.2651 down 0.002862 0.033349 ENSG00000157497 PFN2 31.497611 1.60886 0.639304 -1.21861 down 0.002285 0.006757 ENSG000002804907 ZNF436-A51 1.233544 0.8245551 -1.22651 down 0.003262 0.033498 ENSG00000124297 PLEXHA86-1 12.45141 0.825039 0.34363 -1.26254 down 0.00312 0.037636 ENSG00000157492 ZNF136 -A51 1.233544 0.82464 -1.21861 down 0.00188 0.026767 ENSG0000015754 TLR5 1.2231094 1.17640 0.489511 -1.26527 down 0.00312 0.037636 ENSG0000015754 TLR5 1.2231094 1.17640 0.489511 -1.26527 down 0.003030 0.004664 ENSG0000015754 ZNF19 16.714475 1.17222 0.478933 -1.22006 down 0.001010 0.03668 ENSG0000015754 ZNF19 16.714475 1.17282 0.478933 -1.22006 down 0.001031 0.003668 ENSG0000015754 ZNF19 16.714475 1.17282 0.478933 -1.22006 down 0.001030 0.004664 ENSG00000157429 ZNF19 16.714475 1.17282 0.478933 -1.22006 down 0.001017 0.017494 ENSG00000157429 ZNF19 16.714475 1.17282 0.478933 -1.22000 down 0.000300 1.03668 ENSG00000157490 RVF12 1.1682132 2.218168 0.442475 down 0.001312 0.002670 0.03628 ENSG00000157492 ZNF15 1.1682194 1.1650 0.434366 -1.442372 down 0.000330 0.004645 ENSG00000189144 ZNF573 1.9377358 2.47291 0.891586 -1.4144 down 0.002967 0.036286 ENSG00000189144 ZNF573 1.9377358 2.47291 0.891586 -1.4144 down 0.002967 0.036280 ENSG00000189144 ZNF573 1.9377358 2.47291 0.891586 -1.414295 down 4.86E-06 0.000344 ENSG0000027976 AP00769.1 11.654977 5.93931 1.9336 -1.61901 down 4.00E-05 0.001651 ENSG0000027976 AP00769.1	ENSG00000278811	LINC00624	1:1471727	0.936222	0.426252	-1.13514	down	0.002088	0.028595
ENSG0000261R84 RPC1 3:1427240 1.67021 0.755465 -1.1464 down 0.004573 0.048008 ENSG000002261R84 RF11-265N6.1 15:424912 6.41714 2.87445 -1.15686 down 0.003828 0.0403873 ENSG000002201R82 RP11-5C23.1 7:1549284 3.02926 1.32563 -1.17613 down 0.002379 0.031389 ENSG00000272760 RP11-5C23.1 7:1549284 3.02926 1.32563 -1.19229 down 0.002379 0.031389 ENSG0000070087 PFN2 3:1497611 1.60886 0.693904 -1.21281 down 0.002529 0.033349 ENSG00000145075 CCDC39 3:1806021 0:31452 0.845551 -1.22651 down 0.00258 0.00314 0.39441 ENSG00000122254 HS3512 16:23141 0.82509 0.3463 -1.2651 down 0.00312 0.03379 ENSG00000122756 CLDS3 1:077522 0.51058 0.216764 -1.23594 down 0.00312 0.334348	ENSG00000163625	WDFY3	4:8466960	5.58145	2.53212	-1.1403	down	9.35E-08	1.44E-05
ENSG0000224186 CSorf66 51350277 4.8448 2.16723 -1.16049 down 1.63E-05 0.000372 ENSG00001224186 CSorf66 51350277 4.8448 2.16723 -1.16049 down 1.63E-05 0.000594 ENSG00000272760 RP11-1099M24.6 1.7785668 1.93125 0.854651 -1.1713 down 9.86E-06 0.000339 0.042302 ENSG00000272760 RP11-5C23.1 7.1549284 3.02926 1.23263 -1.21929 down 0.002399 0.03339 0.043202 ENSG00000134297 PLEKHABP1 12451730 3.8208 1.65302 -1.21827 down 0.002629 0.033394 ENSG00000145075 CCDC39 3.1806021 0.931952 0.40456 -1.21861 down 0.002652 0.033498 ENSG00000148483 TMEM236 10:17752 0.51058 0.216766 -1.23594 down 0.000312 0.03127 0.37636 ENSG00000128754 HS3ST2 16.22141 0.826511 -1.2657 down 0.000138 0.014931 ENSG00000187545 TLF2 9.838206	ENSG00000144935	TRPC1	3:1427240	1.67021	0.755465	-1.1446	down	0.004573	0.048008
ENSG0000122418 CSOffeo 5:13502/7 4:84448 2:16/23 -1.16049 down 1.031-05 0.00087 ENSG0000128239 CACNB4 2:151789 0.948596 0.421918 -1.16049 down 0.00187 0.027628 ENSG0000134297 PEKHA8P1 12:451730 3.8208 1.65302 -1.2027 down 0.002879 0.031389 ENSG00000134297 PEKH 3:1497611 1.60886 0.693904 -1.21232 down 0.002629 0.03334 ENSG00000184297 PEKH 3:1497611 1.60886 0.693904 -1.2161 down 0.002629 0.03349 ENSG0000018498 TMEM236 10:17752 0.510558 0.216766 -1.23594 0.000258 0.006757 ENSG0000012254 TLR5 1:2331094 0.32639 -1.26361 down 0.00188 0.026767 ENSG0000017429 ZNF19 16:714475 1.17282 0.478933 -1.26361 down 0.00188 0.026767 ENSG00000179267 AL51352.2 1:57280 5.5705 </td <td>ENSG00000261684</td> <td>RP11-265N6.1</td> <td>15:424912</td> <td>6.41/14</td> <td>2.87445</td> <td>-1.15865</td> <td>down</td> <td>0.003882</td> <td>0.043634</td>	ENSG00000261684	RP11-265N6.1	15:424912	6.41/14	2.87445	-1.15865	down	0.003882	0.043634
ENSG0000280046 CACN84 2.151789 0.943596 0.421916 -1.1688 0.0000 ENSG0000280046 RP11-1099M24.6 17.758668 1.3256 1.17613 down 9.061-06 0.000594 ENSG00000272760 RP11-15C23.1 7:1549284 3.02926 1.32563 -1.10277 down 0.002379 0.03339 ENSG0000070087 PFN2 3:1497611 1.60886 0.693904 -1.21871 down 0.002629 0.033394 ENSG00000148493 TMEM236 10:177522 0.510558 0.216766 -1.23594 down 0.00312 0.033941 ENSG00000128459 AC005519.4 11:2335944 0.826194 0.344482 -1.26205 down 0.00312 0.033491 ENSG0000018754 TLF5 1:223194 0.826194 0.344482 -1.26205 down 0.00312 0.03127 0.037636 ENSG00000127254 HS3T2 1.532720 1.51762 0.489511 -1.26257 down 0.00130 0.03688 ENSG0000018754 LF27 <td>ENSG00000224186</td> <td></td> <td>5:1350277</td> <td>4.84448</td> <td>2.16723</td> <td>-1.16049</td> <td>down</td> <td>1.63E-05</td> <td>0.000877</td>	ENSG00000224186		5:1350277	4.84448	2.16723	-1.16049	down	1.63E-05	0.000877
ENSG000027760 RP11-50231 7:1549284 3.02926 1.32563 -1.17613 d0wn 9.360-00 0.003839 0.043202 ENSG00000134297 PLEKHA8P1 12:451730 3.8208 1.65302 -1.20877 down 0.002379 0.031389 ENSG00000148075 CCDC39 3:1806021 0.931952 0.40456 -1.21861 down 0.002259 0.03394 ENSG00000258559 AC005519.4 14:742854 1.97859 0.845551 -1.22651 down 0.002258 0.006757 ENSG0000249087 ZNF436-AS1 1.235944 0.826194 0.344482 -1.26205 down 0.003127 0.037636 ENSG00000145755 CNF436-AS1 1.235944 0.826194 0.344482 -1.26205 down 0.003127 0.037636 ENSG00000122544 HS3ST2 16:228141 0.825039 0.34463 -1.26361 down 0.00058 0.017593 ENSG00000157542 TLR5 1.2231094 1.17664 0.489511 -1.26527 down 0.003011 0.037668 ENSG00000127767 AL513523.2 1.1537280 5.55705 2.14665 -1.37223 down 0.00058 0.011593 ENSG00000230590 FTX X:7394432 3.3519 1.25847 -1.4133 down 0.01017 0.017494 ENSG00000230590 FTX X:7394432 3.3519 1.25847 -1.4133 down 0.001017 0.017494 ENSG00000147231 CXorf57 X.1066119 1.25274 0.469986 -1.4144 down 0.002967 0.03628 ENSG00000147231 CXorf57 X:1066119 1.25274 0.469986 -1.4143 down 0.001017 0.017494 ENSG00000147231 CXorf57 X:1066119 1.25274 0.469986 -1.4133 down 0.00133 0.046645 ENSG000001944 ZNF215 11.6614971 1.5953 0.58831 -1.44295 down 4.86E-66 0.000344 ENSG0000016944 ZNF573 19:37738 2.47291 0.891581 -1.44295 down 4.86E-66 0.000344 ENSG000001954 TTC28 22:278516 3.46701 1.19254 -1.53965 down 3.82E-10 1.48E-07 ENSG0000015944 ENF1.111M22.2 11:763813 2.47291 0.891586 -1.47176 down 0.002841 0.035227 ENSG0000015944 ENM1 X:1239592 0.681777 0.231028 -1.56123 down 0.002572 0.3322+1 ENSG0000027956 AP000769.1 11:654977 5.93331 1.9336 -1.6191 down 4.00E-05 0.001651 ENSG00000279576 AP000769.1 11:65497 5.9331 1.9366 -1.47176 down 0.002841 0.035227 ENSG00000279576 AP000769.1 11:65497 5.93391 1.9366 -1.6123 down 0.002572 0.3322+1 ENSG00000279505 PRKXP1 15:100553 1.29425 0.387731 -1.73856 down 0.002634 0.204633 ENSG00000279505 PRKXP1 15:100553 1.29425 0.387731 -1.73856 down 0.002634 0.204635 ENSG00000279505 PRKXP1 15:102531 2.34466 0.620427 -1.7	ENSG00000280046	CACINB4	2:151/889	0.948596	0.421918	-1.10883	down	0.001967	0.027628
ENSG00000234297 PEKHA8P1 12:451730 32:290 1:32:03 -1:192:29 down 0.002379 0.002379 0.002379 0.002379 0.002379 0.002379 0.002379 0.002379 0.002379 0.002379 0.002379 0.002379 0.002379 0.002379 0.002379 0.002379 0.002379 0.002450 0.00258 0.000258 0.000258 0.000258 0.002676 1.13500 0.117522 0.51558 0.21676 -1.28621 0.003131 0.000312 0.003131 0.003131 0.003131 0.003131 0.003131 0.003131 0.003131 0.003131 0.003131 0.003131 0.003131	ENSG00000200040	RP11-10991V124.0	7.15/02000	2.02026	1 22562	-1.17013	down	9.000-00	0.000594
