

SUPPLEMENTARY TABLES: CUT&RUN-SEQUENCING DATA

Table 1. Differentially acetylated upstream loci with fold enrichment ≥ 2 in EMAPII treated PSMCs are tabulated. ChIPseeker for ChIP peak annotation and visualization (Galaxy Version 1.18.0+galaxy1) was used.

Chromosome	Gene	Start	End	Fold Enrichment	p value	FDR
chr3	KPNA4	160565048	160565523	4.78	5.79E-10	3.53E-06
chr5	CNOT6	180494600	180494790	4.58	6.13E-06	0.000141
chr1	NOTCH2NLB	148677035	148679726	4.42	1.73E-05	0.00026
chr1	LOC100996720	120914148	120915301	4.36	0.00148	0.00433
chr15	CDAN1	42736690	42737070	4.29	1.49E-08	7.12E-06
chr12	NUDT4	93377901	93378124	4.24	7.23E-05	0.000598
chr17	MFSD11	76737619	76737864	4.24	3.65E-06	0.00011
chr1	COX20	244835365	244835549	4.16	2.40E-05	0.000315
chr17	LOC728392	5500879	5501122	4.12	7.95E-06	0.000165
chr1	LOC112268218	1744464	1745993	4.09	0.00349	0.00805
chr10	LOC101929234	75408424	75408878	4.07	6.93E-06	0.000151
chr10	SUFU	102504001	102504170	4.02	1.91E-05	0.000275
chr22	KLHDC7B	50548114	50548415	3.96	4.05E-05	0.000423
chr7	TRIM74	73005162	73005894	3.92	0.00493	0.0104
chr9	ANP32B	97983536	97983941	3.92	9.37E-07	5.29E-05
chr12	CD9	6199880	6200121	3.91	2.93E-05	0.000354
chr17	NR1D1	40100944	40101213	3.88	0.000414	0.00179
chr22	HIC2	21417897	21418281	3.86	0.000102	0.000731
chr19	ZNF787	56110680	56110923	3.83	3.12E-05	0.000369
chr12	ASIC1	50057222	50057502	3.79	2.33E-05	0.00031
chr1	LOC105378954	120341435	120342181	3.77	0.00765	0.0146
chr17	TAX1BP3	3668214	3668571	3.77	4.48E-06	0.000119
chr20	HELZ2	63570961	63571805	3.75	0.00902	0.0166

chr6	ARID1B	156777888	156778174	3.74	5.48E-05	0.000507
chr17	CBX4	79838659	79838850	3.67	8.45E-05	0.00066
chr8	TMEM65	124372171	124372390	3.65	4.40E-05	0.000442
chr2	PLEKHH2	43637299	43637495	3.6	8.57E-05	0.000665
chr17	DDX52	37642714	37643369	3.57	0.0135	0.023
chr11	C11orf96	43942904	43943226	3.56	4.25E-05	0.000433
chr3	PRRT3-AS1	9947375	9947659	3.55	3.99E-05	0.000419
chr19	R3HDM4	912779	912991	3.54	3.10E-05	0.000368
chr2	LOC105377635	87348172	87348652	3.53	0.0151	0.0252
chr3	KPNA1	122514558	122514896	3.49	4.06E-06	0.000114
chr1	BCAR3	93847111	93847533	3.45	1.78E-06	7.69E-05
chr3	ATP1B3	141876694	141876973	3.45	6.05E-05	0.000538
chr12	DRAM1	101877126	101877465	3.44	2.47E-05	0.00032
chr19	UBA52	18571357	18571534	3.43	5.68E-05	0.000518
chr2	YPEL5	30146974	30147289	3.4	4.56E-08	1.06E-05
chr6	MARCKS	113859936	113860144	3.4	0.000259	0.00133
chr2	TMEM17	62505722	62506169	3.38	3.43E-05	0.000385
chr3	LINC02043	186827165	186827457	3.38	5.31E-06	0.000131
chr4	HAND2	173529579	173529855	3.34	3.95E-05	0.000416
chr16	EEF2KMT	5098449	5098815	3.33	0.000387	0.00171
chr18	PARD6G	80246699	80247329	3.33	2.17E-05	0.000296
chr5	RICTOR	39074151	39074343	3.32	6.34E-06	0.000144
chr2	LOC107985959	168247768	168248146	3.31	2.78E-05	0.000345
chr12	SRGAP1	63844056	63844302	3.29	9.55E-06	0.000184
chr13	PRECSIT	110869870	110870211	3.29	0.000184	0.00106
chr17	SOCS3	78359402	78359854	3.29	1.15E-05	0.000207
chr6	TAB2	149317131	149317436	3.29	0.000147	0.000926
chr12	CHD4	6607059	6607373	3.28	3.45E-05	0.000386
chr17	DBIL5P	752080	752841	3.28	3.04E-06	0.000102
chr8	ZBTB10	80486254	80486544	3.27	1.99E-05	0.00028
chr11	LUZP2	24497068	24497479	3.24	6.14E-06	0.000142

