

**OMTN, Volume 16**

**Supplemental Information**

**IncRNA HIF1A Antisense RNA 2 Modulates  
Trophoblast Cell Invasion and Proliferation  
through Upregulating PHLDA1 Expression**

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## Supplemental Tables

**Table S1 qRT-PCR and oligonucleotide.**

qPCR sequences	
PHLDA1	F: TGCCTGAAAGGGGCAGCTCC R: TGATCTGGTGCGGGGCGGA
TFPI2	F: GCTGTCGATTCTGCTGCTTT R: CAAGCCTCCCAGGTGTAGAA
RND3	F: AAAGAATAGAGTTGAGCCTGTGG R: AAGAGCATTTTGGTATTTGGACA
GEM	F: CTCAATCACAGACCGAGCGA R: TTGGCTCTGCTCCTCTTACC
SPRY2	F: GCGATCACGGAGTTCAG R: GTGGAGTCTCTCGTGT
ADAM19	F: CACTCCGAGAATGCCATTGG R: TCCCTCCTGTTGCATCCATT
SIK1	F: CACACGGCAGGTTATCTC R: GACCTACGCCCCACACATCT
DUSP5	F: CCGACCCACCTACACTACAAA R: GTAGCTTCCATCAGGGCATCA
SPRY4	F: CCAGGATGTCACCCACCATTG R: TGTGCTGCTGCTGCTC
ERRFI1	F: CGCTGTGATTGCTCTTCGCT

R: GGAGGACAAGCTAACCCGAAT

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**siRNA Oligonucleotide**

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si-HIF-1#	5'-GGCUCUGGCACUCCUACAUAUUU-3'
si-HIF-2#	5'-GGGAACAGAUUAGAAAUCUUCAGAG-3'
si-HIF-3#	5'-GACUAUAAUGCUGAGAACUGCUUCA-3'
si-PHLDA1-1#	5'-UGCAGUACAAGAAUCGUCAGGCCAU-3'
si-PHLDA1-2#	5'-CCUUCAGUGAGCGCUCGCAAGAGGA-3'
si-PHLDA1-3#	5'-UGCCUCCUGCGUGUUAGCCUCCUCU-3'

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**primers of NCALD  
promotor regions**

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PHLDA1	1F: GGCTAGGTCTCGGTTATGCC
	1R: AATGCAATACCCCCAGCTCC
	2F: AGAAGAAAGCCGAAGACGGG
	2R: TTCCCACGCATATTCGCTCA
	3F: CCCGGGCTAATTCCCAAGAA
	3R: CTCAGAAAGTGAGGACGGGG
	4F: TGAGCGAATATGCGTGGGAA
	4R: CCGGACGCCTAGGTAAACAA
TFPI2	1F: GCCTTTGAGGATTCTGGGGG
	1R: GGCTACATGGGAGACGAAGG
	2F: TTTGAGGATTCTGGGGGCTC

2R: GGGAGACGAAGGGAGCAAAT  
 3F: CTTTGAGGATTCTGGGGGCTC  
 3R: TGGGAGACGAAGGGAGCAAA  
 4F: AGAGCCTTTGAGGATTCTGGG  
 4R: TTGGCTACATGGGAGACGAAG

SPRY2

1F: GAGAAGTCAGGGTGAGACCG  
 1R: TGCTTCACTCGTCCAGCTTT  
 2F: CTTTTGAATGCCTCCTGCGG  
 2R: ACAGAGCAGTTGTTGTCCCA  
 3F: GGACGAGTGAAGCACCATGT  
 3R: GTGGGAGCACCAGTGGAAAA

**Probe of FISH**

LncRNA HIF1A-AS2      5'-FAM- augagugaagcaguucucagcauuauaguc-3'

**Table S2 Analysis of the RNA transcriptome sequencing data.**

GeneID	NC Expression	HIF1AAS2 Expression	log2FoldChange HIF1AAS2/NC	FDR	Up/Down Regulation	P value	Symbol
8293	0.01	6.74	9.396604781	3.77E-28	Up	7.97E-30	SERF1A
100861437	0.01	5.86	9.194756854	4.29E-10	Up	2.95E-11	NARR
8710	0.01	4.36	8.768184325	2.59E-21	Up	7.32E-23	SERPINB7
3885	0.01	4.33	8.758223215	4.80E-16	Up	1.91E-17	KRT34

692094	0.01	4.18	8.707359132	4.45E-06	Up	5.31E-07	MSMP
4207	0.01	2.05	7.6794801	1.25E-08	Up	1.04E-09	BORCS8-MEF2B
4322	0.01	1.88	7.554588852	3.30E-11	Up	2.04E-12	MMP13
414060	0.01	1.59	7.312882955	3.63E-07	Up	3.67E-08	TBC1D3C
729877	0.01	1.18	6.882643049	2.33E-05	Up	3.15E-06	TBC1D3H
100128553	0.01	1.08	6.754887502	4.45E-06	Up	5.31E-07	CTAGE4
107986353	0.01	0.93	6.539158811	3.63E-07	Up	3.67E-08	LOC107986353
150221	0.01	0.7	6.129283017	5.44E-09	Up	4.27E-10	RIMBP3C
100526740	0.02	1.38	6.108524457	2.14E-15	Up	9.03E-17	ATP5J2-PTCD1
4314	0.19	12.74	6.067222049	2.22E-48	Up	2.43E-50	MMP3
441430	0.01	0.66	6.044394119	0.000619299	Up	0.000111 12	ANKRD20A2
102725035	0.01	0.59	5.882643049	0.000619512	Up	0.000111 12	LOC102725035
23117	0.01	0.59	5.882643049	0.000121207	Up	1.87E-05	NPIP3
4312	0.44	22.62	5.683951595	7.16E-92	Up	3.09E-94	MMP1
127294	0.01	0.5	5.64385619	1.94E-06	Up	2.18E-07	MYOM3
145781	0.01	0.49	5.614709844	1.02E-05	Up	1.29E-06	GCOM1
3598	0.09	3.15	5.129283017	3.30E-08	Up	2.86E-09	IL13RA2
11009	0.99	28.57	4.850928701	5.83E-96	Up	2.34E-98	IL24
23617	0.04	1.08	4.754887502	0.000275341	Up	4.56E-05	TSSK2
5055	0.25	6.54	4.709290636	3.09E-22	Up	8.47E-24	SERPINB2
5801	0.13	2.84	4.449307401	5.50E-13	Up	2.90E-14	PTPRR
150094	0.14	2.93	4.387401932	4.25E-24	Up	1.05E-25	SIK1

25907	1.28	23.41	4.192909219	1.07E-71	Up	6.79E-74	TMEM158
55567	0.04	0.73	4.189824559	2.41E-08	Up	2.05E-09	DNAH3
6123	0.08	1.25	3.965784285	0.000412218	Up	7.11E-05	RPL3L
114960	0.08	1.21	3.918863237	0.000193135	Up	3.10E-05	TSGA13
27063	1.14	16.74	3.876193798	2.38E-51	Up	2.37E-53	ANKRD1
7980	21.82	281.28	3.688283969	0	Up	0	TFPI2
3814	1.18	15.07	3.674820652	6.84E-16	Up	2.73E-17	KISS1
51129	1.34	15.45	3.527301932	4.03E-42	Up	5.32E-44	ANGPTL4
4600	0.06	0.69	3.523561956	0.000875663	Up	0.000162 144	MX2
316	0.87	8.99	3.36923381	2.31E-60	Up	1.86E-62	AOX1
100134938	0.7	7.17	3.356546292	6.20E-14	Up	2.99E-15	UPK3BL1
50486	4.49	43.93	3.290419149	4.14E-56	Up	3.55E-58	GOS2
58538	0.3	2.84	3.242856524	8.38E-09	Up	6.79E-10	MPP4
11262	0.29	2.56	3.142019005	4.80E-05	Up	6.87E-06	SP140
57214	1.08	9.53	3.141444902	1.40E-87	Up	6.49E-90	CEMIP
56137	0.05	0.42	3.070389328	0.000412071	Up	7.11E-05	PCDHA12
136332	0.13	1.09	3.067744607	9.74E-05	Up	1.47E-05	LRGUK
654	0.16	1.31	3.033423002	2.14E-05	Up	2.88E-06	BMP6
7185	0.51	4.13	3.017572629	1.37E-22	Up	3.68E-24	TRAF1
57016	0.19	1.52	3	0.000877185	Up	0.000162 48	AKR1B10
202658	0.37	2.94	2.990218979	2.62E-06	Up	3.02E-07	TRIM39-RPP21
390	38.53	305.25	2.985937204	0	Up	0	RND3