ENSG0000017297 FELN (16) 1 12:43130 13020 112007 10007 000717 ENSG0000014507 CCDC39 3:1806021 0.931952 0.400456 -1.21823 down 0.002652 0.033394 ENSG0000145075 CCDC39 3:1806021 0.931952 0.404551 -1.21861 down 0.002652 0.033494 ENSG0000124987 ZNF436-AS1 1:235944 0.826194 0.344482 -1.22651 down 0.003127 0.037636 ENSG000012254 HS3ST2 16:22194 1.7664 0.489511 -1.2657 down 0.00188 0.026767 ENSG0000018754 TLR5 1:2231094 1.17664 0.489511 -1.2657 down 0.00301 0.03668 ENSG00001875429 ZNF19 16:714475 1.17282 0.478933 -1.29208 down 0.000130 0.040615 ENSG0000145115 K127 9.832965 2.49386 0.44247 -1.4133 down 0.00117 0.17494 ENSG000014515 K127 X:7394432<	ENSG00000272700		1.1049204	3.02920	1.52505	-1.19229	down	0.003839	0.043202
ENSG00000145075 CCDC39 S1:457011 0.931952 0.400456 -1.21821 down 0.000258 0.000757 ENSG0000145075 CCDC39 31:806021 0.931952 0.400456 -1.21861 down 0.000258 0.000757 ENSG00001484483 TMEM236 10:177522 0.510558 0.2167661 -1.23594 down 0.00314 0.039141 ENSG0000122254 HS3ST2 16:228141 0.825039 0.34363 -1.26361 down 0.00188 0.026767 ENSG0000157429 ZNF19 16:714475 1.17264 0.48933 -1.29208 down 0.000133 0.004061 ENSG00000157429 ZNF19 16:714475 5.5775 2.14665 -1.37223 down 0.00133 0.004061 ENSG00000147231 CXorf57 X:1066119 1.25274 -4.4333 down 0.00117 0.017494 ENSG00000149054 ZNF215 11:682194 1.1653 0.434366 -1.42372 down 0.002367 0.032626 0.000744 <td< td=""><td>ENSG00000134297</td><td>DENI2</td><td>2.1/07611</td><td>1 60886</td><td>0.603007</td><td>-1.20077</td><td>down</td><td>0.002579</td><td>0.031309</td></td<>	ENSG00000134297	DENI2	2.1/07611	1 60886	0.603007	-1.20077	down	0.002579	0.031309
ENSG0000258559 AC005519.4 1.4742854 1.97859 0.845551 -1.22615 down 0.002262 0.03314 0.039411 ENSG00000258559 AC005519.4 11.4742854 1.97859 0.845551 -1.22605 down 0.00314 0.039411 ENSG0000122254 HS3572 16.228141 0.826194 0.34482 -1.26205 down 0.00188 0.026767 ENSG0000122254 HS3572 16.228141 0.826194 0.34483 -1.26657 down 0.00058 0.011593 ENSG00001279767 AL513523.2 1:1537280 5.5705 2.14665 -1.37223 down 0.000133 0.004061 ENSG00000230590 FTX X:7394432 3.3519 1.25847 -1.4133 down 0.00117 0.01179 ENSG00000179240 RP11-111M22.2 11:763813 2.7999 1.0383 -1.42372 down 0.00267 0.036286 ENSG00000179240 RP11-111M22.2 11:763813 2.7999 1.0383 -1.42373 down 1.02657 0.000708	ENSG0000001/5075		3.1437011	0 931952	0.095954	-1 21861	down	0.002025	0.000000
ENSG0000148483 TMEM236 10:177522 0.510558 0.216766 -1.23594 down 0.003314 0.03314 0.03411 ENSG00001249087 ZNF436-AS1 1:2335944 0.826194 0.344482 -1.26205 down 0.003314 0.037636 ENSG0000122254 HS3ST2 16:228141 0.825039 0.34363 -1.26361 down 0.00188 0.026767 ENSG0000187554 TLR5 1:2231094 1.17664 0.489511 -1.26527 down 0.000301 0.03688 ENSG00000157429 ZNF19 16:714475 1.17282 0.478933 -1.29208 down 0.001013 0.004061 ENSG00000230590 FTX X:7394432 3.3519 1.25847 -1.4133 down 0.00117 0.0177 0.0177 0.0177 0.0177 0.0177 0.017494 ENSG00000179240 RP11-111M22.1 11:76381 2.79909 1.0383 -1.4372 down 1.232-05 0.000708 ENSG00000179240 RP11-111M22.2 11:76381 2.79909	ENSG00000143073	AC0055194	14.742854	1 97859	0.845551	-1 22651	down	0.000250	0.033498
ENSG00000249087 ZNF436-AS1 1:2335944 0.826194 0.344482 -1:26205 down 0.003127 0.037636 ENSG00000122254 HS3ST2 16:228141 0.825039 0.34363 -1:26361 down 0.000188 0.026767 ENSG00000157547 TLR5 1:2231094 1.17664 0.489511 -1:26207 down 0.000183 0.00461 ENSG00000157429 ZNF19 16:714475 1.17282 0.478933 -1:29208 down 0.000133 0.004061 ENSG00000165115 KIF27 9:8382965 2.49388 0.949272 -1:3935 down 0.00133 0.04061 ENSG00000147231 CXorf57 X:1066119 1.25274 0.469986 -1.4144 down 0.00247 0.036286 ENSG00000179240 RP11-111M22.2 11:763813 2.79909 1.0383 -1.42372 down 1.23E-05 0.00708 ENSG00000189144 ZNF573 19:377358 2.47291 0.891586 -1.47176 down 0.002572 0.032287	ENSG00000148483	TMFM236	10.177522	0.510558	0.216766	-1 23594	down	0.002002	0.039411
ENSG0000122254 HS3ST2 16:228141 0.025039 0.34363 -1.26361 down 0.00188 0.026767 ENSG0000187554 TLR5 1:2231094 1.17664 0.489511 -1.26527 down 0.000188 0.026767 ENSG0000187524 ZNF19 16:714475 1.17282 0.478933 -1.29208 down 0.00133 0.00401 ENSG00000165115 KIF27 9:8382965 2.49388 0.949272 -1.3935 down 0.001017 0.017494 ENSG00000147231 CXorf57 X:1066119 1.25274 0.469986 -1.4143 down 0.002967 0.038286 ENSG00000179240 RP11-111M22.2 11:763813 2.79909 1.0383 -1.42372 down 1.25274 0.469986 -1.4144 down 0.002967 0.038286 ENSG00000179240 RP11-111M22.2 11:763813 2.79909 1.0383 -1.42372 down 1.23272 ENSG0000017944 ZNF573 19:377358 2.47291 0.891586 -1.47176 down	ENSG00000249087	ZNF436-AS1	1:2335944	0.826194	0.344482	-1.26205	down	0.003127	0.037636
ENSG0000187554TLR51:22310941.176640.489511-1.26527down0.0005580.011593ENSG0000157429ZNF1916:7144751.172820.478933-1.29208down0.0030010.03668ENSG0000279767AL513523.211:5372805.557052.14665-1.37223down0.0001330.004061ENSG0000230590FTXX:73944323.35191.25847-1.4133down0.001170.017494ENSG0000147231CXorf57X:10661191.252740.469986-1.4144down0.0029670.036286ENSG00000149054ZNF21511:6821941.16530.434366-1.42372down0.004330.046645ENSG00000179240RP11-111M22.211:7638132.799091.0383-1.43073down1.23E-050.000784ENSG00000189144ZNF57319:3773582.472910.891586-1.47176down0.0028410.035227ENSG00000279576AP000769.111:6549775.939311.9336-1.61901down4.00E-050.01651ENSG0000027956CTC-428H11.25.87267882.624210.843928-1.63669down0.0042750.046335ENSG0000027956CLC2X:15527621.058470.33902-1.64253down0.0024270.046335ENSG0000027576CTC-428H11.25.87267882.624210.843928-1.63669down0.0024520.046335ENSG0000027576CTC-428H11.25.87267882.62421 <td< td=""><td>ENSG00000122254</td><td>HS3ST2</td><td>16:228141</td><td>0.825039</td><td>0.34363</td><td>-1.26361</td><td>down</td><td>0.00188</td><td>0.026767</td></td<>	ENSG00000122254	HS3ST2	16:228141	0.825039	0.34363	-1.26361	down	0.00188	0.026767
ENSG0000157429ZNF1916:7144751.172820.478933-1.29208 down0.0030010.03668ENSG0000279767AL513523.21:15372805.557052.14665-1.37223 down0.0001330.004061ENSG0000165115KIF279:83829652.493880.949272-1.3935 down5.51E-075.59E-05ENSG0000230590FTXX:73944323.35191.25847-1.4133 down0.0010170.017494ENSG00000147231CXorf57X:10661191.252740.469986-1.4144 down0.0029670.036286ENSG0000019240RP11-111M22.211:7638132.799091.0383-1.43073 down1.23E-050.00078ENSG0000018967RORA15:6047911.599530.588331-1.44295 down4.86E-060.00344ENSG00000193144ZNF57319:3773582.472910.891586-1.47176 down0.0028410.035227ENSG0000010944TTC2822:2785163.467011.19254-1.53965 down3.82E-101.48E-07ENSG00000279576AP000769.111:6549775.939311.9336-1.61901 down4.00E-050.001651ENSG00000272367CTC-428H11.25.87267882.624210.843928-1.63669 down0.0042750.046335ENSG00000272367CTC-428H11.25.87267882.624210.843928-1.63669 down0.0026360.022192ENSG00000272367CTC-428H11.25.87267882.624210.843928-1.63669 down0.0026360.022619ENSG000002	ENSG00000187554	TLR5	1:2231094	1.17664	0.489511	-1.26527	down	0.000558	0.011593