chr10	LARP4B	932031	932384	3.23	7.84E-05	0.000631
chr15	LOC112267869	84499904	84500738	3.21	0.000261	0.00133
chr17	UBE2G1	4365648	4366582	3.2	3.29E-11	6.02E-07
chr8	PLEC	143952307	143952779	3.2	1.99E-05	0.00028
chr14	NFKBIA	35404447	35404643	3.19	8.04E-05	0.00064
chr2	ITM2C	230864948	230865501	3.19	2.67E-05	0.000336
chr8	SHARPIN	144103878	144104263	3.18	6.34E-05	0.000556
chr12	FBXW8	116910730	116910927	3.17	0.000203	0.00113
chr13	DOCK9-DT	99087285	99087635	3.17	8.41E-05	0.000658
chr14	FERMT2	52951404	52951699	3.17	0.000145	0.000919
chr22	DENND6B	50327176	50327818	3.17	1.32E-06	6.52E-05
chr7	EZH2	148883689	148884073	3.17	2.25E-06	8.51E-05
chr15	TLNRD1	81001105	81001330	3.16	0.000102	0.000731
chr11	MYO7A	77127092	77127475	3.15	0.000231	0.00123
chr17	FBXL20	39401859	39402514	3.15	1.26E-06	6.40E-05
chr2	STARD7	96208439	96208826	3.15	1.01E-05	0.000191
chr4	KLF3-AS1	38664353	38664630	3.15	6.33E-05	0.000555
chrX	ZXDB	57592236	57592971	3.13	7.00E-07	4.59E-05
chr2	EHD3	31234486	31234914	3.12	0.000111	0.000775
chr5	MAP3K1	56814918	56815217	3.1	0.000681	0.0025
chrX	ELK1	47650149	47650398	3.1	0.000436	0.00185
chr1	DUSP10	221742426	221743088	3.08	7.34E-07	4.70E-05
chr19	MIR935	53979750	53980253	3.07	7.76E-06	0.000163
chr2	VPS54	64019137	64019345	3.07	0.000275	0.00138
chr3	FNDC3B	172039613	172040247	3.07	4.82E-07	3.72E-05
chr7	RNF216P1	4974466	4974808	3.07	3.99E-05	0.000419
chr10	SLC25A28	99620821	99621286	3.06	0.00011	0.000768
chr17	TOB1	50866075	50866323	3.06	0.000114	0.000787
chr19	ZSCAN18	58097875	58098192	3.05	0.000198	0.00112
chr20	PYGB	25248183	25248419	3.05	0.000602	0.00231
chr10	COMTD1	75235207	75236023	3.04	3.79E-08	9.50E-06

chr12	DAZAP2	51238876	51239114	3.04	0.000131	0.000858
chr15	SEMA7A	74433326	74433704	3.04	6.34E-06	0.000144
chr20	MAFB	40687344	40687818	3.04	0.000272	0.00137
chr15	DNM1P46	99806256	99806924	3.02	0.0205	0.0323
chr16	CRAMP1	1614564	1614761	3.02	0.000553	0.00216
chr8	PUF60	143827748	143829272	3.02	1.52E-06	7.09E-05
chr14	DHRS4L1	24036467	24036875	3	0.000115	0.000791
chr22	HIC2	21420218	21420415	3	0.0173	0.0281
chrX	LOC107985687	40105740	40106224	3	4.83E-05	0.000468
chr6	MDGA1	37697156	37697541	2.99	0.000372	0.00167
chr11	RNF169	74748834	74749095	2.98	0.000207	0.00115
chr20	LOC102723814	63519963	63520599	2.98	1.55E-06	7.17E-05
chr12	CDK17	96400684	96401370	2.97	4.92E-07	3.75E-05
chr12	ARHGEF25	57611375	57611759	2.96	4.23E-05	0.000433
chr11	DCPS	126303618	126303944	2.95	3.35E-05	0.000381
chr14	LOC107984638	77027555	77028433	2.95	0.0295	0.0439
chr4	SCD5	82798435	82799126	2.95	4.64E-07	3.66E-05
chr8	CSGALNACT1	19602437	19602703	2.95	0.00152	0.00441
chr1	SELENON	25799731	25800123	2.94	3.97E-05	0.000418
chr11	VWCE	61295129	61295736	2.94	1.37E-05	0.000228
chr4	FBXL5	15655137	15655331	2.94	0.000515	0.00207
chr4	N4BP2	40056185	40056765	2.94	1.67E-05	0.000255
chr9	FANCC	95316891	95317242	2.94	0.000258	0.00132
chrX	CDK16	47218243	47218937	2.94	3.09E-06	0.000103
chr1	H3-7	143905257	143905948	2.93	0.00152	0.00442
chr15	PDE8A	84980253	84980866	2.93	1.98E-05	0.000279
chr7	KMT2C	152435639	152435922	2.93	7.20E-05	0.000598
chr1	SLC50A1	155135377	155135745	2.92	0.000519	0.00208
chr16	CTCF	67562991	67563537	2.92	2.86E-08	8.21E-06
chr3	MSL2	136195941	136196316	2.92	0.000931	0.00313
chr7	ARL4A	12686895	12687401	2.92	0.000243	0.00127

chr12	LRP1	57127747	57128290	2.91	6.24E-07	4.32E-05
chr15	CDIN1	36579674	36580045	2.91	4.92E-05	0.000474
chr12	WNK1	752579	752967	2.9	1.59E-05	0.000249
chr16	TRP-TGG3-3	3159066	3159443	2.9	0.000468	0.00194
chr19	EPOR	11383993	11384327	2.9	0.000576	0.00223
chrX	SH3KBP1	19886384	19886851	2.9	2.74E-05	0.000342
chr16	CYLD	50742371	50742771	2.89	1.55E-05	0.000244
chr22	YDJC	21629222	21629996	2.89	1.41E-07	1.93E-05
chr6	MTHFD1L	150865348	150865633	2.89	4.00E-05	0.000419
chr7	CCDC71L	106660549	106661073	2.89	8.36E-05	0.000656
chr7	EZH2	148884503	148884820	2.89	0.000276	0.00138
chr7	SCRN1	29989196	29989726	2.89	3.90E-05	0.000413
chr9	VLDLR-AS1	2621983	2622770	2.89	3.35E-08	8.76E-06
chr12	DYRK2	67648049	67648280	2.88	0.000402	0.00175
chr2	TET3	74002785	74003280	2.88	1.60E-06	7.32E-05
chr16	USP10	84699555	84699869	2.87	0.000226	0.00122
chr19	CBARP	1237015	1237660	2.87	1.44E-07	1.93E-05
chr2	MTHFD2	74198625	74199130	2.87	7.94E-06	0.000165
chr4	MCUB	109560456	109560927	2.87	4.02E-05	0.00042
chr7	CCT6P3	65038389	65038577	2.86	0.000357	0.00163
chr8	UBR5-DT	102239412	102239880	2.86	9.94E-06	0.00019
chr12	ANKS1B	99984996	99985277	2.85	0.000293	0.00143
chr15	MIR7706	85379982	85380357	2.85	0.000201	0.00113
chr16	BBS2	56519220	56520044	2.85	2.03E-06	8.02E-05
chr5	CYSTM1	140174656	140174934	2.85	0.000137	0.00089
chr16	CHD9	53131575	53132064	2.84	6.91E-06	0.000151
chr17	VPS53	714071	714805	2.84	1.18E-06	6.13E-05
chr17	TRIM47	75877425	75877926	2.84	1.38E-06	6.69E-05
chr18	VAPA	9914015	9914425	2.84	5.22E-06	0.00013
chr4	GRPEL1	7068383	7068807	2.83	1.11E-05	0.000202
chr9	FAM27C	61854347	61855170	2.83	0.0162	0.0267