4907	1.51	11.84	2.971048626	1.08E-58	Up	9.02E-61	NT5E
11082	0.8	6.17	2.947198584	1.22E-15	Up	5.05E-17	ESM1
23643	0.66	4.76	2.850423644	0.000761873	Up	0.000139 475	LY96
64078	0.1	0.71	2.827819025	0.000321082	Up	5.40E-05	SLC28A3
116211	1.66	11.58	2.802380107	1.97E-14	Up	9.02E-16	TM4SF19
7111	0.13	0.9	2.791413378	0.000387835	Up	6.64E-05	TMOD1
100861412	0.2	1.35	2.754887502	2.02E-08	Up	1.71E-09	FSBP
2919	0.64	4.26	2.73470962	7.69E-06	Up	9.54E-07	CXCL1
10468	0.96	6.22	2.695808269	1.14E-16	Up	4.34E-18	FST
54206	8.68	55.03	2.664451381	3.36E-182	Up	4.36E-18 5	ERRFI1
6446	10.16	59.88	2.559173819	5.77E-148	Up	1.21E-15 0	SGK1
3576	6.29	37.06	2.558730959	1.46E-64	Up	1.06E-66	CXCL8
3371	0.29	1.69	2.542898441	2.66E-12	Up	1.49E-13	TNC
9510	1.65	9.44	2.516320835	1.53E-44	Up	1.84E-46	ADAMTS1
5054	11.79	64.91	2.460877038	1.72E-198	Up	1.80E-20 1	SERPINE1
107986876	0.24	1.32	2.459431619	0.000475476	Up	8.32E-05	LOC107986876
1827	18.74	102.05	2.445083324	7.43E-252	Up	4.59E-25 5	RCAN1
114801	0.64	3.4	2.409390936	1.40E-10	Up	9.22E-12	TMEM200A
7078	7.73	40.84	2.401442547	9.67E-214	Up	8.36E-21 7	TIMP3
8325	1.46	7.56	2.372417865	8.23E-23	Up	2.16E-24	FZD8

283518	0.46	2.37	2.365181293	0.00035774	Up	6.07E-05	KCNRG
4929	0.23	1.17	2.346802764	4.20E-05	Up	5.92E-06	NR4A2
1305	1.01	5.12	2.341788517	2.57E-14	Up	1.19E-15	COL13A1
92949	0.19	0.95	2.321928095	0.00065551	Up	0.000118 386	ADAMTSL1
8214	1.31	6.45	2.299732349	1.26E-07	Up	1.19E-08	DGCR6
2669	1.17	5.71	2.286982216	2.33E-11	Up	1.42E-12	GEM
11343	0.53	2.54	2.260764232	2.67E-08	Up	2.28E-09	MGLL
768	1	4.76	2.250961574	5.79E-07	Up	6.05E-08	CA9
5649	0.36	1.64	2.187627003	1.33E-16	Up	5.09E-18	RELN
140456	0.48	2.08	2.115477217	3.87E-05	Up	5.43E-06	ASB11
2827	0.5	2.16	2.111031312	0.000243484	Up	3.99E-05	GPR3
2246	0.51	2.18	2.095758983	6.84E-07	Up	7.25E-08	FGF1
10326	1.16	4.82	2.054908341	6.82E-09	Up	5.47E-10	SIRPB1
9201	0.76	3.07	2.014167332	9.26E-17	Up	3.50E-18	DCLK1
1847	6.46	25.92	2.004459648	1.67E-49	Up	1.76E-51	DUSP5
81848	0.7	2.8	2	6.28E-11	Up	3.97E-12	SPRY4
114907	1.08	4.32	2	1.78E-22	Up	4.82E-24	FBXO32
4071	36.39	143.73	1.981747263	4.56E-180	Up	6.18E-18 3	TM4SF1
3592	0.83	3.23	1.960350923	0.00052092	Up	9.21E-05	IL12A
10253	3.19	12.36	1.954050414	2.96E-20	Up	9.03E-22	SPRY2
26585	1.86	7.12	1.93657462	3.24E-21	Up	9.18E-23	GREM1
11199	3.82	14.49	1.923413052	5.12E-15	Up	2.24E-16	ANXA10

85450	1.79	6.77	1.919196246	2.03E-32	Up	3.64E-34	ITPRIP
26872	1.14	4.31	1.918654045	8.41E-05	Up	1.26E-05	STEAP1
9732	0.59	2.23	1.918256851	1.88E-12	Up	1.03E-13	DOCK4
64859	13.29	50	1.91158699	6.05E-111	Up	2.02E-11 3	NABP1
101928841	0.27	1	1.888968688	8.70E-07	Up	9.33E-08	LOC101928841
6422	12.58	45.82	1.864845536	4.48E-140	Up	9.94E-14 3	SFRP1
1839	6.72	24.28	1.853235283	4.88E-39	Up	7.11E-41	HBEGF
56911	6.86	24.67	1.846477234	2.32E-29	Up	4.64E-31	MAP3K7CL
2921	1.12	4.02	1.843696769	0.000899748	Up	0.000167 048	CXCL3
23645	20.99	74.85	1.83430015	7.40E-119	Up	2.10E-12 1	PPP1R15A
9734	2.75	9.76	1.827449529	2.57E-20	Up	7.79E-22	HDAC9
3914	9.03	32.03	1.826625905	6.41E-90	Up	2.81E-92	LAMB3
10397	18.76	64.05	1.771538743	7.45E-128	Up	1.93E-13 0	NDRG1
26191	1.49	5.08	1.769516166	9.70E-08	Up	9.03E-09	PTPN22
10202	3.83	12.89	1.750835966	1.54E-13	Up	7.69E-15	DHRS2
79875	0.36	1.21	1.748938236	2.08E-07	Up	2.03E-08	THSD4
1846	0.67	2.25	1.747692001	1.62E-08	Up	1.35E-09	DUSP4
9518	19.55	65.2	1.737703357	3.39E-48	Up	3.73E-50	GDF15
728689	4.08	13.47	1.723108793	2.77E-17	Up	1.01E-18	EIF3CL
100533467	0.91	3	1.72102405	6.65E-10	Up	4.69E-11	BIVM-ERCC5

5606	14.7	48.17	1.712318769	1.50E-65	Up	1.07E-67	MAP2K3
5362	0.56	1.83	1.708344916	1.36E-08	Up	1.13E-09	PLXNA2
5997	3.51	11.35	1.693149362	1.25E-09	Up	9.15E-11	RGS2
1848	4.65	14.99	1.688697762	2.83E-30	Up	5.41E-32	DUSP6
22822	19.63	63.2	1.686864386	2.34E-221	Up	1.88E-22 4	PHLDA1
7424	3.81	12.26	1.686096076	1.71E-15	Up	7.13E-17	VEGFC
5327	4.52	14.27	1.658590657	2.16E-27	Up	4.68E-29	PLAT
5329	24.71	77.73	1.653376506	3.56E-56	Up	3.03E-58	PLAUR
135	1.72	5.36	1.639824436	1.16E-07	Up	1.09E-08	ADORA2A
58489	2.72	8.47	1.638755318	6.11E-12	Up	3.53E-13	ABHD17C
129303	1.68	5.21	1.632822139	2.54E-05	Up	3.46E-06	TMEM150A
50649	1.35	4.18	1.630543535	0.000247875	Up	4.07E-05	ARHGEF4
7730	1.33	4.1	1.624197664	3.77E-06	Up	4.44E-07	ZNF177
8482	1.52	4.65	1.613159393	1.57E-09	Up	1.17E-10	SEMA7A
4502	67.91	207.71	1.612874738	5.48E-50	Up	5.65E-52	MT2A
79669	2.08	6.36	1.612443237	7.01E-08	Up	6.38E-09	C3orf52
6809	15.63	47.62	1.607249842	7.19E-64	Up	5.32E-66	STX3
2012	16.3	49.43	1.600514942	1.39E-75	Up	7.98E-78	EMP1
837	38.75	115.73	1.578494679	2.25E-80	Up	1.19E-82	CASP4
2297	4.38	12.97	1.566175705	7.80E-16	Up	3.15E-17	FOXD1
50515	1.64	4.84	1.561311233	4.07E-15	Up	1.75E-16	CHST11
22934	4.58	13.43	1.552039801	3.24E-13	Up	1.68E-14	RPIA
10105	41.52	121.53	1.549434142	8.24E-115	Up	2.49E-11	PPIF