ENSG0000279767AL513523.21:15372805.557052.14665-1.37223 down0.0001330.00401ENSG0000165115KIF279:83829652.493880.949272-1.3935 down5.51E-075.59E-05ENSG0000230590FTXX:73944323.35191.25847-1.4133 down0.001170.017494ENSG0000147231CXorf57X:10661191.252740.469986-1.4144 down0.0029670.36286ENSG0000179240RP11-111M22.211:7638132.799091.0383-1.43073 down1.23E-050.00078ENSG0000189144ZNF7319:3773582.472910.891586-1.41776 down0.0028410.035227ENSG000001954TTC2822:2785163.467011.19254-1.53965 down3.82E-101.48E-07ENSG00000279576AP000769.111:6549775.939311.9336-1.61901 down4.002-050.001651ENSG00000272367CTC-428H11.25:87267882.624210.843928-1.63669 down0.0042750.046335ENSG00000259205PKXP115:1005531.294250.387733-1.73668 down0.0012350.022619ENSG00000279192PWAR515:2482362.146620.67427-1.73668 down0.002630.028455ENSG00000259205PKXP115:1005531.294250.387793-1.73876 down0.002630.028455ENSG00000259205PKXP115:1005531.294250.387793-1.73766 down0.002630.028455ENSG00000259205PKXP1<	ENSG00000157429	ZNF19	16:714475	1.17282	0.478933	-1.29208	down	0.003001	0.03668
ENSG0000165115KIF279:83829652.493880.949272-1.3935 down5.51E-075.59E-05ENSG0000230590FTXX:73944323.35191.25847-1.4133 down0.0010170.017494ENSG0000147231CXorf57X:10661191.252740.469986-1.4144 down0.0029670.036286ENSG0000149054ZNF21511:6821941.16530.434366-1.42372 down0.004330.046645ENSG0000069667RORA15:6047911.599530.588331-1.44295 down4.86E-060.000344ENSG00000189144ZNF57319:3773582.472910.891586-1.47176 down0.0028410.035227ENSG00000109694TENM1X:12395920.6817770.231028-1.56123 down0.0025720.32927ENSG00000279576AP000769.111:6549775.939311.9336-1.61901 down4.00E-050.001651ENSG0000027367CTC-428H11.25:87267882.624210.843928-1.63669 down0.0024750.046335ENSG0000015962CLIC2X:15527621.058470.33902-1.64253 down0.0006470.01265ENSG00000259205PRKXP115:1005531.294250.387793-1.73876 down0.002630.028465ENSG00000279192PWAR515:2482362.146620.627427-1.77455 down5.01E-075.31E-05ENSG00000259205PRKXP115:1005531.294250.387793-1.7854 down6.81E-125.03E-09ENSG00000215158RP11-1023	ENSG00000279767	AL513523.2	1:1537280	5.55705	2.14665	-1.37223	down	0.000133	0.004061
ENSG0000230590FTXX:73944323.35191.25847-1.4133 down0.0010170.017494ENSG0000147231CXorf57X:10661191.252740.469986-1.4144 down0.0029670.036286ENSG0000149054ZNF21511:6821941.16530.434366-1.42372 down0.004330.046645ENSG0000079240RP11-111M22.211:7638132.799091.0383-1.43073 down1.23E-050.000708ENSG0000069667RORA15:6047911.599530.588331-1.44295 down4.86E-060.002441ENSG0000016914ZNF57319:3773582.472910.891586-1.47176 down0.0028410.035227ENSG0000009694TENM1X:12395920.6817770.231028-1.56123 down0.0024520.032927ENSG00000279576AP000769.111:6549775.939311.9336-1.61901 down4.00E-050.001651ENSG00000272367CTC-428H11.25:87267882.624210.843928-1.63669 down0.0024750.046335ENSG0000027367CTC-428H11.25:8726782.624210.843928-1.63669 down0.002630.02263ENSG00000283467AL078584.16:24797321.353490.406129-1.73668 down0.002630.028465ENSG00000283467AL078584.16:24797321.353490.406129-1.73668 down0.002630.028465ENSG00000283467AL078584.16:24797321.353490.406129-1.73668 down0.002630.028465ENSG0000	ENSG00000165115	KIF27	9:8382965	2.49388	0.949272	-1.3935	down	5.51E-07	5.59E-05
ENSG00000147231CXorf57X:10661191.252740.469986-1.4144 down0.0029670.036286ENSG00000149054ZNF21511:6821941.16530.434366-1.42372 down0.004330.046645ENSG0000069667RORA15:6047911.599530.588331-1.42372 down1.23E-050.000708ENSG00000189144ZNF57319:3773582.472910.891586-1.47176 down0.0028410.035227ENSG0000010954TTC2822:2785163.467011.19254-1.53965 down3.82E-101.48E-07ENSG00000279576AP000769.111:6549775.939311.9336-1.61901 down0.0024720.036235ENSG00000155962CLIC2X:15527621.058470.33902-1.64253 down0.00042750.046335ENSG00000283467AL078584.16:24797321.353490.406129-1.73668 down0.0023540.012652ENSG00000283467AL078584.16:24797321.353490.406129-1.73668 down0.0023630.022019ENSG00000279192PWAR515:2482362.16620.627427-1.77455 down5.10E-075.31E-05ENSG00000279192PWAR515:2482362.16620.627427-1.7854 down6.81E-125.03E-09ENSG00000215158RP11-1023117.15:34164696.493591.87627-1.79115 down2.26E-072.79E-05ENSG00000215158GUSBP95:71197642.451580.682042-1.84578 down0.0045380.047821ENSG00000218	ENSG00000230590	FTX	X:7394432	3.3519	1.25847	-1.4133	down	0.001017	0.017494
ENSG00000149054ZNF21511:6821941.16530.434366-1.42372 down0.004330.046645ENSG00000179240RP11-111M22.211:7638132.799091.0383-1.43073 down1.23E-050.000708ENSG00000189144ZNF57319:3773582.472910.891586-1.47176 down0.0028410.035227ENSG00000100154TTC2822:2785163.467011.19254-1.53965 down3.82E-101.48E-07ENSG00000279576AP000769.111:6549775.939311.9336-1.61901 down4.00E-050.001651ENSG000001272367CTC-428H11.25:87267882.624210.843928-1.63669 down0.0042750.046335ENSG00000163464CXCR12:21816280.6160760.190655-1.69207 down0.0012350.020219ENSG00000279159PRKXP115:100531.294250.387793-1.73876 down0.002630.028465ENSG00000279192PWAR515:2482362.146620.627427-1.7455 down0.002630.028465ENSG00000174501ANKRD36C2:95836917.21932.09447-1.7854 down6.81E-125.03E-09ENSG00000215503GUSBP95:71197642.451580.682042-1.84578 down0.0045380.047821ENSG00000184566RP13-786C16.111:3385851.435560.388511-1.88558 down0.0034520.040501	ENSG00000147231	CXorf57	X:1066119	1.25274	0.469986	-1.4144	down	0.002967	0.036286
ENSG00000179240RP11-111M22.211:7638132.799091.0383-1.43073 down1.23E-050.000708ENSG0000069667RORA15:6047911.599530.588331-1.44295 down4.86E-060.000344ENSG0000189144ZNF57319:3773582.472910.891586-1.47176 down0.0028410.035227ENSG00000100154TTC2822:2785163.467011.19254-1.53965 down3.82E-101.48E-07ENSG00000279576AP00769.111:6549775.939311.9336-1.61901 down4.00E-050.001651ENSG00000272367CTC-428H11.25:87267882.624210.843928-1.63669 down0.0024750.046335ENSG0000163464CXCR12:21816280.6160760.190665-1.69207 down0.0035340.041093ENSG00000279595PRKXP115:1005531.294250.387793-1.73676 down0.0026330.02219ENSG00000279192PWAR515:2482362.146620.627427-1.77455 down6.81E-125.03E-09ENSG00000215158RP11-1023L17.15:3416496.493591.87627-1.79115 down2.2EE-072.79E-05ENSG00000215630GUSBP95:71197642.451580.682042-1.84578 down0.0045380.047821ENSG00000184566RP13-786C16.111:3385851.435560.388511-1.88558 down0.0034520.040501	ENSG00000149054	ZNF215	11:682194	1.1653	0.434366	-1.42372	down	0.00433	0.046645
ENSG00000069667RORA15:6047911.599530.588331-1.44295 down4.86E-060.000344ENSG0000189144ZNF57319:3773582.472910.891586-1.47176 down0.0028410.035227ENSG00000009694TTC2822:2785163.467011.19254-1.53965 down3.82E-101.48E-07ENSG00000279576AP000769.111:6549775.939311.9336-1.61901 down4.00E-050.001651ENSG00000272367CTC-428H11.25:87267882.624210.843928-1.63669 down0.0024750.046335ENSG00000155962CLIC2X:15527621.058470.33902-1.64253 down0.0006470.012652ENSG00000283467AL078584.16:24797321.353490.406129-1.73668 down0.0020630.028465ENSG00000279192PWAR515:2482362.146620.627427-1.77455 down5.10E-075.31E-05ENSG00000215158RP11-1023L17.15:34164696.493591.87627-1.79115 down2.26E-072.79E-05ENSG00000215630GUSBP95:71197642.451580.682042-1.84578 down0.0045380.047821ENSG00000184566RP13-786C16.111:3385851.435560.388511-1.88558 down0.0034520.040501	ENSG00000179240	RP11-111M22.2	11:763813	2.79909	1.0383	-1.43073	down	1.23E-05	0.000708
ENSG00000189144ZNF57319:3773582.472910.891586-1.47176 down0.0028410.035227ENSG00000100154TTC2822:2785163.467011.19254-1.53965 down3.82E-101.48E-07ENSG00000279576AP000769.111:6549775.939311.9336-1.61901 down4.00E-050.001651ENSG00000272367CTC-428H11.25:87267882.624210.843928-1.63669 down0.0024750.046335ENSG00000155962CLIC2X:15527621.058470.33902-1.64253 down0.0006470.012652ENSG0000283467AL078584.16:24797321.353490.406129-1.73668 down0.0020630.028465ENSG00000279192PWAR515:2482362.146620.627427-1.77455 down5.10E-075.31E-05ENSG00000215158RP11-1023L17.15:34164696.493591.87627-1.79115 down2.26E-072.79E-05ENSG00000215630GUSBP95:71197642.451580.682042-1.84578 down0.0045380.047821ENSG00000184566RP13-786C16.111:3385851.435560.388511-1.88558 down0.0034520.040501	ENSG0000069667	RORA	15:604791	1.59953	0.588331	-1.44295	down	4.86E-06	0.000344