chr11	PRDM10	130003372	130003862	2.82	0.000141	0.000905
chr19	ZBTB7A	4066805	4067029	2.82	9.45E-05	0.000705
chr4	HNRNPDL	82429640	82429986	2.82	4.80E-05	0.000467
chr6	PCMT1	149749365	149749560	2.82	0.0158	0.0262
chr7	HOXA1	27095643	27095970	2.82	0.00231	0.00594
chr12	RHOF	121793805	121794281	2.81	0.000107	0.000754
chr2	OLA1	174247843	174248539	2.81	7.75E-07	4.79E-05
chr2	CDC42EP3	37671891	37672242	2.81	0.000328	0.00154
chr8	NRG1	32548667	32549434	2.81	3.32E-06	0.000105
chr9	EDF1	136866094	136866312	2.81	5.27E-05	0.000495
chr12	TMPO	98515649	98516147	2.8	3.90E-06	0.000113
chr14	BRMS1L	35826372	35827067	2.8	1.50E-05	0.00024
chr17	MIF4GD-DT	75271351	75271973	2.8	3.40E-06	0.000107
chr4	CNOT6L	77818898	77819505	2.8	2.54E-07	2.71E-05
chr8	ZHX1	123274844	123275493	2.8	2.31E-05	0.000308
chrX	PABIR3	134796642	134797129	2.8	1.39E-05	0.000229
chr1	PGD	10399092	10399317	2.79	1.29E-05	0.000219
chr1	SFPQ	35192359	35193114	2.79	0.0197	0.0313
chr10	JMJD1C	63521501	63521819	2.79	0.000107	0.000756
chr8	SLC25A37	23528959	23529252	2.79	0.000134	0.000875
chr9	NTNG2	132162231	132162539	2.79	0.000201	0.00113
chr1	THAP3	6624770	6625382	2.78	3.99E-06	0.000114
chr2	RFX8	101473810	101474130	2.78	0.000157	0.000963
chr6	MYLIP	16129130	16129457	2.78	6.03E-05	0.000537
chr17	RAC3	82032027	82032556	2.77	5.81E-06	0.000137
chr18	RNF138	32092665	32092876	2.77	0.000718	0.00259
chr4	RELL1	37685772	37686306	2.77	8.67E-06	0.000174
chr4	CCNI	77075525	77075784	2.77	0.000231	0.00123
chr8	CTSB	11868342	11868692	2.77	0.000344	0.00159
chr10	ZNF239	43573790	43574297	2.76	0.000101	0.000728
chr5	TRIM36	115169550	115169809	2.76	0.00189	0.00514

chr6	EZR	158818598	158818960	2.76	2.67E-05	0.000337
chrX	DYNLT3	37846971	37847489	2.76	8.92E-06	0.000178
chr1	CRYZ	74732157	74732493	2.75	0.00586	0.0119
chr10	DNA2	68471555	68472150	2.75	4.31E-05	0.000437
chr17	GNA13	65056321	65056586	2.75	4.53E-05	0.00045
chr7	FAM126A	23013822	23014080	2.75	0.000559	0.00218
chrX	GSPT2	51743472	51743991	2.75	0.000154	0.000949
chr1	LOC107984913	6612655	6613128	2.74	5.32E-05	0.000498
chr16	PDPK1	2537404	2537716	2.74	0.00184	0.00504
chr1	TMCO4	19800026	19800425	2.73	0.000114	0.000788
chr14	CDKN3	54397010	54397552	2.73	1.81E-05	0.000268
chr5	ARRDC3	91383558	91383749	2.73	0.00113	0.00358
chr9	ENDOG	128818487	128818668	2.73	0.00291	0.00703
chr10	PLCE1	93994117	93994755	2.72	2.08E-06	8.13E-05
chr11	LOC112267904	107591342	107592134	2.72	2.92E-08	8.21E-06
chr14	AP4S1	31026610	31026818	2.72	0.00176	0.00488
chr5	SQSTM1	179806014	179806304	2.72	0.000314	0.0015
chr6	HMGA1	34237728	34238193	2.72	6.17E-06	0.000142
chr6	ZFAND3	37820119	37820493	2.72	6.03E-06	0.00014
chr7	DNAJB6	157337040	157337214	2.72	0.000672	0.00248
chr10	PAOX	133379530	133379834	2.71	0.00229	0.00591
chr11	STIM1-AS1	3855178	3855512	2.71	0.000945	0.00316
chr17	INCA1	4997154	4997848	2.71	9.73E-05	0.000716
chr19	KEAP1	10503018	10503550	2.71	1.80E-05	0.000267
chr6_GL000255v 2_alt	HLA-A	1197521	1198052	2.71	0.00157	0.00452
chr9	PHF19	120876664	120877004	2.71	0.000379	0.00169
chrX	MED14	40735121	40735880	2.71	5.53E-05	0.000509
chr2	LOC102724081	168456432	168457187	2.7	1.96E-06	7.92E-05
chr2	DUSP28	240560377	240560746	2.7	6.88E-05	0.000583
chr6	CEP43	166999445	167000022	2.7	0.03	0.0445