8793	15.11	44.04	1.543310808	1.85E-81	Up	9.49E-84	TNFRSF10D
57476	3.42	9.85	1.526127399	2.85E-36	Up	4.59E-38	GRAMD1B
8942	3.28	9.27	1.498873524	6.28E-09	Up	4.99E-10	KYNU
51175	4.18	11.79	1.495988871	1.21E-13	Up	5.95E-15	TUBE1
90874	2.79	7.86	1.49426419	1.57E-19	Up	4.98E-21	ZNF697
10007	38.74	108.8	1.489782698	9.77E-122	Up	2.71E-12 4	GNPDA1
7128	1.31	3.66	1.482276837	5.87E-09	Up	4.63E-10	TNFAIP3
4783	2.82	7.87	1.480668473	7.37E-09	Up	5.92E-10	NFIL3
83931	7.27	19.89	1.452016007	8.34E-35	Up	1.41E-36	STK40
57522	2.79	7.58	1.441932726	1.17E-18	Up	3.94E-20	SRGAP1
91	4.12	11.12	1.432440546	4.99E-11	Up	3.12E-12	ACVR1B
3976	3.12	8.42	1.432274204	9.46E-16	Up	3.85E-17	LIF
123	11.77	31.62	1.425723047	1.88E-28	Up	3.90E-30	PLIN2
134637	2.79	7.45	1.416975304	7.58E-05	Up	1.12E-05	ADAT2
6533	3.58	9.5	1.407967926	1.87E-20	Up	5.65E-22	SLC6A6
160760	1.27	3.37	1.407920094	2.53E-06	Up	2.91E-07	PPTC7
4097	7.61	20.05	1.397633878	1.04E-44	Up	1.24E-46	MAFG
8061	13.99	36.7	1.391384101	1.07E-27	Up	2.29E-29	FOSL1
6875	2.29	6	1.389614902	1.12E-07	Up	1.05E-08	TAF4B
102724159	4.94	12.92	1.387023123	3.09E-19	Up	9.99E-21	LOC102724159
3678	36.5	95.18	1.382761991	4.35E-178	Up	6.17E-18 1	ITGA5

25890	2.82	7.35	1.382049087	1.92E-15	Up	8.04E-17	ABI3BP
10068	1.39	3.62	1.380904814	0.000287568	Up	4.78E-05	IL18BP
55691	2.46	6.4	1.37941359	4.56E-14	Up	2.17E-15	FRMD4A
28951	1.16	3.01	1.375638682	1.94E-06	Up	2.17E-07	TRIB2
114880	0.49	1.27	1.373974843	0.000106611	Up	1.63E-05	OSBPL6
3673	2.54	6.47	1.348937215	5.88E-22	Up	1.63E-23	ITGA2
64147	1.28	3.26	1.348728154	0.000431648	Up	7.49E-05	KIF9
153222	3.57	9.06	1.343586976	4.03E-16	Up	1.59E-17	CREBRF
8660	0.66	1.67	1.339310173	1.37E-05	Up	1.78E-06	IRS2
92737	1.92	4.8	1.321928095	5.46E-07	Up	5.67E-08	DNER
9353	1.87	4.67	1.32038428	7.37E-17	Up	2.77E-18	SLIT2
9903	4.97	12.41	1.320185359	8.35E-24	Up	2.09E-25	KLHL21
4609	31	76.78	1.308462345	4.33E-73	Up	2.65E-75	MYC
23764	11.17	27.51	1.300326954	7.50E-27	Up	1.67E-28	MAFF
5270	40.96	100.66	1.297202882	8.99E-88	Up	4.05E-90	SERPINE2
101060226	3.26	8.01	1.296930278	1.57E-12	Up	8.58E-14	NBPF19
206358	2.2	5.4	1.295455884	1.78E-06	Up	1.99E-07	SLC36A1
8496	24.62	60.22	1.290411946	2.26E-138	Up	5.31E-14 1	PPFIBP1
55966	4.01	9.76	1.283278911	2.78E-17	Up	1.02E-18	AJAP1
26018	2.54	6.16	1.278101854	5.51E-13	Up	2.91E-14	LRIG1
9907	5.88	14.26	1.278085922	6.97E-17	Up	2.62E-18	AP5Z1
28996	0.43	1.04	1.274174963	9.19E-07	Up	9.89E-08	HIPK2
2118	4.69	11.33	1.272488033	9.82E-11	Up	6.38E-12	ETV4

7052	10.84	26.15	1.27044619	2.16E-46	Up	2.45E-48	TGM2
127262	5.43	13.09	1.269440994	1.32E-12	Up	7.16E-14	TPRG1L
285704	9.31	22.43	1.268576548	6.43E-36	Up	1.05E-37	RGMB
2290	2.7	6.48	1.263034406	1.76E-08	Up	1.47E-09	FOXG1
10370	37.45	89.74	1.260785465	1.44E-65	Up	1.01E-67	CITED2
89795	13.01	30.99	1.252181793	3.50E-113	Up	1.12E-11 5	NAV3
11259	2.1	5	1.251538767	5.09E-06	Up	6.14E-07	FILIP1L
64093	2.88	6.84	1.247927513	4.96E-10	Up	3.45E-11	SMOC1
2294	2.04	4.83	1.243454037	3.72E-05	Up	5.21E-06	FOXF1
1288	0.98	2.32	1.243271151	6.34E-06	Up	7.79E-07	COL4A6
10123	4.53	10.71	1.241375525	2.51E-16	Up	9.77E-18	ARL4C
9955	2.96	6.99	1.23969528	3.07E-11	Up	1.89E-12	HS3ST3A1
57613	4.67	11.02	1.238629769	1.17E-19	Up	3.69E-21	FAM234B
55076	9.48	22.07	1.219127665	4.32E-13	Up	2.26E-14	TMEM45A
4254	5.55	12.92	1.219046393	9.17E-26	Up	2.13E-27	KITLG
414189	3.54	8.23	1.21714307	4.69E-07	Up	4.81E-08	AGAP6
220213	2.28	5.3	1.216958535	1.54E-06	Up	1.71E-07	OTUD1
8728	5.32	12.34	1.213844244	2.45E-31	Up	4.53E-33	ADAM19
64782	17.33	40.12	1.211049951	2.06E-47	Up	2.30E-49	AEN
25822	4.72	10.9	1.20746937	5.94E-10	Up	4.16E-11	DNAJB5
80045	3.33	7.68	1.205584134	1.71E-05	Up	2.25E-06	GPR157
9792	2.04	4.7	1.204091605	8.43E-10	Up	6.01E-11	SERTAD2
57666	0.95	2.18	1.198328716	0.000737445	Up	0.000134	FBRSL1

29057	4.93	11.31	1.197939378	2.35E-10	Up	1.58E-11	FAM156A
599	4.98	11.41	1.196081144	1.27E-14	Up	5.76E-16	BCL2L2
81606	1.45	3.32	1.195130341	0.000330948	Up	5.58E-05	LBH
148641	1.22	2.79	1.193383974	0.000979468	Up	0.000183 964	SLC35F3
91373	3.43	7.84	1.192645078	8.07E-08	Up	7.41E-09	UAP1L1
57478	4.7	10.7	1.186878135	1.03E-11	Up	6.08E-13	USP31
85414	2.61	5.94	1.186413124	7.74E-09	Up	6.24E-10	SLC45A3
54972	6.54	14.82	1.180182907	8.89E-19	Up	2.93E-20	TMEM132A
115123	3.83	8.67	1.178687601	1.66E-07	Up	1.61E-08	3-Mar
1026	97.32	219.98	1.176564138	7.44E-163	Up	1.24E-16 5	CDKN1A
100101267	1	2.25	1.169925001	4.13E-05	Up	5.82E-06	POM121C
868	3.65	8.2	1.167727446	1.13E-10	Up	7.36E-12	CBLB
5874	1.5	3.36	1.163498732	0.000218097	Up	3.54E-05	RAB27B
440138	1.87	4.18	1.160464672	0.000242269	Up	3.97E-05	ALG11
220323	4.96	11.08	1.159545856	1.02E-07	Up	9.49E-09	OAF
3589	25.01	55.77	1.156984213	1.33E-43	Up	1.70E-45	IL11
9945	13.27	29.55	1.15498976	1.27E-31	Up	2.31E-33	GFPT2
284217	8.1	18.03	1.154405584	4.74E-54	Up	4.33E-56	LAMA1
7975	6.38	14.2	1.154262601	4.33E-13	Up	2.27E-14	MAFK
57192	2.37	5.27	1.152915903	0.000249583	Up	4.10E-05	MCOLN1
11221	2.62	5.82	1.151452341	1.05E-05	Up	1.32E-06	DUSP10