ENSG0000010015411C2822:2785163.467011.19254-1.53965 down3.82E-101.48E-07ENSG0000009694TENM1X:12395920.6817770.231028-1.56123 down0.0025720.032927ENSG0000279576AP000769.111:6549775.939311.9336-1.61901 down4.00E-050.001651ENSG00000272367CTC-428H11.25:87267882.624210.843928-1.63669 down0.0042750.046335ENSG00000155962CLIC2X:15527621.058470.33902-1.64253 down0.0006470.012652ENSG00000283467AL078584.16:24797321.353490.406129-1.73668 down0.0020630.028465ENSG00000259205PRKXP115:1005531.294250.387793-1.73876 down0.0020630.028465ENSG00000279192PWAR515:2482362.146620.627427-1.77455 down5.10E-075.31E-05ENSG00000215158RP11-1023L17.15:34164696.493591.87627-1.79115 down2.26E-072.79E-05ENSG00000215630GUSBP95:71197642.451580.682042-1.84578 down0.0045380.047821ENSG00000184566RP13-786C16.111:3385851.435560.388511-1.88558 down0.0034520.040501	ENSG00000189144	ZNF573	19:377358	2.47291	0.891586	-1.47176	down	0.002841	0.035227
ENSG00000009694TENM1X:12395920.6817770.231028-1.56123 down0.0025720.032927ENSG0000279576AP000769.111:6549775.939311.9336-1.61901 down4.00E-050.001651ENSG00000272367CTC-428H11.25:87267882.624210.843928-1.63669 down0.0042750.046335ENSG00000155962CLIC2X:15527621.058470.33902-1.64253 down0.0006470.012652ENSG00000283467AL078584.16:24797321.353490.406129-1.73668 down0.0020330.020219ENSG00000259205PRKXP115:1005531.294250.387793-1.73876 down0.0020630.028465ENSG00000279192PWAR515:2482362.146620.627427-1.77455 down5.10E-075.31E-05ENSG00000215158RP11-1023L17.15:34164696.493591.87627-1.79115 down2.26E-072.79E-05ENSG00000215630GUSBP95:71197642.451580.682042-1.84578 down0.0045380.047821ENSG00000184566RP13-786C16.111:3385851.435560.388511-1.88558 down0.0034520.004501	ENSG00000100154	TTC28	22:278516	3.46701	1.19254	-1.53965	down	3.82E-10	1.48E-07
ENSG00000279576AP000769.111:6549775.939311.9336-1.61901 down4.00E-050.001651ENSG00000272367CTC-428H11.25:87267882.624210.843928-1.63669 down0.0042750.046335ENSG00000155962CLIC2X:15527621.058470.33902-1.64253 down0.0006470.012652ENSG00000283467AL078584.16:24797321.353490.406129-1.73668 down0.0012350.020219ENSG00000259205PRKXP115:1005531.294250.387793-1.73876 down0.0020630.028465ENSG00000279192PWAR515:2482362.146620.627427-1.77455 down5.10E-075.31E-05ENSG00000215158RP11-1023L17.15:34164696.493591.87627-1.79115 down2.26E-072.79E-05ENSG00000215630GUSBP95:71197642.451580.682042-1.84578 down0.0045380.047821ENSG00000184566RP13-786C16.111:3385851.435560.388511-1.88558 down0.0034520.040501	ENSG0000009694	IENM1	X:1239592	0.681///	0.231028	-1.56123	down	0.002572	0.032927
ENSG00000272367CTC-428H1125:87267882:624210:843928-1.63669 down0:0042750:046335ENSG00000155962CLIC2X:15527621.058470.33902-1.64253 down0.0006470.012652ENSG00000163464CXCR12:21816280.6160760.190665-1.69207 down0.0035340.041093ENSG00000283467AL078584.16:24797321.353490.406129-1.73668 down0.0020630.02249ENSG00000259205PRKXP115:1005531.294250.387793-1.73876 down0.0020630.028465ENSG00000279192PWAR515:2482362.146620.627427-1.77455 down5.10E-075.31E-05ENSG00000215158RP11-1023L17.15:34164696.493591.87627-1.79115 down2.26E-072.79E-05ENSG00000215630GUSBP95:71197642.451580.682042-1.84578 down0.0045380.047821ENSG00000184566RP13-786C16.111:3385851.435560.388511-1.88558 down0.0034520.040501	ENSG00000279576	AP000769.1	11:654977	5.93931	1.9336	-1.61901	down	4.00E-05	0.001651
LINSGUUUUU155962CLIC2X:15527621.058470.33902-1.64253 down0.0006470.012652ENSG00000163464CXCR12:21816280.6160760.190665-1.69207 down0.0035340.041093ENSG00000283467AL078584.16:24797321.353490.406129-1.73668 down0.0020630.02249ENSG00000259205PRKXP115:1005531.294250.387793-1.73876 down0.0020630.028465ENSG00000279192PWAR515:2482362.146620.627427-1.77455 down5.10E-075.31E-05ENSG00000174501ANKRD36C2:95836917.219932.09447-1.7854 down6.81E-125.03E-09ENSG00000215158RP11-1023L17.15:34164696.493591.87627-1.79115 down2.26E-072.79E-05ENSG00000215630GUSBP95:71197642.451580.682042-1.84578 down0.0045380.047821ENSG00000184566RP13-786C16.111:3385851.435560.388511-1.88558 down0.0034520.040501	ENSG00000155000	CTC-428H11.2	5:8/26/88	2.62421	0.843928	-1.63669	down	0.004275	0.046335
EINSG00000103404CACKIZ:21810280.0100700.190005-1.09207down0.0035340.041093ENSG00000283467AL078584.16:24797321.353490.406129-1.73668down0.0012350.020219ENSG00000259205PRKXP115:1005531.294250.387793-1.73876down0.0020630.028465ENSG00000279192PWAR515:2482362.146620.627427-1.77455down5.10E-075.31E-05ENSG00000174501ANKRD36C2:95836917.219932.09447-1.7854down6.81E-125.03E-09ENSG00000215158RP11-1023L17.15:34164696.493591.87627-1.79115down2.26E-072.79E-05ENSG00000215630GUSBP95:71197642.451580.682042-1.84578down0.0045380.047821ENSG00000184566RP13-786C16.111:3385851.435560.388511-1.88558down0.0034520.040501	EINSGUUUUU155962		X:1552/62	1.05847	0.33902	-1.04253	down	0.000647	U.UI2052
EINSG00000259205PRKXP10.24797521.535490.400129-1.73008down0.0012350.020219ENSG00000259205PRKXP115:1005531.294250.387793-1.73876down0.0020630.028465ENSG00000279192PWAR515:2482362.146620.627427-1.77455down5.10E-075.31E-05ENSG00000174501ANKRD36C2:95836917.219932.09447-1.7854down6.81E-125.03E-09ENSG00000215158RP11-1023L17.15:34164696.493591.87627-1.79115down2.26E-072.79E-05ENSG00000215630GUSBP95:71197642.451580.682042-1.84578down0.0045380.047821ENSG00000184566RP13-786C16.111:3385851.435560.388511-1.88558down0.0034520.040501			C.2101020	0.010010	0.190002	-1.09207	down	0.003534	0.041093
ENSCOUDD215203FNXF115.1005351.2942.30.367793-1.78570down0.0020630.028465ENSG00000279192PWAR515:2482362.146620.627427-1.77455down5.10E-075.31E-05ENSG00000174501ANKRD36C2:95836917.219932.09447-1.7854down6.81E-125.03E-09ENSG00000215158RP11-1023L17.15:34164696.493591.87627-1.79115down2.26E-072.79E-05ENSG00000215630GUSBP95:71197642.451580.682042-1.84578down0.0045380.047821ENSG00000184566RP13-786C16.111:3385851.435560.388511-1.88558down0.0034520.040501	LINGGUUUUU20340/	ALUI 0304.1 DRKYD1	U.2419132 15.100552	1.00349	0.400129 0 307702	-1.13008 1 70076	down	0.001235	0.020219
ENSG00000174501ANKRD36C2:95836917.219932.09447-1.7854 down6.81E-125.03E-09ENSG00000215158RP11-1023L17.15:34164696.493591.87627-1.79115 down2.26E-072.79E-05ENSG00000215630GUSBP95:71197642.451580.682042-1.84578 down0.0045380.047821ENSG00000184566RP13-786C16.111:3385851.435560.388511-1.88558 down0.0034520.040501	EN360000239203	ΓΙΛΙΟΛΕΙ Ρ\Λ/ΔΡ5	12.100000	1.29420 2 1/660	0.001193	-1.10010 _177166	down	5.002003 5.10E 07	5 31E. 0E
ENSG00000215158RP11-1023L17.15:34164696.493591.87627-1.79115 down2.26E-072.79E-05ENSG00000215630GUSBP95:71197642.451580.682042-1.84578 down0.0045380.047821ENSG00000184566RP13-786C16.111:3385851.435560.388511-1.88558 down0.0034520.040501	ENSG00000279192		10.240200 2.9582601	Z.1400Z 7 21002	2 00/17	-1.7455	down	5.10E-07 6 Q1E-12	5.01E-00
ENSG00000215630 GUSBP9 5:7119764 2.45158 0.682042 -1.84578 down 0.004538 0.047821 ENSG00000184566 RP13-786C16.1 11:338585 1.43556 0.388511 -1.88558 down 0.003452 0.040501	ENSG00000174301	RP11_1023I 17 1	5.3416/60	6 29350	1 87627	-1.70115	down	2 26F_07	2 79F_05
ENSG00000184566 RP13-786C16.1 11:338585 1.43556 0.388511 -1.88558 down 0.003452 0.040501	ENSG00000215630	GUSBP9	5.7119764	2 45158	0.682042	-1 84578	down	0 004538	0.047821
	ENSG00000184566	RP13-786C16.1	11:338585	1.43556	0.388511	-1.88558	down	0.003452	0.040501