chr6	LINC00680	57960876	57961386	2.7	8.37E-06	0.00017
chr1	MAGI3	113390450	113390844	2.69	4.02E-05	0.00042
chr1	INTS11	1324242	1324596	2.69	1.04E-05	0.000195
chr1	HDGF	156746803	156747048	2.69	8.00E-04	0.0028
chr11	RHOG	3841184	3841726	2.69	1.10E-05	0.000201
chr11	GAB2	78417160	78417440	2.69	0.000166	0.000995
chr2	NOP58	202265239	202265559	2.69	7.42E-05	0.000609
chr3	VGLL4	11719658	11720178	2.69	4.11E-05	0.000427
chr3	ITGA9-AS1	37860856	37861443	2.69	2.88E-06	9.88E-05
chr9	TLE1	81688621	81689415	2.69	0.00016	0.000974
chrX	NDUFB11	47145299	47145519	2.69	0.00207	0.0055
chr1	TRV-CAC1-1	161399851	161400391	2.68	3.80E-06	0.000111
chr10	PCGF5	91162348	91162808	2.68	0.000622	0.00236
chr19	OAZ1	2269570	2270772	2.68	1.99E-08	7.84E-06
chr2	TBC1D8	101150540	101150974	2.68	4.62E-05	0.000455
chr6	GINM1	149566396	149567286	2.68	2.28E-07	2.53E-05
chr7	UBE2D4	43926072	43926365	2.68	0.00157	0.00452
chr10	ZNF32	43648104	43648763	2.67	4.37E-06	0.000118
chr10	SGMS1	50418280	50418729	2.67	0.000226	0.00122
chr19	PPP6R1	55258617	55259004	2.67	0.000278	0.00138
chrX	ATP11C	139932790	139932999	2.67	0.00084	0.0029
chr1	EFCAB2	244969699	244970609	2.66	6.21E-08	1.25E-05
chr17	MAP3K3	63621596	63621898	2.65	0.000213	0.00117
chr2	B3GNT2	62196343	62196914	2.65	3.79E-07	3.38E-05
chr9	TMEFF1	100473544	100473949	2.65	0.000221	0.0012
chr1	LMNA	156126130	156126346	2.64	0.00111	0.00355
chr1	EFCAB14	46719226	46719580	2.64	0.000207	0.00115
chr12	GLS2	56487818	56488414	2.64	4.56E-05	0.000451
chr15	DTWD1	49621031	49621289	2.64	0.000363	0.00164
chr16	ZNF821	71884345	71884657	2.64	0.000138	0.000894
chr19	REX1BD	18588804	18589492	2.64	4.22E-05	0.000433

chr19	SHANK1	50718758	50719299	2.64	4.78E-05	0.000465
chr2	CALM2	47175949	47176480	2.64	1.51E-05	0.000241
chr22	MIR6821	49961552	49962160	2.64	3.60E-06	0.000109
chr5	B4GALT7	177599684	177599997	2.64	0.000478	0.00197
chr1	COQ8A	226939425	226939909	2.63	0.000353	0.00161
chr16	WDR59	74984575	74985109	2.63	1.13E-05	0.000204
chr17	PPP1R9B	50150384	50150892	2.63	2.38E-05	0.000314
chr8	TRIB1	125430434	125430969	2.63	1.07E-05	0.000198
chr8	MROH1	144146770	144147575	2.63	7.44E-07	4.72E-05
chr9	CDK9	127786114	127786902	2.63	3.98E-08	9.71E-06
chr4	LOC105377496	153249501	153249947	2.62	4.00E-04	0.00175
chr6	LINC00240	26956758	26957222	2.62	0.00291	0.00703
chr8	SORBS3	22550972	22551638	2.62	5.97E-05	0.000534
chrX	FAM199X	104166713	104167065	2.62	0.000154	0.000949
chr1	C1orf159	1115883	1116099	2.61	0.00187	0.00511
chr1	NOTCH2NLA	146225603	146229004	2.61	0.000713	0.00258
chr3	GAP43	115658717	115659099	2.61	6.57E-05	0.000565
chr4	RAPGEF2	159102581	159102902	2.61	0.000125	0.000837
chrX	PJA1	69164975	69165394	2.61	1.28E-05	0.000218
chr16	ATXN2L	28823236	28824284	2.6	1.04E-07	1.65E-05
chr19	NOTCH3	15200310	15200805	2.6	2.74E-05	0.000342
chr21	LOC102724652	6497545	6498961	2.6	0.0134	0.0229
chr3	NRADDP	47009600	47009931	2.6	0.00139	0.00415
chr6	RRAGD	89411039	89412074	2.6	1.00E-05	0.000191
chr8	LOC105375630	88327696	88328750	2.6	9.22E-09	5.16E-06
chrX_KI270880v1_alt	LINC00685	29	1270	2.6	0.0322	0.0471
chr1	LINC01635	22025530	22026025	2.59	1.02E-05	0.000193
chr7	MAFK	1537464	1538009	2.59	1.45E-05	0.000235
chr1	PIK3CD	9689922	9690461	2.58	2.62E-05	0.000333
chr11	DIXDC1	111937212	111937615	2.58	0.000801	0.0028