285761	6.17	13.69	1.149780052	1.24E-08	Up	1.03E-09	DCBLD1
23119	3.01	6.66	1.14575869	4.02E-16	Up	1.58E-17	HIC2
64866	1.45	3.19	1.137503524	3.23E-05	Up	4.47E-06	CDCP1
898	9.25	20.29	1.133243594	2.61E-12	Up	1.46E-13	CCNE1
8744	6.24	13.67	1.131395309	7.55E-08	Up	6.90E-09	TNFSF9
25977	10.04	21.94	1.127804256	2.30E-18	Up	7.86E-20	NECAP1
80380	2.37	5.16	1.122484007	0.000126244	Up	1.96E-05	PDCD1LG2
80005	4.99	10.86	1.121912382	5.18E-08	Up	4.62E-09	DOCK5
9223	0.91	1.98	1.12156198	6.64E-06	Up	8.16E-07	MAGI1
24147	6.17	13.37	1.115657071	1.11E-11	Up	6.53E-13	FJX1
7088	6.81	14.75	1.114988251	1.83E-18	Up	6.23E-20	TLE1
23409	41.34	89.42	1.113059157	2.27E-38	Up	3.41E-40	SIRT4
5128	19.9	42.99	1.11123268	5.69E-55	Up	5.02E-57	CDK17
2745	23.39	50.16	1.100645486	1.00E-17	Up	3.53E-19	GLRX
5163	7.74	16.53	1.094681253	1.06E-15	Up	4.38E-17	PDK1
28231	27.26	58.12	1.092249141	2.14E-50	Up	2.16E-52	SLCO4A1
7832	6.44	13.73	1.092199032	1.16E-11	Up	6.88E-13	BTG2
7022	2.01	4.25	1.08026734	0.000264239	Up	4.36E-05	TFAP2C
2034	3.58	7.55	1.076517057	5.86E-12	Up	3.37E-13	EPAS1
3575	10.59	22.26	1.071751003	1.22E-29	Up	2.40E-31	IL7R
5209	10.48	22.02	1.071175752	1.12E-24	Up	2.70E-26	PFKFB3
4651	7.38	15.5	1.070575494	4.79E-39	Up	6.95E-41	MYO10
94081	49.84	104.63	1.069920594	6.07E-62	Up	4.64E-64	SFXN1

388	45.24	94.92	1.069113171	1.91E-65	Up	1.37E-67	RHOB
11174	9.23	19.36	1.0686764	6.79E-19	Up	2.23E-20	ADAMTS6
2114	4.79	10.04	1.067661708	8.47E-12	Up	4.95E-13	ETS2
55238	20.71	43.39	1.067035033	1.74E-26	Up	3.91E-28	SLC38A7
9842	11.54	24.16	1.065977231	1.51E-31	Up	2.77E-33	PLEKHM1
64750	20.39	42.67	1.065360335	6.83E-49	Up	7.33E-51	SMURF2
123879	3.35	7.01	1.065253349	7.01E-13	Up	3.73E-14	DCUN1D3
1051	26.64	55.69	1.06382421	7.33E-34	Up	1.26E-35	CEBPB
83985	13.64	28.49	1.062611977	8.24E-18	Up	2.90E-19	SPNS1
2119	7.23	15.04	1.056737015	5.77E-18	Up	2.01E-19	ETV5
1604	20.12	41.84	1.056252546	9.40E-28	Up	2.00E-29	CD55
54984	7.42	15.43	1.05624697	6.72E-07	Up	7.11E-08	PINX1
330	14.88	30.93	1.055632307	1.23E-41	Up	1.64E-43	BIRC3
2004	5.18	10.76	1.054654075	4.92E-13	Up	2.59E-14	ELK3
3491	24.5	50.85	1.053466025	4.53E-33	Up	7.94E-35	CYR61
11153	4.29	8.89	1.051205771	9.29E-05	Up	1.40E-05	FICD
11217	10.73	22.18	1.047609289	1.81E-44	Up	2.18E-46	AKAP2
1611	7.25	14.96	1.045057275	2.07E-10	Up	1.38E-11	DAP
342184	2.68	5.48	1.031942893	4.01E-21	Up	1.15E-22	FMN1
1951	1.1	2.24	1.025995209	8.16E-08	Up	7.51E-09	CELSR3
283820	11.54	23.37	1.01801451	1.53E-28	Up	3.15E-30	NOMO2
9953	1.62	3.28	1.017702002	1.14E-05	Up	1.44E-06	HS3ST3B1
1843	18.53	37.51	1.017412382	1.27E-20	Up	3.81E-22	DUSP1

3437	3.48	7.04	1.016488123	1.60E-05	Up	2.10E-06	IFIT3
115708	7.55	15.26	1.015206413	1.17E-13	Up	5.76E-15	TRMT61A
11334	22.74	45.95	1.014832607	6.23E-21	Up	1.82E-22	TUSC2
84879	3.75	7.57	1.013402705	3.23E-05	Up	4.48E-06	MFSD2A
26064	17.38	34.98	1.009102207	4.28E-46	Up	4.88E-48	RAI14
10954	3.58	7.17	1.002013531	0.000369994	Up	6.31E-05	PDIA5
400745	4.25	8.51	1.001696291	1.71E-09	Up	1.27E-10	SH2D5
56652	4.74	9.48	1	1.88E-08	Up	1.59E-09	C10orf2
9915	3.99	7.98	1	3.89E-14	Up	1.84E-15	ARNT2
9825	2.5	5	1	5.48E-06	Up	6.63E-07	SPATA2
102724594	13.06	0.01	-10.35093918	2.21E-23	Down	5.68E-25	U2AF1L5
107985795	3.48	0.01	-8.442943496	7.18E-05	Down	1.06E-05	LOC107985795
728239	2.58	0.01	-8.011227255	2.98E-12	Down	1.68E-13	MAGED4
102723859	2.26	0.01	-7.820178962	7.87E-10	Down	5.60E-11	TBC1D3E
100532731	2.18	0.01	-7.768184325	1.42E-13	Down	7.05E-15	COMMD3-BMI1
101060389	2.06	0.01	-7.686500527	9.61E-09	Down	7.86E-10	LOC101060389
102724994	1.88	0.01	-7.554588852	1.59E-08	Down	1.33E-09	LOC102724994
100302652	1.85	0.01	-7.531381461	8.51E-07	Down	9.12E-08	GPR75-ASB3
102723722	1.48	0.01	-7.209453366	4.39E-05	Down	6.24E-06	LOC102723722
107987464	1.46	0.01	-7.189824559	1.92E-07	Down	1.87E-08	LOC107987464
284040	1.39	0.01	-7.118941073	2.30E-06	Down	2.62E-07	CDRT4
100533105	1.12	0.01	-6.807354922	2.14E-09	Down	1.61E-10	C8orf44-SGK3
445372	0.87	0.01	-6.442943496	1.65E-05	Down	2.17E-06	TRIM6-TRIM34