ENSG00000279500	RP11-21K12.2	12:128793	1.42718	0.368813	-1.9522 down	0.000508	0.011003
ENSG00000281195	ZNF638-IT1	2:7127656	1.17209	0.295956	-1.98563 down	0.004337	0.046648
ENSG00000196876	SCN8A	12:515902	0.816187	0.199038	-2.03585 down	0.000922	0.01639
ENSG00000279390	AF127577.13	21:148188	1.40601	0.336626	-2.06239 down	5.09E-05	0.001981
ENSG00000156113	KCNMA1	10:768696	0.620525	0.144481	-2.10261 down	0.000856	0.015632
ENSG00000279456	RP11-87H9.5	9:4099224	1.2326	0.285048	-2.11242 down	0.000789	0.014676
ENSG00000279041	CTD-2373N4.3	8:3038211	0.937683	0.199048	-2.23598 down	0.002877	0.035495
ENSG00000213240	RP11-458D21.5	1:1460646	0.49666	0.099484	-2.31972 down	0.002616	0.033282
ENSG00000279530	AC092881.1	12:697386	0.941205	0.186367	-2.33636 down	0.000636	0.012555
ENSG00000261604	CTD-2636A23.2	5:4328760	1.4528	0.255767	-2.50594 down	5.25E-05	0.002034
ENSG00000214262	ANKRD36BP1	1:1682259	2.09186	0.326527	-2.67951 down	0.00039	0.009172
ENSG00000251201	TMED7-TICAM2	5:1155786	0.92002	0.136447	-2.75333 down	0.000224	0.006101
ENSG00000261366	MANEA-AS1	6:9557518	1.05895	0.154407	-2.77783 down	0.000313	0.007754
ENSG00000247228	RP11-296I10.3	16:701136	1.58993	0.197523	-3.00887 down	3.32E-05	0.001425
ENSG00000229267	AC072062.1	2:2148102	0.816714	0.100704	-3.01971 down	0.002479	0.032116
ENSG00000267500	ZNF887P	19:116397	1.07164	0.115972	-3.20797 down	0.001467	0.022757
ENSG00000259024	TVP23C-CDRT4	17:154360	1.18964	0.121987	-3.28572 down	0.004808	0.049586
ENSG00000177675	CD163L1	12:734668	0.650257	0.060022	-3.43745 down	0.001514	0.023306
ENSG00000176927	EFCAB5	17:295605	0.560929	0.047427	-3.56403 down	0.00064	0.012593
ENSG00000143248	RGS5	1:1631111	0.736425	0.059732	-3.62397 down	3.33E-05	0.001425
ENSG00000261845	RP13-638C3.4	17:825197	1.38393	0.099812	-3.79342 down	0.004841	0.049794
ENSG00000257411	RP11-603J24.9	12:560798	5.36556	0.342108	-3.97121 down	0.002784	0.034735
ENSG00000232104	RFX3-AS1	9:3526722	1.14708	0.054351	-4.39952 down	0.003353	0.039789
ENSG00000103888	CEMIP	15:807793	0.598823	0.026877	-4.47771 down	0.000157	0.004619