chr2	TNS1	217858273	217858676	2.58	0.000728	0.00261
chr20	GNAS	58891759	58892362	2.58	9.06E-06	0.000178
chr6	FOXO3	108557358	108557817	2.58	4.00E-04	0.00175
chr6	SRF	43170348	43170697	2.58	0.000608	0.00232
chr7	GALNT11	152025193	152025560	2.58	0.000133	0.000869
chr7	POLD2	44123702	44124203	2.58	8.08E-05	0.000641
chr9	ZNF618	113876505	113876711	2.58	8.08E-05	0.000641
chr10	BLOC1S2	100286276	100286658	2.57	0.000193	0.0011
chr14	ARID4A	58298569	58299149	2.57	6.20E-06	0.000142
chr19	DNAJB1	14518032	14518378	2.57	0.000133	0.000867
chr19	CEBPG	33373039	33373509	2.57	1.28E-05	0.000218
chr9	PRRX2	129698798	129699166	2.57	0.00018	0.00105
chr1	MAP10	232805488	232805815	2.56	0.0014	0.00417
chr10	PRTFDC1	24952936	24953183	2.56	0.00106	0.00343
chr11	HARBI1	46616955	46617201	2.56	4.31E-05	0.000437
chr13	FGF14	102399961	102400825	2.56	8.28E-05	0.000651
chr16	CLCN7	1475163	1475704	2.56	1.18E-05	0.000209
chr19	GATAD2A	19405994	19406295	2.56	0.000178	0.00104
chr2	LOC100419920	95526580	95527438	2.56	6.11E-06	0.000141
chr4	KIAA0232	6782977	6783575	2.56	1.73E-06	7.67E-05
chr6	AMD1	110875018	110876405	2.56	1.57E-08	7.12E-06
chr6	LOC105374907	7727167	7727680	2.56	0.000138	0.000891
chrX	NKRF	119606072	119606383	2.56	0.00152	0.0044
chr19	PTOV1	49850756	49851054	2.55	0.000172	0.00102
chr20	ELMO2	46405961	46406624	2.55	8.28E-07	4.93E-05
chr5	MACROH2A1	135399342	135399841	2.55	0.000133	0.00087
chr5	SLC9A3-AS1	473576	474979	2.55	1.27E-07	1.80E-05
chr6	CEP85L	118651805	118652063	2.55	0.00109	0.0035
chr8	CSGALNACT1	19757396	19758054	2.55	0.000226	0.00122
chr15	FANCI	89243393	89243867	2.54	0.000262	0.00133
chr16	MMP25-AS1	3058491	3059339	2.54	2.50E-06	9.05E-05

chr16	ZCCHC14	87491746	87492198	2.54	0.000842	0.0029
chr18	ZNF516-DT	76495495	76495991	2.54	0.000139	0.000897
chr22	H1-0	37804609	37804941	2.54	0.000249	0.00129
chr4	LOC101927259	128553213	128553442	2.54	0.00148	0.00434
chr1	FAM89A	231039224	231039841	2.53	5.71E-05	0.00052
chr10	FBH1	5889508	5889883	2.53	3.95E-05	0.000416
chr11	NUCB2	17276193	17276519	2.53	0.00333	0.00777
chr16	GSPT1	11915737	11915932	2.53	0.000672	0.00248
chr2	ERICH2	170771075	170771569	2.53	4.25E-05	0.000433
chr5	ADRB2	148825952	148826357	2.53	0.000113	0.000786
chr6	MOCS1	39933897	39934495	2.53	6.39E-05	0.000558
chr9	INPP5E	136439621	136439811	2.53	0.00126	0.00387
chr1	PTGFRN	116910505	116910908	2.52	0.000117	0.000799
chr1	HIVEP3	42035172	42035537	2.52	0.00138	0.00413
chr1	KLHL21	6602245	6602546	2.52	0.000997	0.00328
chr11	ATL3	63671052	63671658	2.52	1.24E-05	0.000214
chr11	FADD	70203321	70203587	2.52	0.00251	0.00633
chr11	TUB	8019335	8019594	2.52	0.0049	0.0103
chr15	ANP32A	68818260	68818644	2.52	1.24E-05	0.000214
chr2	SH3RF3	109128536	109129064	2.52	8.70E-05	0.00067
chr2	CREB1	207530138	207530349	2.52	0.000271	0.00137
chrX	ZFX	24149440	24149672	2.52	0.00327	0.00766
chrX	FGD1	54494881	54495372	2.52	2.05E-05	0.000285
chr1	EMBP1	121519087	121519580	2.51	0.00133	0.00403
chr12	STRAP	15881842	15882237	2.51	1.67E-05	0.000255
chr15	ANXA2	60398208	60398715	2.51	1.87E-05	0.000272
chr16	NAA60	3457319	3457894	2.51	6.68E-05	0.000572
chr17	FGF11	7438005	7438547	2.51	0.000696	0.00254
chr1	NTNG1	107141467	107141836	2.5	0.000176	0.00104
chr1	ZNF644	91021803	91022047	2.5	0.000127	0.000842
chr11	FAM86C2P	67804639	67805267	2.5	7.30E-06	0.000157