85376	0.85	0.01	-6.409390936	5.87E-09	Down	4.63E-10	RIMBP3
107986096	0.8	0.01	-6.321928095	0.000116587	Down	1.79E-05	LOC107986096
100996517	0.61	0.01	-5.930737338	2.65E-08	Down	2.26E-09	LOC100996517
117283	1.35	0.07	-4.269460675	1.02E-05	Down	1.29E-06	IP6K3
51302	1.26	0.07	-4.169925001	0.000251746	Down	4.14E-05	CYP39A1
84734	3.02	0.18	-4.068479738	0.000251841	Down	4.14E-05	FAM167B
54065	5.93	0.41	-3.85433629	4.80E-08	Down	4.26E-09	SMIM11A
286464	0.42	0.03	-3.807354922	0.000251935	Down	4.14E-05	CFAP47
339768	0.55	0.04	-3.781359714	0.000616293	Down	0.000110 467	ESPNL
143686	0.41	0.04	-3.357552005	2.67E-05	Down	3.65E-06	SESN3
9037	1.67	0.19	-3.135776779	1.30E-22	Down	3.47E-24	SEMA5A
152816	2	0.27	-2.888968688	0.000152408	Down	2.40E-05	C4orf26
54664	14.25	2.01	-2.825694513	2.34E-95	Down	9.53E-98	TMEM106B
1545	0.92	0.13	-2.823122238	2.78E-05	Down	3.82E-06	CYP1B1
9022	4.93	0.71	-2.795696717	0.000307032	Down	5.14E-05	CLIC3
100288695	2.43	0.35	-2.795529487	0.000832592	Down	0.000153 552	LIMS4
84448	1.33	0.2	-2.733354341	0.0004236	Down	7.33E-05	ABLIM2
4973	83.36	12.99	-2.681953847	2.21E-206	Down	2.05E-20 9	OLR1
100529215	5.33	0.84	-2.6656743	6.19E-15	Down	2.73E-16	ZNF559-ZNF177
57124	2.04	0.33	-2.628031223	2.06E-05	Down	2.76E-06	CD248
4232	73.32	12.39	-2.565030598	4.46E-172	Down	6.88E-17 5	MEST

8344	25.83	4.37	-2.563342459	4.25E-10	Down	2.92E-11	HIST1H2BE
107983947	3.39	0.58	-2.547160468	0.000633132	Down	0.000113 915	LOC107983947
374462	1.83	0.32	-2.515699838	5.98E-14	Down	2.88E-15	PTPRQ
169611	1.08	0.19	-2.506959989	1.37E-06	Down	1.50E-07	OLFML2A
114800	12.58	2.43	-2.372103703	1.02E-43	Down	1.29E-45	CCDC85A
1281	33.33	6.5	-2.358309694	3.50E-156	Down	6.48E-15 9	COL3A1
11346	1.47	0.29	-2.34169135	3.18E-07	Down	3.19E-08	SYNPO
115701	2.48	0.49	-2.339486466	6.91E-14	Down	3.34E-15	ALPK2
642778	1.52	0.31	-2.293731203	0.000359064	Down	6.10E-05	NPIPA3
148398	3.6	0.74	-2.282399731	7.07E-08	Down	6.44E-09	SAMD11
8935	4.49	0.93	-2.271412824	2.20E-15	Down	9.29E-17	SKAP2
152007	34.17	7.13	-2.260756266	6.27E-60	Down	5.10E-62	GLIPR2
3352	2.03	0.43	-2.239071162	4.54E-05	Down	6.47E-06	HTR1D
728498	1.3	0.28	-2.215012891	4.70E-06	Down	5.63E-07	GOLGA8H
3855	2.8	0.61	-2.198545679	0.000945607	Down	0.000176 67	KRT7
120	22.31	4.91	-2.183895584	8.24E-77	Down	4.58E-79	ADD3
23308	2.36	0.52	-2.182203331	0.000114571	Down	1.76E-05	ICOSLG
84913	2.76	0.62	-2.154328146	4.92E-09	Down	3.83E-10	ATOH8
6917	137.39	30.89	-2.153065225	1.79E-286	Down	9.96E-29 0	TCEA1
84709	86.5	19.84	-2.124288107	2.34E-85	Down	1.11E-87	MGARP
100271927	3.93	0.92	-2.094823546	4.53E-09	Down	3.52E-10	RASA4B

9991	17.08	4.14	-2.044605302	3.77E-82	Down	1.91E-84	PTBP3
56918	2.02	0.49	-2.043501639	0.000945919	Down	0.000176 67	C2orf83
1756	4.72	1.18	-2	1.22E-20	Down	3.64E-22	DMD
81493	6.33	1.6	-1.984133595	1.01E-15	Down	4.16E-17	SYNC
728741	4.05	1.04	-1.96133838	2.52E-05	Down	3.42E-06	NPIPB6
10935	108.15	28.1	-1.94439163	2.06E-117	Down	5.98E-12 0	PRDX3
102724788	5.04	1.32	-1.932885804	9.36E-09	Down	7.63E-10	LOC102724788
223117	3.27	0.86	-1.926882071	1.44E-15	Down	5.95E-17	SEMA3D
4091	5.04	1.36	-1.889817082	1.12E-12	Down	6.03E-14	SMAD6
8153	1.83	0.5	-1.871843649	2.87E-05	Down	3.96E-06	RND2
3280	3.43	0.94	-1.867475914	0.000990561	Down	0.000186 353	HES1
10085	11.59	3.19	-1.861252237	3.27E-35	Down	5.42E-37	EDIL3
142940	11.73	3.25	-1.85169139	2.76E-25	Down	6.48E-27	TRUB1
81786	23.02	6.45	-1.835516768	1.27E-17	Down	4.54E-19	TRIM7
266727	2.03	0.57	-1.832445903	0.00054657	Down	9.70E-05	MDGA1
57484	3.46	0.98	-1.819918384	1.03E-14	Down	4.62E-16	RNF150
100133941	5.31	1.52	-1.804640537	1.53E-07	Down	1.47E-08	CD24
653	4.08	1.17	-1.802060622	3.64E-06	Down	4.28E-07	BMP5
767558	42.68	12.32	-1.79255792	8.31E-100	Down	3.18E-10 2	LUZP6
10959	139.54	40.33	-1.790753428	6.53E-177	Down	9.67E-18 0	TMED2

26994	23.88	6.99	-1.772438476	1.24E-43	Down	1.58E-45	RNF11
170689	1.02	0.3	-1.765534746	0.000535106	Down	9.47E-05	ADAMTS15
4893	38.22	11.27	-1.761840263	2.69E-100	Down	9.97E-10 3	NRAS
283078	2.37	0.7	-1.759460232	0.000229116	Down	3.74E-05	MKX
10434	80.5	24.1	-1.739955637	2.26E-122	Down	6.13E-12 5	LYPLA1
6319	173.12	52.51	-1.721108303	0	Down	0	SCD
9127	5.55	1.69	-1.715464525	8.86E-10	Down	6.36E-11	P2RX6
653145	11.72	3.57	-1.71497659	8.95E-13	Down	4.79E-14	ANXA8
2247	36.76	11.36	-1.694173932	1.67E-139	Down	3.81E-14 2	FGF2
5654	3.08	0.96	-1.68182404	0.000389202	Down	6.66E-05	HTRA1
23376	10.09	3.15	-1.679502441	1.28E-23	Down	3.24E-25	UFL1
79694	4.13	1.29	-1.678770716	2.81E-10	Down	1.90E-11	MANEA
81575	3.19	1.02	-1.644987272	1.40E-08	Down	1.17E-09	APOLD1
7041	9.79	3.14	-1.640544301	9.09E-10	Down	6.55E-11	TGFB1I1
56925	11.47	3.7	-1.632268215	1.49E-06	Down	1.64E-07	LXN
4131	6.16	1.99	-1.63016192	2.43E-39	Down	3.50E-41	MAP1B
51014	47.02	15.25	-1.624465296	1.86E-100	Down	6.77E-10 3	TMED7
23089	6.03	1.97	-1.613962372	5.02E-21	Down	1.45E-22	PEG10
5318	6.15	2.03	-1.599106683	1.80E-14	Down	8.24E-16	PKP2
11037	3.23	1.07	-1.593923368	1.64E-09	Down	1.22E-10	STON1
214	38.5	12.79	-1.589842182	8.09E-112	Down	2.65E-11	ALCAM