Table S3. The list of pathway enrichment analysis

#Pathway	Sample1 (49)	Sample2 (12412)	Pvalue	Qvalue	Pathway ID) Genes	KOs
Chemokine signaling pathway		178	0.00066	0.06233	ko04062	ENSG00000105647;ENSG00000163739;	K02649+K05505+K05506+K04175+K14624
chemolane signaling patientaly		1.0		0.00200		ENSG00000163735;ENSG00000163464;ENSG00000108691 ENSG00000122641;ENSG00000163739;ENSG00000163735;	
Cytokine-cytokine receptor interaction	5	263	0.00366	0.13891	ko04060	ENSG00000163464;ENSG00000108691	K04667+K05505+K05506+K04175+K14624
Rheumatoid arthritis	3	91	0.00551	0.13891	ko05323	ENSG00000163739;ENSG00000163735;ENSG00000108691	K05505+K05506+K14624
Pancreatic secretion	3	107	0.00365	0.16356	ko04972	ENSG00000144935;ENSG00000156113;ENSG00000107159	K04964+K04936+K01672
Legionellosis	2	58	0.02193	0.29761	ko05134	ENSG00000187554;ENSG00000163739	K10168+K05505
For the formation of th	2	58	0.02193	0.29761	KOU4621	EN2200000103/39/EN2200000108091	KU55U5+K14624
pylori infection	2	/0	0.0311	0.32894	ko05120	ENSG00000163739;ENSG00000163464	K05505+K04175
Influenza A Pathogenic Escherichia coli infection	3	174	0.03116	0.32894	ko05164	ENSG00000157601;ENSG00000105647;ENSG00000108691 ENSG00000186395;ENSG00000187554	K14754+K02649+K14624 K07604+K10168
Amoebiasis	2	101	0.06234	0.43555	ko05130	ENSG0000105647;ENSG00000163739	K02649+K05505
Chagas disease (American trypanosomiasis)	2	104	0.06341	0.43555	ko05142	ENSG00000105647;ENSG00000108691	K02649+K14624
Phenylalanine metabolism	1	. 18	0.06877	0.43555	ko004020	ENSG00000131471	K02045+K10108
Steroid biosynthesis	1		0.06877	0.43555	ko00100	ENSG00000111012	K07438
Parkinson's disease Circadian rhythm - mammal	2	2118	0.07896	0.45917	ko05012 ko04710	ENSG00000259112;ENSG00000185345 ENSG00000069667	K03968+K04556 K08532
Measles	2	133	0.09679	0.45917	ko05162	ENSG00000157601;ENSG00000105647	K14754+K02649
Glycosaminoglycan biosynthesis -	1	. 26	0.09783	0.45917	ko00534	ENSG00000122254	K07808
Systemic lupus erythematosus	2	135	0.09925	0.45917	ko05322	ENSG00000158406;ENSG00000275713	K11254+K11252
beta-Alanine metabolism	1	. 31	0.11554	0.45917	ko00410	ENSG0000131471	K00276
Tyrosine metabolism	1	. 32	0.11904	0.45917	ko004964	ENSG00000131471	K01072 K00276
Collecting duct acid secretion	1	. 37	0.13634	0.45917	ko04966	ENSG00000107159	K01672
Aldosterone-regulated sodium reabsorption Glycine serine and threonine metabolism	ı 1	. 37	0.13634	0.45917	ko04960 ko00260	ENSG00000105647 ENSG00000131471	K02649 K00276
Alcoholism	2	179	0.15715	0.45917	ko05034	ENSG00000158406;ENSG00000275713	K11254+K11252
Type II diabetes mellitus Malaria	1	. 45	0.16332	0.45917	ko04930	ENSG00000105647	K02649
mTOR signaling pathway	1	. 49	0.17651	0.45917	ko04150	ENSG00000105647	K02649
Carbohydrate digestion and absorption	1	. 50	0.17977	0.45917	ko04973	ENSG00000105647	K02649
Fanconi anemia pathway Non-small cell lung cancer	1	. 50	0.17977	0.45917	ko03460 ko05223	ENSG00000282827 ENSG00000105647	K10905
Endocytosis	2	199	0.18525	0.45917	ko04144	ENSG00000156011;ENSG00000163464	K12494+K04175
Endometrial cancer	1	. 52	0.18626	0.45917	ko05213	ENSG00000105647 ENSG00000105647	K02649
Glioma	1	. 58	0.20543	0.45917	ko05221	ENSG00000105647	K02649
Regulation of actin cytoskeleton	2	216	0.20967	0.45917	ko04810	ENSG00000105647;ENSG00000070087	K02649+K05759
VEGE signaling pathway	1	. 62	0.21796	0.45917	ko05210 ko04370	ENSG0000105647 ENSG0000105647	K02649 K02649
Bacterial invasion of epithelial cells	1	66	0.2303	0.45917	ko05100	ENSG00000105647	K02649
Melanoma Pancreatic cancer	1	. 67	0.23336	0.45917	ko05218	ENSG00000105647 ENSG00000105647	K02649
Renal cell carcinoma	1	. 68	0.2364	0.45917	ko05212	ENSG00000105647	K02649
Shigellosis	1	. 68	0.2364	0.45917	ko05131	ENSG0000070087	K05759
Chronic myeloid leukemia	1	. 70	0.24245	0.45917	ko04622 ko05220	ENSG0000187608 ENSG0000105647	K12159 K02649
Fc epsilon RI signaling pathway	1	. 72	0.24845	0.45917	ko04664	ENSG00000105647	K02649
TGF-beta signaling pathway	1	. 73	0.25144	0.45917	ko04350	ENSG00000122641	K04667
Arrhythmogenic right ventricular	1	. 75	0.20101	0.45017	ko05133	ENSC00000183735	K04965
cardiomyopathy (ARVC)	1	. 19	0.2091	0.45917	k003412	ENSC0000010E647	K04603
Staphylococcus aureus infection	1	. 81	0.27201	0.45917	ko04070	ENSG0000186395	K02649
ErbB signaling pathway	1	. 82	0.27778	0.45917	ko04012	ENSG00000105647	K02649
B cell receptor signaling pathway	1	. 83	0.28065	0.45917	ko04971 ko04662	ENSG0000107159 ENSG00000105647	K01672 K02649
Small cell lung cancer	1	. 85	0.28636	0.45917	ko05222	ENSG00000105647	K02649
Apoptosis Salivary secretion	1	. 85	0.28636	0.45917	ko04210	ENSG00000105647 ENSG00000156113	K02649
Progesterone-mediated oocyte maturation	1	. 88	0.29483	0.45917	ko04914	ENSG00000105647	K02649
Cardiac muscle contraction	1	. 88	0.29483	0.45917	ko04260	ENSG00000182389	K04865
Fc gamma R-mediated phagocytosis	1	. 97	0.31968	0.47118	ko04064 ko04666	ENSG0000105647	K02505
Hypertrophic cardiomyopathy (HCM)	1	. 98	0.32238	0.47118	ko05410	ENSG00000182389	K04865
Bile secretion T cell receptor signaling pathway	1	. 98	0.32238	0.47118	ko04976 ko04660	ENSG0000107159 ENSG00000105647	K01672 K02649
Dilated cardiomyopathy	1	104	0.33841	0.47588	ko05414	ENSG00000182389	K04865
Prostate cancer	1	. 105	0.34104	0.47588	ko05215	ENSG00000105647	K02649
Vascular smooth muscle contraction	1	. 105	0.36429	0.47588	ko04723	ENSG00000156113	K04936
Leukocyte transendothelial migration	1	. 114	0.36429	0.47588	ko04670	ENSG00000105647	K02649
Serotonergic synapse	1	. 115	0.30082	0.47588	ko04724	ENSG00000144935	K04964
Neurotrophin signaling pathway	1	. 117	0.37186	0.47588	ko04722	ENSG00000105647	K02649
Oxidative phosphorylation	1	. 120	0.37934	0.47588	ko00190 ko04360	ENSG00000259112 ENSG00000167680	K03968 K06842
Toxoplasmosis	1	129	0.40126	0.47588	ko05145	ENSG00000105647	K02649
Osteoclast differentiation	1	. 129	0.40126	0.47588	ko04380	ENSG0000105647	K02649
Cell adhesion molecules (CAMs)	1	. 130	0.40303	0.47588	ko04514	ENSG00000153047 ENSG00000088827	K06548
Natural killer cell mediated cytotoxicity	1	. 132	0.4084	0.47588	ko04650	ENSG00000105647	K02649
Ubiquitin mediated proteolysis	1	. 133	0.41076	0.47588	ко∪4910 ko04120	ENSG0000185345	NU∠049 K04556
Jak-STAT signaling pathway	1	156	0.46258	0.52315	ko04630	ENSG00000105647	K02649
Alzheimer's disease	1	. 162	0.47534	0.52971	ko05010	ENSG00000259112 ENSG00000185345	K03968 K04556
Tuberculosis	1	. 104	0.50399	0.55033	ko05152	ENSG00000111012	K07438
Herpes simplex infection	1	. 183	0.51773	0.55891	ko05168	ENSG00000108691	K14624
Focal adhesion Huntington's disease	1	. 187	0.52541	0.56083	коU4510 ko05016	ENSG0000105647 ENSG00000259112	KU2049 K03968
Epstein-Barr virus infection	1	. 195	0.54042	0.56418	ko05169	ENSG00000105647	K02649
MAPK signaling pathway HTLV-Linfection	1	. 247	0.62726	0.64771	ko04010 ko05166	ENSG0000182389 ENSG0000105647	KU4865 K02649
Pathways in cancer	1	. 337	0.74114	0.74902	ko05200	ENSG00000105647	K02649
Metabolic pathways	3	1125	0.83351	0.83351	ko01100	ENSG00000259112;ENSG00000131471;ENSG00000111012	K03968+K00276+K07438

Figure S1 Α



Figure S1, related to Figure 1. ANGPTL2 is highly expressed in endothelial cells and important for HSC stemness maintenance. (A) The flow cytometric sorting strategy for the indicated endothelial cell subtypes in BM, including sinusoidal ECs Lin⁻CD31⁺VE-cad⁺EMCN⁺Sca1^{lo}), type Η vessels (Lin⁻CD31⁺VE-(SECs, cad⁺EMCN^{hi}Sca1⁺) and arterioles (Lin⁻CD31⁺VE-cad⁺EMCN⁻Sca1⁺). (B) The Angptl2 mRNA expression level in the subtypes of the endothelial cells in BM. (C) The deletion efficiency of Angptl2 in endothelial cells from Cdh5-Cre; Angptl2^{fl/fl} mice was measured by quantitative RT-PCR (left, n=3; ND, not detectable), and a representative electrophoretic image is shown (right). (D) Representative flow cytometric analyses of the frequencies of immunophenotypic Lin⁻Sca-1⁺c-Kit⁺CD34⁻CD135⁻LT-HSCs from Angptl2^{fl/fl} and Cdh5-Cre; Angptl2^{fl/fl} mice. (E) The absolute number of LT-HSCs in BM in Cdh5-Cre; Angptl2^{fl/fl} and Angptl2^{fl/fl} control mice. (F-G) Representative flow cytometric analyses and quantification data of the multilineage cells in peripheral blood from Angptl2^{fl/fl} and Cdh5-Cre; Angptl2^{fl/fl} mice (n=3). (H) The cell frequencies of common myeloid progenitors (CMPs), granulocyte-monocyte progenitors (GMPs), megakaryocyte-erythroid progenitors (MEPs) and lymphoid progenitors (CLPs) in the BM of Angptl2^{fl/fl} and Cdh5-Cre; Angptl2^{fl/fl} mice (n=5). (I) The colony forming abilities were measured with total BM cells from Angptl2^{fl/fl} and Cdh5-Cre; Angptl2^{fl/fl} mice, and the colony numbers of CFU-GEMM, CFU-GM, BFU-E, CFU-E and pre-B colonies are shown (n= $3\sim9$). (J) The frequencies of LT-HSCs in Angptl2^{fl/fl} or Cdh5-Cre; Angptl2^{fl/fl} recipient mice receiving CD45.1 BM cells 6 months after transplantation. (K) The deletion efficiency of Angptl2 in endothelial cells from Tie2-Cre; Angptl2^{l/l} mice was measured by quantitative RT-PCR (left, n=3), and a representative electrophoretic image is shown (right). (L) The absolute number of HSCs in BM in *Tie2-Cre; Angptl2^{fl/fl}* and *Angptl2^{fl/fl}* control mice. (M) Quantification data of the multilineage cells in peripheral blood from Angptl2^{fl/fl} and Tie2-Cre; Angptl2^{fl/fl} mice (n=3) (***p < 0.001). (N) The frequencies of LT-HSCs in Angptl2^{fl/fl} or Tie2-Cre; Angptl2^{fl/fl} recipient mice receiving CD45.1 BM cells 6 months after transplantation. (O) Angptl2^{fl/fl} and Tie2-Cre; Angptl2^{fl/fl} mice were treated with 5-FU and overall survival was analyzed (n=8, log-rank test, ***p < 0.001).