chr12	ARID2	45729179	45729583	2.5	0.000197	0.00111
chr15	TCF12	56919163	56919434	2.5	0.000864	0.00296
chr2	TMEM131	97995737	97996151	2.5	0.000286	0.0014
chr3	CHST2	143119945	143120675	2.5	2.24E-05	0.000302
chr3	LOC101928234	38165265	38165700	2.5	0.000737	0.00264
chr5	ISL1-DT	51382679	51383212	2.5	0.000122	0.000821
chr6	PACRG	162727243	162727749	2.5	0.000104	0.000742
chr8	YWHAZ	100951428	100951976	2.5	1.05E-05	0.000195
chr8	DGAT1	144327065	144327243	2.5	0.00357	0.00817
chr9	IER5L	129177827	129178170	2.5	0.000218	0.00119
chr9	TLE4	79572746	79573047	2.5	0.000786	0.00277
chrX	RNF128	106726738	106727192	2.5	0.000272	0.00137
chr11	PRDX5	64318148	64318664	2.49	0.000205	0.00114
chr19	RAVER1	10333786	10334095	2.49	0.00259	0.00647
chr19	ILF3	10654370	10654683	2.49	0.000311	0.00149
chr19	ZNF14	19732350	19733076	2.49	1.22E-09	4.24E-06
chr19	VASP	45507078	45507716	2.49	2.33E-06	8.65E-05
chr21	PFKL	44299429	44299954	2.49	8.47E-05	0.000661
chr8	PDGFRL	17577192	17578059	2.49	1.98E-06	7.94E-05
chr8	PDE7A	65841750	65841928	2.49	0.00524	0.0109
chrX	CLCN5	49922715	49923484	2.49	2.33E-05	0.00031
chr1	FAM72D	145091370	145095313	2.48	0.0115	0.0203
chr1	RCOR3	211259454	211259769	2.48	0.000577	0.00223
chr1	AK4	65147858	65148261	2.48	0.0011	0.00353
chr12	FAR2	29149279	29149792	2.48	0.000151	0.000942
chr13	DLEU2	50124703	50125369	2.48	2.31E-05	0.000308
chr17	LASP1	38870097	38870628	2.48	4.24E-05	0.000433
chr21	BACE2	41168504	41168901	2.48	9.41E-05	0.000704
chr7	POM121	72925169	72925572	2.48	0.000245	0.00128
chrX	RPL10	154396990	154398082	2.48	1.65E-06	7.48E-05
chr1	CLIC4	24745382	24745702	2.47	0.000169	0.00101

chr16	JMJD8	683363	683953	2.47	3.47E-05	0.000387
chr4	SH3BP2	2818528	2818906	2.47	0.000483	0.00199
chr5	AFAP1L1	149272096	149272410	2.47	0.00265	0.00658
chr8	YWHAZ	100952279	100952638	2.47	0.00126	0.00387
chr8	INTS10	19816789	19817118	2.47	0.00162	0.00461
chr1	TMEM54	32901645	32901908	2.46	0.00367	0.00833
chr10	PWWP2B	132395627	132396037	2.46	0.000957	0.0032
chr12	ATP2A2	110280375	110281006	2.46	1.49E-05	0.00024
chr14	DPF3	72893886	72894095	2.46	0.00121	0.00376
chr15	RORA	60591997	60592187	2.46	0.00103	0.00337
chr17	PAFAH1B1	2593101	2593446	2.46	0.000345	0.00159
chr17	CDC42EP4	73308194	73308497	2.46	0.00114	0.00362
chr2	PASK	241149616	241150293	2.46	0.000121	0.000819
chr21	ADARB1	45075155	45075465	2.46	0.000525	0.00209
chr3	CRTAP	33113580	33114012	2.46	3.55E-05	0.000392
chr7	CUX1	101814972	101815612	2.46	5.08E-06	0.000128
chr7	FAM185A	102748953	102749781	2.46	0.000449	0.00189
chr8	EXTL3	28701836	28702505	2.46	1.01E-07	1.64E-05
chr1	LINC01135	58784398	58785203	2.45	4.67E-07	3.66E-05
chr10	DENND10	119104146	119104335	2.45	0.00188	0.00513
chr18	TTC39C-AS1	24014997	24015502	2.45	7.70E-05	0.000624
chr19	ZNF77	2944418	2944933	2.45	4.12E-06	0.000114
chr19	ZNF780B	40055495	40056455	2.45	1.75E-06	7.67E-05
chr19	IRF2BP1	45885049	45885841	2.45	4.94E-05	0.000475
chr19	CDC34	530852	531553	2.45	3.19E-05	0.000373
chr2	CDPF1P1	55223509	55223791	2.45	0.00329	0.0077
chr22	PPM1F	21952635	21952829	2.45	0.000885	0.00302
chr22	CCDC134	41800094	41800535	2.45	0.000266	0.00135
chr4	NR3C2	148442724	148443182	2.45	2.44E-05	0.000318
chr5	APC	112737532	112737740	2.45	0.00382	0.00858
chr5	RASGRF2	80960646	80961202	2.45	0.0019	0.00515

chr7	SUN1	812822	813198	2.45	0.0049	0.0104
chr8	PLEC	143940728	143941667	2.45	4.86E-05	0.00047
chr9	DUX4L50	63817847	63818283	2.45	0.00913	0.0168
chr1	CKS1B	154975014	154975221	2.44	0.000645	0.00242
chr1	MTMR9LP	32240363	32241871	2.44	3.62E-09	4.24E-06
chr18	CCBE1	59696237	59696632	2.44	0.000192	0.00109
chr3	CHST2	143119089	143119432	2.44	0.000345	0.00159
chr3	LOC107986031	196317219	196318221	2.44	1.99E-05	0.00028
chr6	RREB1	7107770	7107935	2.44	0.00519	0.0108
chr1	EGLN1	231421674	231422131	2.43	0.000542	0.00214
chr11	WEE1	9572895	9573417	2.43	0.000127	0.000842
chr13	MPHOSPH8	19633186	19633513	2.43	0.000614	0.00234
chr15	CRTC3	90529310	90529811	2.43	0.000683	0.0025
chr17	MYBBP1A	4555520	4555866	2.43	0.00021	0.00116
chr2	LBH	30231545	30231744	2.43	0.00427	0.00933
chr1	SLC22A15	115975992	115976402	2.42	0.000315	0.0015
chr11	LTBP3	65558505	65559098	2.42	0.000642	0.00241
chr12	CPNE8	38906482	38906726	2.42	0.00604	0.0122
chr13	ATP7B	52011058	52012167	2.42	4.75E-07	3.68E-05
chr15	DUT	48331133	48331559	2.42	6.17E-06	0.000142
chr16	ITPRIPL2	19114305	19114942	2.42	1.88E-05	0.000273
chr16	FBXL19	30923855	30924230	2.42	3.07E-05	0.000366
chr16	TFAP4	4271685	4271868	2.42	0.00678	0.0133
chr17	EIF1	41688937	41689293	2.42	0.000274	0.00137
chr18	CNDP2	74495662	74496041	2.42	0.000635	0.00239
chr2	SPRED2	65431475	65432178	2.42	2.19E-07	2.45E-05
chr3	KLHL24	183635674	183636528	2.42	7.01E-07	4.59E-05
chr3	IGF2BP2	185825596	185826577	2.42	3.54E-06	0.000108
chr5	LARP1	154755363	154755880	2.42	4.17E-06	0.000115
chr7	RSBN1L	77696495	77697047	2.42	3.26E-06	0.000105
chr8	ERI1	8891822	8893076	2.42	2.61E-07	2.73E-05