3426	3.99	1.33	-1.584962501	0.00012468	Down	1.93E-05	CFI
3612	9.57	3.2	-1.58044702	9.55E-17	Down	3.62E-18	IMPA1
84680	2.24	0.75	-1.578536232	0.000990886	Down	0.000186 353	ACCS
55809	0.83	0.28	-1.567684509	0.000127764	Down	1.98E-05	TRERF1
122060	3.17	1.08	-1.553451528	5.35E-05	Down	7.72E-06	SLAIN1
253832	19.5	6.69	-1.543396008	1.13E-50	Down	1.13E-52	ZDHHC20
192668	2.72	0.94	-1.53287399	0.000416009	Down	7.18E-05	CYS1
85462	1.43	0.5	-1.516015147	2.44E-05	Down	3.30E-06	FHDC1
55740	18.8	6.63	-1.503651886	1.99E-74	Down	1.16E-76	ENAH
10622	12.31	4.35	-1.500743456	1.12E-19	Down	3.52E-21	POLR3G
8359	422.17	149.82	-1.494593835	1.03E-66	Down	7.04E-69	HIST1H4A
55266	20.42	7.26	-1.491941413	1.50E-44	Down	1.79E-46	TMEM19
7058	18.08	6.43	-1.491504035	7.97E-50	Down	8.26E-52	THBS2
84333	6.19	2.21	-1.48589304	6.25E-21	Down	1.83E-22	PCGF5
197021	3.63	1.3	-1.481457925	0.000254043	Down	4.19E-05	LCTL
6443	7.8	2.8	-1.478047297	9.07E-16	Down	3.67E-17	SGCB
23443	11.33	4.08	-1.473506804	6.93E-19	Down	2.28E-20	SLC35A3
56906	5.18	1.87	-1.469913828	2.06E-05	Down	2.76E-06	THAP10
54510	1.74	0.63	-1.465663572	6.72E-05	Down	9.85E-06	PCDH18
3094	355.28	128.65	-1.465505019	1.01E-105	Down	3.54E-10 8	HINT1
6102	6.08	2.21	-1.460024954	4.88E-11	Down	3.05E-12	RP2

219539	3.02	1.1	-1.457045026	6.71E-05	Down	9.85E-06	YPEL4
5587	5.16	1.88	-1.456638404	3.65E-09	Down	2.81E-10	PRKD1
1031	44.13	16.11	-1.453803253	1.94E-38	Down	2.89E-40	CDKN2C
255783	8.53	3.12	-1.450999712	0.000992513	Down	0.000187 026	INAFM1
54961	6.76	2.48	-1.446683126	3.60E-09	Down	2.77E-10	SSH3
10097	44.56	16.36	-1.445576484	1.16E-77	Down	6.37E-80	ACTR2
9415	30.32	11.18	-1.439349565	8.64E-45	Down	1.02E-46	FADS2
10040	14.97	5.53	-1.436722836	2.01E-16	Down	7.75E-18	TOM1L1
3897	5.82	2.15	-1.436682493	1.80E-13	Down	9.05E-15	L1CAM
8294	497.8	184.08	-1.435233342	7.46E-74	Down	4.42E-76	HIST1H4I
3398	8.69	3.22	-1.432295489	8.57E-06	Down	1.07E-06	ID2
286144	4.18	1.55	-1.431234727	2.14E-07	Down	2.10E-08	TRIQQ
219654	2.96	1.1	-1.428093652	1.94E-06	Down	2.17E-07	ZCCHC24
6856	15.47	5.75	-1.427839336	9.95E-16	Down	4.08E-17	SYPL1
7108	20.7	7.71	-1.424828002	1.15E-14	Down	5.18E-16	TM7SF2
3077	17.13	6.4	-1.420381341	1.94E-19	Down	6.20E-21	HFE
83463	21.81	8.17	-1.416581786	5.39E-12	Down	3.09E-13	MXD3
2774	1.52	0.57	-1.415037499	0.000254138	Down	4.19E-05	GNAL
158219	5.14	1.93	-1.413167512	1.40E-07	Down	1.33E-08	TTC39B
3955	3.3	1.24	-1.412125904	0.000148166	Down	2.33E-05	LFNG
4781	3.74	1.41	-1.407343107	6.99E-14	Down	3.38E-15	NFIB
3676	4.27	1.61	-1.407175382	1.45E-18	Down	4.90E-20	ITGA4
57181	17.63	6.65	-1.406606229	1.30E-40	Down	1.79E-42	SLC39A10

9530	23.91	9.03	-1.404816237	1.68E-45	Down	1.96E-47	BAG4
284611	6.37	2.41	-1.402260226	9.12E-15	Down	4.08E-16	FAM102B
286410	11.99	4.54	-1.401067456	7.49E-35	Down	1.26E-36	ATP11C
7351	6.86	2.62	-1.388641765	3.24E-05	Down	4.50E-06	UCP2
51200	52.84	20.32	-1.378730064	2.42E-61	Down	1.90E-63	CPA4
23456	17.16	6.6	-1.378511623	2.26E-26	Down	5.11E-28	ABCB10
103344718	2.96	1.14	-1.376563351	2.64E-05	Down	3.61E-06	HOTS
83879	32.38	12.51	-1.372021196	7.77E-35	Down	1.31E-36	CDCA7
4026	6.96	2.7	-1.366127899	2.81E-39	Down	4.06E-41	LPP
57493	7.06	2.74	-1.36549229	2.83E-27	Down	6.19E-29	HEG1
54842	2	0.78	-1.358453971	0.000239324	Down	3.92E-05	MFSD6
8676	2.23	0.87	-1.357956404	7.92E-05	Down	1.18E-05	STX11
122953	25.2	9.85	-1.355228104	9.51E-24	Down	2.39E-25	JDP2
51523	22.69	8.87	-1.355050599	1.03E-23	Down	2.60E-25	CXXC5
139231	12.09	4.74	-1.35085528	6.22E-37	Down	9.67E-39	FAM199X
157567	6.63	2.6	-1.350497247	1.97E-07	Down	1.92E-08	ANKRD46
2736	1.35	0.53	-1.348895142	0.000657748	Down	0.000118 831	GLI2
57534	60.86	23.9	-1.348483716	6.96E-146	Down	1.50E-14 8	MIB1
6674	7.12	2.81	-1.341307111	5.27E-08	Down	4.72E-09	SPAG1
8353	255.17	100.72	-1.341108535	8.60E-44	Down	1.08E-45	HIST1H3E
4325	12.4	4.9	-1.339486466	1.79E-31	Down	3.29E-33	MMP16
221830	11.31	4.47	-1.339252193	1.04E-17	Down	3.68E-19	TWISTNB

8683	158.74	62.93	-1.334845863	1.19E-73	Down	7.11E-76	SRSF9
11007	73.77	29.27	-1.33361149	1.66E-36	Down	2.64E-38	CCDC85B
201625	0.68	0.27	-1.332575339	0.000627809	Down	0.000112 802	DNAH12
51021	93.9	37.41	-1.327701192	4.25E-68	Down	2.86E-70	MRPS16
427	9.96	3.97	-1.327006735	6.56E-11	Down	4.15E-12	ASAH1
2631	19.65	7.86	-1.321928095	1.37E-15	Down	5.67E-17	NIPSNAP2
4281	4.31	1.73	-1.316915831	5.48E-06	Down	6.62E-07	MID1
51170	12.95	5.2	-1.31636857	5.97E-07	Down	6.25E-08	HSD17B11
8360	482.15	194.44	-1.310157009	7.42E-62	Down	5.77E-64	HIST1H4D
79633	2.67	1.08	-1.30580843	1.73E-17	Down	6.25E-19	FAT4
55972	4.82	1.95	-1.305559022	3.30E-06	Down	3.86E-07	SLC25A40
1808	12.63	5.11	-1.305459443	1.11E-22	Down	2.96E-24	DPYSL2
7153	134.43	54.42	-1.304646271	2.84E-297	Down	1.40E-30 0	TOP2A
360023	7.54	3.06	-1.301032871	5.34E-22	Down	1.48E-23	ZBTB41
5567	5.48	2.23	-1.297132183	3.41E-09	Down	2.61E-10	PRKACB
84962	61.05	24.87	-1.295584788	5.16E-66	Down	3.59E-68	AJUBA
3489	142.39	58.16	-1.291748656	4.24E-50	Down	4.35E-52	IGFBP6
148213	3.94	1.61	-1.291134941	3.93E-10	Down	2.69E-11	ZNF681
3007	378.57	154.79	-1.290247817	7.95E-106	Down	2.75E-10 8	HIST1H1D
2044	2.22	0.91	-1.286621226	1.01E-06	Down	1.09E-07	EPHA5
51088	15.68	6.47	-1.277087942	3.63E-30	Down	6.99E-32	KLHL5