Figure S2, related to Figure 2. ANGPTL2 derived from other niche cells or HSCs has no effect on HSC activities. (A) The frequencies of LT-HSCs in *Angptl2*^{*fl*/*fl*} and *SCL-Cre-ERT; Angptl2*^{*fl*/*fl*} mice was determined 3 weeks after tamoxifen treatment (n=3). (B) BM CD45.2 cells from *Angptl2*^{*fl*/*fl*} or *SCL-Cre-ERT; Angptl2*^{*fl*/*fl*} (pretreated with tamoxifen for 3 weeks) along with CD45.1 competitor cells were injected into lethally irradiated CD45.1 recipient mice. Repopulation was analyzed at 4, 8, 12 and 16 weeks after transplantation (n=5). (C) Multilineage contribution of donor cells in the primary recipients in panel B) at 16 weeks post-transplantation (n=5). (D-G) The repopulation abilities of donor LT-HSCs isolated from *Angptl2*^{*fl*/*fl*} (D) or *Tie2-Cre; Angptl2*^{*fl*/*fl*} (F) mice was determined by flow cytometric analyses at the indicated time points. The multilineage contribution of donor cells in peripheral blood was quantified at 16 weeks after transplantation (E and G, n=5). (**p* < 0.05; ***p* < 0.01; ****p* < 0.001).



Figure S3, related to Figure 3. ANGPTL2-producing endothelium supports the localization of HSCs in BM niches. (A) Representative images of the localization of LT-HSCs in the BM of Angptl2^{fl/fl} or Tie2-Cre; Angptl2^{fl/fl} mice. BM sections were stained to reveal Lin⁻CD150⁺CD48⁻CD41⁻ LT-HSCs (red, with arrowhead), laminin⁺ vessels (green) and Lin⁺CD41⁺CD48⁺ differentiated hematopoietic cells (gray). Scale bar, 10 µm. (B) Quantification of the frequencies of LT-HSCs localized at the indicated distance to vessels. n=134~142 cells/group. (C) The percentages of LT-HSCs in the BM of Angptl2^{fl/fl} and Tie2-Cre2; Angptl^{fl/fl} mice adjacent to laminin⁺ endothelial cells (within 10 µm) are shown. A total of 134~142 LT-HSCs were counted (n=4). (D-E) The cell cycle status of LT-HSCs from Angptl2^{fl/fl} and Tie2-Cre; Angptl2^{fl/fl} mice was determined by staining with Hoechst 33342 and pyronin Y (D). The percentages of the G0 fraction in panel D are shown in E (n=4). (F) The apoptotic status of LT-HSCs from Angptl2^{fl/fl} or Tie2-Cre; Angptl2^{fl/fl} mice was measured by using Annexin V and 7-AAD staining (n=4). (G) BM cells from Angptl2^{fl/fl} and Tie2-Cre; Angptl2^{fl/fl} mice were labeled with CFSE and transplanted into lethally irradiated recipient mice. The percentage of CFSE⁺ cells in the BM, spleen and liver or CFSE⁺ LSK cells in the BM was determined by flow cytometric analysis 16 hr later (n=5). (H) The CXCR4 protein levels in LT-HSCs purified from Angptl2^{fl/f} or Cdh5-Cre; Angptl2^{fl/fl} was confirmed by flow cytometric analysis (n=3). (I) The mRNA expression levels of CD49d, Egr1, Mmp2, Mmp9 in LT-HSCs isolated from Angptl2^{fl/f} or Cdh5-Cre; Angptl2^{fl/fl} were determined by quantitative RT-PCR (n=3). (J) The CXCR4 protein levels in LT-HSCs purified from Angptl2^{fl/f} or Tie2-Cre; Angptl2^{fl/fl} was confirmed by flow cytometric analysis (n=3). (K) The mRNA expression levels of CD49d, Egr1, Mmp2, Mmp9 in LT-HSCs isolated from Angptl2^{fl/f} or Tie2-Cre; Angptl2^{fl/fl} were determined by quantitative RT-PCR (n=3). (*p < 0.05; **p < 0.01).



Figure S4, related to Figure 4. ANGPTL2 supports HSC function by sustaining the level of G0S2. (A-B) Pathway changes in CD34⁺ human cord blood cells upon treatment with the ANGPTL2 protein as evaluated by RNA-sequencing analyses (A). Potential candidates (RORA, RAB20, PIK3R2, ISG15 G0S2 and PPARD) for the ANGPTL2-mediated downstream pathway in panel A are shown (B). (C) The changes of potential candidates (Rora, Rab20, Pik3r2, Isg15, G0s2 and Ppard) in LT-HSCs from *Cdh5-Cre; Angptl2^{fl/fl}* and *Angptl2^{fl/fl}* mice were determined by RNA-sequencing analysis. LT-HSCs from 6 mice in each group were pooled for the analysis due to the limited number of HSCs from each mouse. (D) Relative mRNA expression of potential candidates (Rora, Rab20, Pik3r2, Isg15 and G0s2) in LT-HSCs purified from Angptl2^{fl/fl} and Tie2-Cre; Angptl2^{fl/fl} mice as measured by quantitative RT-PCR (n=3). (E) Relative mRNA expression of G0s2 in total BM cells, Lin⁻ cells, MPPs, ST-HSCs and LT-HSCs from Angptl2^{fl/fl} and Tie2-Cre; Angptl2^{fl/fl} mice as measured by quantitative RT-PCR (n=3). (F) G0s2 levels in BM GFP⁺ donor cells from Angptl2^{fl/fl} and Cdh5-Cre; Angptl2^{fl/fl} mice with or without G0s2 overexpression were determined by quantitative RT-PCR (n=3). (G) The cell cycle status of LT-HSCs from Angptl2^{fl/fl} and *Tie2-Cre; Angptl2^{fl/fl}* mice with/without *G0s2* overexpression was determined by staining with Hoechst 33342 and pyronin Y. The percentages of the G0 fraction are shown in G (n=3). (H) Nucleolin localization in LT-HSCs from Angptl2^{fl/fl} and Tie2-Cre; Angptl $2^{fl/l}$ mice with/without G0s2 overexpression was examined by immunofluorescence staining. A total of 15-24 LT-HSCs were analyzed (*p < 0.05; **p < 0.01; ***p < 0.001).



G



Figure S5, related to Figure 5. ANGPTL2 sustains the level of G0S2 via the **PPARD pathway.** (A) The *Ppard* and *G0s2* mRNA expression level were determined in LT-HSCs after treatment with different doses of ANGPTL2 protein (100, 200, and 400 ng/mL) for 36 hr by quantitative RT-PCR (n=3). (B) Chromatin immunoprecipitation (ChIP) assays were performed in 32D cells. The G0s2 promoter regions bound to endogenous PPARD were measured by PCR. (C) The G0s2 mRNA levels in *Ppard*-overexpressing (Ppard-OE) 32D cells were detected by quantitative RT-PCR (n=3). (D) The G0s2 mRNA expression levels were measured in 32D cells upon the treatment with PPARD agonist (GW501516) for 24 hr by quantitative RT-PCR (n=3). (E) The protein levels of SHP2, PPARD and G0S2 in SHP2-overexpressing (SHP2-OE) Lin⁻ BM cells were evaluated by immunoblot analysis. (F) The protein levels of CAMKIV, PPARD and G0S2 in CAMKIV-overexpressing (CAMKIV-OE) Lin⁻ BM cells were measured by immunoblot analysis. (G) The protein levels of total-SHP2, p-SHP2, total-CAMKIV, p-CAMKIV, PPARD and G0S2 was determined in Lin⁻ BM cells at 24 and 48 hr after treatment with ANGPTL2 protein by immunoblot analysis.

Supplemental methods

Flow cytometry

BM cells were freshly isolated from 8- to 10-week-old mice and subjected to further flow cytometric analysis. Immunophenotypic Lin⁻Sca-1⁺c-Kit⁺Flk2⁻CD34⁻LT-HSCs, Lin⁻Sca-1⁺c-Kit⁺Flk2⁻CD34⁺ ST-HSCs, and myeloid and lymphoid progenitor cells (Lin⁻Sca-1^{low}c-Kit^{low}CD16/32⁺Flk2⁺ CLPs, Lin⁻Sca-1⁻c-Kit⁺CD16/32⁻CD34⁺ CMPs, Lin⁻Sca-1⁻c-Kit⁺CD16/32⁺CD34⁺ GMPs, Lin⁻Sca-1⁻c-Kit⁺CD16/32⁻CD34⁻ MEPs, and Lin⁻Sca-1⁺c-Kit⁺Flk2⁺CD34⁺ MPPs) were evaluated or FACS-purified by staining with a biotinylated lineage cocktail (anti-CD3, anti-CD5, anti-B220, anti-Mac-1, anti-Gr-1, and anti-Ter119; BD Pharmingen), followed by incubation with streptavidin-PE/Cy5.5, anti-Sca-1-FITC, anti-c-Kit-APC, anti-Flk-2-PE, anti-Flk-2-eFluo450, anti-CD34-PE, and anti-CD16/32-eFluo450 (eBioscience). Differentiated hematopoietic cells, including Mac1⁺F4/80⁺ Macrophages, CD71⁺ erythroid cells, B220⁺B cells, CD3e⁺T cells, were stained (all these antibodies were purchased from eBioscience) and sorted for the measurement of Angptl2 expression as well. For the analysis of the repopulation ability of HSCs, peripheral blood of recipient mice was collected, followed by lysis of red blood cells and staining with anti-CD45.2-FITC, anti-CD45.1-PE, anti-CD3e-APC (for T-lymphoid lineage), anti-B220-PE (for B-lymphoid lineage), anti-Mac-1-APC, or anti-Gr-1-PE monoclonal antibodies (eBioscience; cells costained with anti-Mac-1 and anti-Gr-1 were deemed to be of the myeloid lineage). Cell cycle or apoptotic status was measured in purified Lin⁻Sca-1⁺c-Kit⁺Flk2⁻CD34⁻ LT-HSCs with Hoechst 33342/pyronin Y or anti-annexin V-PE/7-AAD (BD Pharmingen), respectively, as previously described.