chr11	KDM2A	67119302	67119544	2.41	0.000121	0.000818
chr11	FAM86C1P	71787569	71788225	2.41	0.000263	0.00134
chr11	CHID1	911132	911724	2.41	0.000649	0.00243
chr12	CPNE8	38905228	38905591	2.41	0.00158	0.00454
chr13	GAS6	113862829	113863273	2.41	0.000488	0.002
chr14	ACOT1	73537157	73537704	2.41	0.000547	0.00215
chr14	CALM1	90397105	90397579	2.41	2.17E-05	0.000296
chr2	ITGA6	172428235	172428517	2.41	0.0019	0.00515
chr20	ZNF341	33732502	33732754	2.41	0.00203	0.00541
chr20	CSE1L	49046365	49046696	2.41	0.000126	0.000838
chr3	SCHIP1	159762899	159763564	2.41	0.000122	0.000824
chr6	HIVEP2	142945252	142946258	2.41	3.89E-07	3.39E-05
chr8	TRY-GTA5-2	66113581	66113933	2.41	4.84E-05	0.000468
chr9	ANKRD18B	33524368	33524814	2.41	0.000341	0.00158
chr9	IARS1	92293920	92294111	2.41	0.00115	0.00364
chrX	TIMM17B	48897315	48897707	2.41	0.00503	0.0105
chr1	AHCTF1	246931632	246931863	2.4	0.000565	0.0022
chr11	FADS1	61817118	61817460	2.4	0.000529	0.0021
chr12	KITLG	88580601	88580848	2.4	0.00252	0.00635
chr16	MIR193BHG	14302573	14303226	2.4	7.39E-05	0.000608
chr16	CHD9	53129954	53130325	2.4	0.000901	0.00306
chr17	LGALS3BP	78978071	78978533	2.4	0.000478	0.00197
chr19	ZNF83	52638581	52638954	2.4	0.000846	0.00291
chr2	IMP4	130342936	130343718	2.4	3.31E-07	3.11E-05
chr2	MSH6	47783187	47783742	2.4	0.000471	0.00195
chr4	SETD7	139556020	139557353	2.4	2.49E-08	7.98E-06
chr4	ZNF827	145937193	145937457	2.4	0.000326	0.00153
chr4	SEL1L3	25861720	25862637	2.4	7.87E-06	0.000165
chr6	HMGA1	34236910	34237185	2.4	0.00589	0.0119
chr6	SMIM29	34249291	34249574	2.4	0.00184	0.00505
chr7	LOC107986767	10940589	10940926	2.4	0.00052	0.00208

chr1	NIBAN1	184974225	184974702	2.39	8.25E-05	0.00065
chr11	STX3	59755550	59756240	2.39	8.10E-05	0.000643
chr13	ING1	110714081	110715228	2.39	3.13E-07	3.00E-05
chr16	MIR3178	2532381	2532895	2.39	5.02E-05	0.00048
chr17	SREBF1	17836393	17837466	2.39	2.90E-08	8.21E-06
chr17	HELZ	67245412	67245953	2.39	0.000101	0.000727
chr18	ZNF521	25351956	25352169	2.39	0.0018	0.00497
chr19	PCSK4	1490003	1490345	2.39	0.00114	0.00361
chr2	PXDN	1743207	1743546	2.39	0.00463	0.00992
chr20	PYGB	25247067	25247946	2.39	6.82E-06	0.00015
chr22	PLXNB2	50306124	50307357	2.39	7.86E-09	5.14E-06
chr5	LARP1	154756055	154756942	2.39	1.32E-05	0.000222
chr6	DNPH1	43229249	43229420	2.39	0.0136	0.0232
chr8	PHYHIP	22231762	22232085	2.39	0.0015	0.00438
chr9	PTCH1	95506257	95506590	2.39	0.000865	0.00296
chr1	KIF26B	245155595	245156534	2.38	2.11E-06	8.21E-05
chr1	SCMH1	41241247	41241588	2.38	0.0012	0.00374
chr13	INTS6	51452429	51453010	2.38	1.36E-05	0.000226
chr18	KCTD1	26549410	26550099	2.38	6.92E-05	0.000585
chr19	ATP13A1	19663768	19664039	2.38	0.00201	0.00537
chr20	ZNF341	33731734	33731961	2.38	0.00517	0.0108
chr3	PPM1L	160755652	160756262	2.38	0.000131	0.000858
chr3	IGF2BP2	185823893	185825038	2.38	5.29E-08	1.13E-05
chr9	AJM1	136842489	136843516	2.38	0.000156	0.000961
chr12	HIP1R	122834714	122835063	2.37	0.000471	0.00195
chr14	TEX22	105398325	105399691	2.37	9.32E-07	5.29E-05
chr14	MAPK1IP1L	55051688	55052024	2.37	0.000994	0.00328
chr14	GALC	87992469	87992842	2.37	0.00225	0.00584
chr16	PKMYT1	2980643	2980989	2.37	0.000136	0.000883
chr17	TP53I13	29567199	29567379	2.37	0.00458	0.00983
chr4	GAB1	143335623	143336617	2.37	6.23E-06	0.000142