59345	30.14	12.44	-1.276692931	6.14E-69	Down	4.06E-71	GNB4
79624	13.06	5.43	-1.266130794	9.28E-13	Down	4.97E-14	ARMT1
56951	30.39	12.7	-1.258768178	3.18E-25	Down	7.50E-27	C5orf15
79699	20.22	8.46	-1.257053429	4.99E-44	Down	6.19E-46	ZYG11B
79948	5.66	2.37	-1.255914994	2.22E-05	Down	3.00E-06	PLPPR3
160418	19.54	8.21	-1.25097634	2.60E-44	Down	3.17E-46	TMTC3
3075	5.84	2.46	-1.247310054	3.47E-07	Down	3.49E-08	CFH
286148	7.95	3.36	-1.242493627	1.24E-17	Down	4.41E-19	DPY19L4
1977	31.25	13.21	-1.242225723	2.13E-37	Down	3.28E-39	EIF4E
23657	60.6	25.65	-1.240358968	2.06E-162	Down	3.57E-16 5	SLC7A11
5525	12.74	5.4	-1.238333965	2.28E-14	Down	1.05E-15	PPP2R5A
5575	4.67	1.98	-1.23792212	5.20E-05	Down	7.47E-06	PRKAR1B
25998	16.65	7.06	-1.237782089	8.37E-37	Down	1.31E-38	IBTK
50484	9.4	4.01	-1.22905852	2.03E-16	Down	7.84E-18	RRM2B
7059	11.01	4.7	-1.228081807	1.12E-12	Down	6.08E-14	THBS3
85012	16.06	6.87	-1.225089889	8.17E-07	Down	8.73E-08	TCEAL3
7915	12.81	5.48	-1.225022677	5.23E-23	Down	1.36E-24	ALDH5A1
29994	2.71	1.16	-1.224168046	6.56E-07	Down	6.93E-08	BAZ2B
4258	20.41	8.75	-1.22192126	1.12E-05	Down	1.42E-06	MGST2
8519	20.43	8.77	-1.220040456	1.59E-05	Down	2.09E-06	IFITM1
497661	13.19	5.67	-1.218023924	1.63E-08	Down	1.37E-09	C18orf32
54165	11.46	4.93	-1.216947492	1.40E-21	Down	3.93E-23	DCUN1D1
55204	11.11	4.79	-1.213761256	2.17E-12	Down	1.20E-13	GOLPH3L

55314	3.36	1.45	-1.212408333	0.00030695	Down	5.14E-05	TMEM144
55635	36.73	15.9	-1.207932131	2.47E-66	Down	1.71E-68	DEPDC1
100129543	8.54	3.7	-1.206710799	4.01E-08	Down	3.52E-09	ZNF730
51	21.2	9.19	-1.205927498	8.70E-54	Down	8.00E-56	ACOX1
83849	1.52	0.66	-1.203533394	6.58E-06	Down	8.09E-07	SYT15
6876	190.64	83.13	-1.19740974	6.55E-74	Down	3.84E-76	TAGLN
283431	16.18	7.07	-1.194429488	2.81E-19	Down	9.03E-21	GAS2L3
55088	2.56	1.12	-1.192645078	8.34E-06	Down	1.04E-06	CCDC186
55715	13.02	5.7	-1.191695624	6.51E-12	Down	3.77E-13	DOK4
149473	10.69	4.68	-1.191681418	0.000477631	Down	8.36E-05	CCDC24
4837	131.69	57.69	-1.190752629	9.54E-68	Down	6.48E-70	NNMT
5698	35.42	15.52	-1.190435655	2.44E-12	Down	1.36E-13	PSMB9
317	16.53	7.25	-1.189033824	3.53E-36	Down	5.70E-38	APAF1
6990	7.02	3.08	-1.18854068	1.12E-05	Down	1.42E-06	DYNLT3
25843	16.04	7.04	-1.188026808	4.08E-20	Down	1.25E-21	MOB4
3234	5.92	2.6	-1.187085553	5.91E-06	Down	7.19E-07	HOXD8
388591	7.42	3.26	-1.186547222	9.84E-10	Down	7.11E-11	RNF207
5764	10.59	4.66	-1.184300729	1.52E-05	Down	1.98E-06	PTN
51053	81.83	36.07	-1.181830429	2.76E-33	Down	4.80E-35	GMNN
3953	11.33	5	-1.180147861	2.21E-17	Down	8.02E-19	LEPR
60529	2.53	1.12	-1.175638653	4.37E-05	Down	6.20E-06	ALX4
6583	4.76	2.11	-1.173718575	0.000997338	Down	0.000188	SLC22A4
						12	
115106	45.57	20.26	-1.169450196	1.08E-16	Down	4.11E-18	HAUS1

51084	8.25	3.67	-1.168614056	0.000212742	Down	3.45E-05	CRYL1
23129	10.51	4.7	-1.161030007	2.70E-12	Down	1.51E-13	PLXND1
81031	6.54	2.93	-1.158389971	2.35E-09	Down	1.77E-10	SLC2A10
64065	8.78	3.94	-1.15602531	2.39E-12	Down	1.33E-13	PERP
3400	3.32	1.49	-1.155870911	0.00011084	Down	1.70E-05	ID4
6091	17.93	8.05	-1.1553148	1.56E-41	Down	2.10E-43	ROBO1
54492	1.87	0.84	-1.154577037	0.000338235	Down	5.71E-05	NEURL1B
127933	28.38	12.77	-1.152116064	3.50E-76	Down	1.96E-78	UHMK1
135293	19.11	8.6	-1.151919213	1.07E-14	Down	4.83E-16	PM20D2
26973	38.64	17.41	-1.150178891	2.01E-40	Down	2.78E-42	CHORDC1
51144	32.94	14.85	-1.149377624	1.83E-23	Down	4.67E-25	HSD17B12
23306	24.22	10.92	-1.149226009	1.09E-47	Down	1.22E-49	NEMP1
2633	4.69	2.12	-1.145523658	3.51E-05	Down	4.91E-06	GBP1
6618	17.65	7.98	-1.145207532	6.36E-09	Down	5.07E-10	SNAPC2
116068	6.21	2.81	-1.144023138	3.78E-09	Down	2.91E-10	LYSMD3
54930	41.43	18.76	-1.143015992	8.85E-21	Down	2.62E-22	HAUS4
91752	4.08	1.85	-1.141043881	1.68E-06	Down	1.86E-07	ZNF804A
1468	36.2	16.42	-1.14053557	2.39E-22	Down	6.52E-24	SLC25A10
8790	9.68	4.4	-1.137503524	3.96E-14	Down	1.87E-15	FPGT
25978	14.43	6.58	-1.132911811	4.04E-12	Down	2.30E-13	CHMP2B
9768	98.03	44.71	-1.132625777	2.07E-44	Down	2.51E-46	PCLAF
23101	2.63	1.2	-1.132028394	2.47E-05	Down	3.35E-06	MCF2L2
388962	76.11	34.8	-1.128998714	3.41E-12	Down	1.93E-13	BOLA3