Rescue experiment with G0s2 overexpression in HSCs

The XZ201-*G0s2*-GFP-expressing plasmid (or empty vector) and packaging plasmid pCL-ECO (2:1) were transfected into 293T cells. The supernatant was collected at 48-72 hr after transfection. Lin⁻ BM cells isolated from $Angptl2^{fl/fl}$ and Cdh5-Cre; $Angptl2^{fl/fl}$ mice were infected by retrovirus with 4 µg/mL polybrene and centrifuged at 800 g for 2 hr, followed by culturing in StemSpan serum-free medium (StemCell Technologies) supplemented with 10 µg/ml heparin (Sigma-Aldrich), 10 ng/ml mouse

SCF (Peprotech), and 20 ng/ml mouse TPO (Peprotech) for 24 hr. Another round of infection was performed before transplantation.

Homing assay

A total of 2×10^7 BM cells were freshly isolated from *Angptl2*^{fl/fl} and *Cdh5-Cre; Angptl2*^{fl/fl} or *Tie2-Cre; Angptl2*^{fl/fl} mice, labeled with CFSE and injected into lethally irradiated recipient mice. The frequencies of CFSE⁺ cells in the BM, spleen, and liver were determined by flow cytometric analysis 16 hr later. When CFSE⁺ LSK (Lin⁻Sca-1⁺c-Kit⁺) cells were analyzed, the BM cells were stained with a biotinylated lineage cocktail, followed by incubation with streptavidin-PE/Cy5.5, anti-Sca-1-PE and anti-Kit-APC (eBioscience) before analysis.

Immunofluorescence staining

For immunofluorescence staining of the BM sections, mouse femurs were isolated and fixed in 4% paraformaldehyde at 4°C for 24 hr, followed by decalcification with 0.5 M EDTA (pH 8.0) for another 2 days. The samples were dehydrated in 30% sucrose at room temperature for 30 minutes, embedded in OCT and cryosectioned with a Leica CM3050 cryostat. The BM sections were rehydrated in PBS and permeabilized in 0.5% Triton X-100/PBS solution at room temperature for 15 minutes. The BM sections were then probed with anti-laminin (Abcam), anti-CD150-PE (eBioscience), anti-CD41-APC (Biolegend), anti-CD48-APC (Biolegend) and biotinylated primary antibody cocktail for lineage markers (eBioscience). The BM sections were then washed with PBS and incubated with the appropriate Alexa Fluor-conjugated and streptavidin-APC secondary antibodies at room temperature for 1 hr. Nuclei were counterstained with DAPI before imaging. For the analysis of nucleolin distribution, FACS-purified LT-HSCs were fixed in 4% paraformaldehyde for 10 minutes at room temperature and stained with anti-nucleolin primary antibody (Cell Signaling Technology) at 4°C overnight. Then, the LT-HSCs were incubated with Alexa Fluor 555-conjugated secondary antibody (Thermo Fisher Scientific) for 1 hr, followed by imaging with a Nikon A1 confocal microscope.

Colony assays

A total of $2x10^4$ BM cells from *Angptl2*^{*fl/fl*} and *Cdh5-Cre;Angptl2*^{*fl/fl*} mice were freshly harvested and seeded in 1.2% methylcellulose IMDM containing 30% fetal bovine serum, 1% bovine serum albumin, 2 mg/mL glutamine, 99 µM β-mercaptoethanol, 50 ng/mL SCF, 20 ng/mL IL-3, 20 ng/mL IL-6, 20 ng/mL erythropoietin (for GEMM, GM and BFU-E assays), 50 ng/mL IL7 (for pre-B assay) or 20 ng/mL erythropoietin (for CFU-E assay). The colonies were counted 7-10 days after culture.

5-FU challenge

Angptl2^{fl/fl} and Cdh5-Cre; Angptl2^{fl/fl} or Tie2-Cre; Angptl2^{fl/fl}</sup> mice (8 mice for each group) were administered intraperitoneally with 5-fluorouracil (5-FU) at a dose of 150 mg/kg/week for 2 weeks. The overall survival was recorded and analyzed using the log-rank test.</sup>

Quantitative RT-PCR

First strand cDNA was reversed transcribed using AMV Reverse Transcriptase (TaKaRa). PCRs were performed according to the manufacturer's protocol (Roche). The experiments were conducted with an Applied Biosystems 7900HT system, and the mRNA levels were normalized to the level of the β -actin RNA transcript. The sequences of the primers used are shown in Table S1.

Luciferase reporter assays and chromatin immunoprecipitation analysis

The luciferase reporter vector pGL4.27 containing the *G0s2* promoter was constructed to evaluate the effect of *Ppard* on the transcriptional activation of *G0s2*. The pLVX-Ppard-GFP or negative control vector plasmid along with the pGL4.27-*G0s2* promoter vector were cotransfected into 32D cells, which is myeloblast-like cell line derived from long term cultures of bone marrow cells. Luciferase activities were measured by using a luciferase reporter system (GloMax® Multi Instrument) at 48 hr after transfection. Luciferase measurements were calculated as firefly luciferase units versus Renilla luciferase units. For chromatin immunoprecipitation analysis, 1×10^7 32D cells or Lin⁻ BM cells were collected, incubated with the anti-PPARD antibody (ab178866, abcam) measured and evaluated the potential binding to *G0s2* promoter by a ChIP Assay Kit (Beyotime Biotechnology). The DNA levels were measured by PCR using primers for G0s2 (Table S1).

Cell culture

Immunophenotypic Lin⁻Sca-1⁺c-Kit⁺Flk2⁻CD34⁻ LT-HSCs from WT mice were cultured with StemSpan serum-free medium (StemCell Technologies) supplemented with 10 µg/ml heparin (Sigma-Aldrich), 10 ng/mL mouse SCF (Peprotech), 20 ng/mL mouse TPO (Peprotech) in a U-bottom 96-well plate and treated with different doses of ANGPTL2 protein (100, 200, and 400 ng/mL) for 36 hr, followed by the measurement of mRNA expression levels of *Ppard* and *G0s2* by quantitative RT-PCR. For the treatment of the agonist for PPARD (GW501516), 32D cells and LT-HSCs were incubated with 1µM of GW501516 for 24 hr, followed by the detection of *G0s2* expression by quantitative RT-PCR. For *Ppard* overexpression experiment, The XZ201-Ppard-GFP-expressing plasmid (or empty vector) and packaging plasmid pCL-ECO (2:1) were transfected into 293T cells. The supernatant was collected at 48-72 hr after transfection. 32D cells and Lin⁻ BM cells isolated from WT mice were infected by retrovirus with 4 µg/mL polybrene and centrifuged at 800 g for 2 hr, followed by culturing for 48 hr. GFP⁺ 32D cells and Lin⁻ BM cells were sorted by FACS and subjected to total RNA extraction.

Immunoblot analysis

The XZ201-SHP2-GFP or XZ201-CAMKIV-HA-GFP-expressing plasmid (or empty vector) and packaging plasmid pCL-ECO (2:1) were transfected into 293T cells. The supernatant was collected at 48 hr after transfection. Lin⁻ BM cells isolated from WT mice were infected by retrovirus with 4 µg/mL polybrene and centrifuged at 800 g for 2 hr, followed by culturing in StemSpan serum-free medium (StemCell Technologies) supplemented with 10 µg/ml heparin (Sigma-Aldrich), 10 ng/ml mouse SCF (Peprotech), and 20 ng/ml mouse TPO (Peprotech) for 48 hr. GFP⁺ cells were sorted and cell lysates were prepared for the immunoblot analysis. In some cases, Lin⁻ BM cells were subjected to the treatment with 400 ng/mL of ANGPTL2 protein for 24-48 hr before the analysis. Proteins were separated by electrophoresed on 10% sodium dodecyl sulfate-polyacrylamide gels and transferred onto polyvinylidene difluoride membranes (Millipore). The membranes were incubated with primary antibodies overnight at 4°C, followed by incubation with appropriate horseradish peroxidase conjugated secondary antibodies. The following antibodies were used for the immunoblot analysis: anti-p-SHP2 (De6F10, CST), anti-SHP2 (CY3636, abways),

anti-CAMKIV (sc-55501, Santa Cruz Biotechnology), anti-p-CAMKIV (CY8012, abways), anti-PPARD (ab178866, abcam), anti-G0S2 (A9970, ABclonal), and anti-HA (PTM-5389, PTM BIO).

RNA-Sequencing assay

Human cord blood CD34⁺ cells treated with or without ANGPTL2 protein were sorted for the extraction of total RNA and subjected to RNA sequencing analyses at Vazyme Biotech Co, Ltd (Shanghai, China). The GEO accession number is GSE169107. Lin⁻Sca-1⁺Kit⁺Flk2⁻CD34⁻ immunophenotypic HSCs were purified from *Angptl2*^{*fl/fl*} and *Cdh5-Cre; Angptl2*^{*fl/fl*} mice for the RNA-sequencing analysis at Novogene Co, Ltd (Shanghai, China). The GEO accession number is GSE186454.

Study approval

Human cord blood samples were kindly provided by the Sixth People's Hospital, affiliated to Shanghai Jiao Tong University School of Medicine, Shanghai, China. Written informed consent was obtained from the healthy donor, and all the procedures were approved by the Ethics Committee for Medical Research (IRB) at Shanghai Jiao Tong University School of Medicine.