6492	3.87	1.77	-1.128584206	6.50E-08	Down	5.90E-09	SIM1
1182	17.4	7.96	-1.12824697	7.97E-21	Down	2.35E-22	CLCN3
64110	30.16	13.81	-1.126923109	1.11E-15	Down	4.58E-17	MAGEF1
26227	5.39	2.47	-1.125774231	0.000680151	Down	0.000123 256	PHGDH
2332	9.95	4.56	-1.125662701	1.49E-13	Down	7.39E-15	FMR1
223082	4.8	2.2	-1.125530882	1.29E-05	Down	1.65E-06	ZNRF2
51196	2.94	1.35	-1.122856748	2.05E-06	Down	2.31E-07	PLCE1
130576	10.34	4.76	-1.119202707	1.77E-05	Down	2.35E-06	LYPD6B
51574	16.12	7.43	-1.117417628	6.95E-11	Down	4.42E-12	LARP7
728392	28.12	13.01	-1.111975632	9.76E-13	Down	5.24E-14	LOC728392
253982	11.65	5.39	-1.111972777	1.66E-05	Down	2.19E-06	ASPHD1
1353	31.76	14.75	-1.106495958	2.40E-14	Down	1.11E-15	COX11
151473	5.06	2.35	-1.106476628	1.23E-07	Down	1.16E-08	SLC16A14
6715	15.24	7.1	-1.101971973	3.43E-11	Down	2.12E-12	SRD5A1
5911	7.14	3.33	-1.100401897	1.57E-09	Down	1.17E-10	RAP2A
54507	4.93	2.3	-1.099953785	7.36E-08	Down	6.72E-09	ADAMTSL4
5292	23.68	11.07	-1.097013859	4.31E-19	Down	1.40E-20	PIM1
81537	40.42	18.92	-1.095157233	1.31E-39	Down	1.87E-41	SGPP1
5523	3.94	1.85	-1.090670359	1.41E-08	Down	1.18E-09	PPP2R3A
3714	4.51	2.12	-1.089063169	4.52E-08	Down	3.99E-09	JAG2
8908	9.46	4.45	-1.088034847	1.54E-09	Down	1.14E-10	GYG2
51435	10.2	4.8	-1.087462841	3.61E-10	Down	2.47E-11	SCARA3
874	21.75	10.24	-1.086799686	1.61E-07	Down	1.55E-08	CBR3

5825	46.61	21.95	-1.086418573	1.83E-35	Down	3.03E-37	ABCD3
55872	41.45	19.54	-1.084941634	5.41E-25	Down	1.29E-26	PBK
1386	22.41	10.57	-1.084167272	6.22E-23	Down	1.62E-24	ATF2
10681	14.64	6.91	-1.083157938	7.84E-14	Down	3.82E-15	GNB5
7008	4.65	2.2	-1.079727192	2.39E-06	Down	2.75E-07	TEF
30832	9.91	4.7	-1.076224301	1.16E-16	Down	4.44E-18	ZNF354C
23098	4.47	2.12	-1.076210567	1.09E-09	Down	7.91E-11	SARM1
2764	47.65	22.6	-1.076153441	2.14E-55	Down	1.86E-57	GMFB
114882	18.82	8.93	-1.075534548	1.58E-38	Down	2.35E-40	OSBPL8
65084	10.85	5.16	-1.072252072	2.66E-13	Down	1.36E-14	TMEM135
121274	10.74	5.11	-1.071598797	2.51E-14	Down	1.17E-15	ZNF641
221	22.67	10.8	-1.069753079	1.13E-18	Down	3.78E-20	ALDH3B1
6281	44.26	21.1	-1.068760452	3.10E-13	Down	1.59E-14	S100A10
9064	6.75	3.22	-1.067826814	1.23E-07	Down	1.16E-08	MAP3K6
55728	4.84	2.31	-1.067114196	4.32E-13	Down	2.26E-14	N4BP2
221079	11.39	5.44	-1.06608919	1.91E-25	Down	4.48E-27	ARL5B
4591	29.32	14.03	-1.063370095	9.81E-31	Down	1.85E-32	TRIM37
90488	41.13	19.72	-1.06053152	6.21E-39	Down	9.07E-41	TMEM263
134429	26.09	12.51	-1.060415155	8.34E-37	Down	1.31E-38	STARD4
23468	29.67	14.25	-1.058043008	1.02E-94	Down	4.20E-97	CBX5
55701	9.64	4.63	-1.058020953	1.98E-15	Down	8.35E-17	ARHGEF40
5962	57.26	27.51	-1.057571531	4.11E-84	Down	1.98E-86	RDX
8351	651.4	313.04	-1.057196704	6.50E-159	Down	1.16E-16	HIST1H3D

10278	4.6	2.22	-1.051074185	0.000125026	Down	1.94E-05	EFS
6738	33.55	16.22	-1.048538947	4.01E-92	Down	1.68E-94	TROVE2
4130	1.26	0.61	-1.046542586	0.000303832	Down	5.08E-05	MAP1A
57107	7.45	3.61	-1.045241588	1.85E-05	Down	2.47E-06	PDSS2
1033	239.07	115.89	-1.04467702	2.27E-52	Down	2.19E-54	CDKN3
57045	28.01	13.58	-1.044458504	1.52E-28	Down	3.12E-30	TWSG1
133418	12.31	5.97	-1.044027925	1.56E-14	Down	7.10E-16	EMB
92140	21.64	10.5	-1.043311171	1.16E-34	Down	1.98E-36	MTDH
128	52.88	25.7	-1.040953817	2.19E-37	Down	3.40E-39	ADH5
11187	28.74	14.02	-1.035573712	4.94E-22	Down	1.36E-23	PKP3
892	29.5	14.4	-1.034646143	8.16E-24	Down	2.03E-25	CCNC
149345	14.07	6.87	-1.034240324	1.34E-06	Down	1.46E-07	SHISA4
7846	135.73	66.31	-1.033441271	4.13E-68	Down	2.75E-70	TUBA1A
653464	21.94	10.72	-1.03325862	1.53E-25	Down	3.58E-27	SRGAP2C
85313	12.77	6.25	-1.03083043	5.69E-09	Down	4.47E-10	PPIL4
112817	7.64	3.74	-1.030534368	8.11E-06	Down	1.01E-06	HOGA1
9666	14.82	7.26	-1.029503994	1.10E-19	Down	3.43E-21	DZIP3
79144	20.47	10.03	-1.029189496	0.000104786	Down	1.59E-05	PPDPF
1633	17.75	8.7	-1.028731719	1.66E-12	Down	9.06E-14	DCK
199777	6.44	3.16	-1.02713613	3.32E-07	Down	3.34E-08	ZNF626
51122	13.17	6.47	-1.025417728	3.51E-13	Down	1.83E-14	COMMD2
55742	11.48	5.64	-1.025355574	2.89E-26	Down	6.57E-28	PARVA
5101	5.17	2.54	-1.025335784	7.43E-10	Down	5.28E-11	PCDH9

285605	4.92	2.42	-1.023651268	2.55E-08	Down	2.17E-09	DTWD2
8346	794.64	391	-1.023132809	2.36E-83	Down	1.18E-85	HIST1H2BI
23600	8.29	4.08	-1.02280295	7.22E-06	Down	8.92E-07	AMACR
6817	45.28	22.29	-1.022477342	4.35E-15	Down	1.88E-16	SULT1A1
4942	69.37	34.23	-1.019050592	9.09E-37	Down	1.44E-38	OAT
10513	17.45	8.62	-1.017467262	1.50E-29	Down	2.98E-31	APPBP2
201895	8	3.96	-1.01449957	1.57E-11	Down	9.37E-13	SMIM14
7289	23.58	11.68	-1.013523444	2.60E-21	Down	7.35E-23	TULP3
23564	70.34	34.86	-1.012772765	2.59E-23	Down	6.68E-25	DDAH2
65983	10.53	5.22	-1.012383724	1.25E-07	Down	1.18E-08	GRAMD3
6683	15.06	7.47	-1.011541622	1.03E-17	Down	3.66E-19	SPAST
348110	9.23	4.58	-1.01098305	2.71E-14	Down	1.26E-15	ARPIN
90806	12.57	6.24	-1.010366716	1.88E-15	Down	7.86E-17	ANGEL2
10810	5.11	2.54	-1.008494794	7.00E-07	Down	7.42E-08	WASF3
51315	11.99	5.97	-1.006028822	1.19E-05	Down	1.52E-06	KRCC1
135112	7.75	3.86	-1.005595463	6.64E-10	Down	4.68E-11	NCOA7
10447	13.3	6.63	-1.00434547	5.87E-09	Down	4.63E-10	FAM3C
91663	11.37	5.67	-1.003811614	7.96E-10	Down	5.67E-11	MYADM
23371	5.33	2.66	-1.002709287	4.63E-07	Down	4.74E-08	TNS2
10398	72.22	36.08	-1.001199082	3.42E-21	Down	9.72E-23	MYL9
54494	6.96	3.48	-1	0.000191913	Down	3.08E-05	C11orf71

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