chr5	AFF4	132963720	132964156	2.37	0.00018	0.00105
chr9	CDKN2A	21995058	21996082	2.37	1.97E-05	0.000279
chr10	ZNF33A	38011126	38011484	2.36	0.000722	0.0026
chr12	NR4A1	52037377	52037905	2.36	1.64E-05	0.000253
chr14	RPS6KL1	74922621	74923237	2.36	0.000645	0.00242
chr16	PDPR2P	74368383	74369363	2.36	0.000426	0.00182
chr16	TMEM231	75555355	75556199	2.36	1.00E-05	0.000191
chr17	LINC02875	61412609	61413152	2.36	0.000342	0.00158
chr2	UBXN2A	23940010	23940348	2.36	0.000328	0.00154
chr22	CYB5R3	42649515	42650008	2.36	0.000295	0.00143
chr3	PIGZ	196968064	196968624	2.36	0.000522	0.00209
chr4	SETD7	139555329	139555832	2.36	0.000101	0.000728
chr5	MAP3K1	56816036	56817150	2.36	0.0327	0.0476
chr8	NRG1	32547552	32547904	2.36	0.000879	0.003
chrX	MAMLD1	150363561	150364828	2.36	2.22E-05	3.00E-04
chr12	CACNB3	48818093	48819233	2.35	4.16E-06	0.000115
chr15	LOC145783	56917889	56918883	2.35	0.000101	0.000726
chr16	SETD6	58515537	58516073	2.35	0.000883	0.00301
chr17	CDC42EP4	73310854	73311975	2.35	6.85E-07	4.57E-05
chr2	ARL6IP6	152717688	152718488	2.35	5.02E-05	0.00048
chr6	TRQ-CTG1-2	27519079	27519418	2.35	0.00154	0.00446
chr9	ABL1	130834474	130835163	2.35	1.69E-06	7.58E-05
chr1	CAP1	40039757	40040452	2.34	6.99E-05	0.000587
chr10	DIP2C	688726	689281	2.34	1.84E-05	0.00027
chr11	TRV-TAC1-1	59550052	59550385	2.34	0.0067	0.0132
chr11	AIP	67464818	67465289	2.34	0.0011	0.00352
chr14	NIN	50830157	50830519	2.34	0.000888	0.00303
chr17	TAOK1	29390357	29390587	2.34	0.000311	0.00149
chr18	DYM	49459900	49460681	2.34	2.00E-07	2.36E-05
chr19	ZNF302	34677739	34678394	2.34	6.26E-05	0.000551
chr2	ROCK2	11345099	11345463	2.34	0.00103	0.00335

chr22	SFI1	31495982	31496392	2.34	0.000359	0.00163
chr4	NELFA	2007983	2009861	2.34	2.78E-08	8.21E-06
chr7	SNX8	2304972	2305296	2.34	0.0021	0.00556
chr8	ZNF703	37697752	37698409	2.34	0.00104	0.00337
chr1	CEP104	3856990	3858282	2.33	7.08E-08	1.35E-05
chr11	B4GAT1	66346770	66347608	2.33	1.23E-05	0.000213
chr19	ZNF134	57614264	57614962	2.33	2.67E-06	9.44E-05
chr2	HJURP	233853831	233854518	2.33	4.77E-05	0.000465
chr2	CNNM4	96761095	96761607	2.33	0.000124	0.000829
chr8	PTK2	141000101	141001019	2.33	2.05E-07	2.41E-05
chrX	USP27X-DT	49878320	49878971	2.33	0.000188	0.00107
chr1	PSRC1	109283328	109284035	2.32	0.000167	0.000997
chr1	EPHA2	16154849	16156082	2.32	1.29E-06	6.45E-05
chr1	LEPR	65525527	65526112	2.32	0.000649	0.00243
chr10	ARHGAP22	48655549	48656106	2.32	0.000424	0.00182
chr11	C11orf80	66744787	66745142	2.32	0.000397	0.00174
chr12	ZNF140	133080903	133081280	2.32	0.000176	0.00104
chr12	PTHLH	27969758	27970286	2.32	0.00282	0.00688
chr16	C16orf46	81076807	81077845	2.32	5.03E-06	0.000127
chr17	DGKE	56834315	56834787	2.32	0.00141	0.00419
chr17	PHF23	7238703	7239539	2.32	1.46E-07	1.93E-05
chr19	ODF3L2	489258	489976	2.32	0.000105	0.000744
chr2	AGBL5-AS1	27049755	27050703	2.32	1.31E-05	0.000221
chr20	LOC101926935	25854159	25854450	2.32	0.00341	0.0079
chr22	JOSD1	38701296	38701770	2.32	0.000921	0.00311
chr3	TEX264	51671252	51672663	2.32	2.79E-07	2.83E-05
chr4	SPRY1	123397899	123398236	2.32	0.000365	0.00165
chr4	MAPK10	86594323	86594646	2.32	0.000853	0.00293
chr5	SEPTIN8	132777450	132778126	2.32	2.17E-05	0.000296
chr5	MIR4638	181222550	181222845	2.32	0.00114	0.00361
chr6	PHIP	79077925	79078244	2.32	0.000683	0.0025

chr7	SNHG26	22854349	22854992	2.32	8.25E-05	0.00065
chr8	KLF10	102654548	102655712	2.32	1.56E-08	7.12E-06
chr9	HDHD3	113376462	113376935	2.32	0.000115	0.00079
chr9	CEMIP2	71769088	71769663	2.32	0.000232	0.00124
chr1	DENND2C	114670245	114670535	2.31	0.00186	0.00508
chr1	CDK11B	1658064	1658962	2.31	0.0191	0.0306
chr11	PTP4A2P2	134124870	134125302	2.31	0.00148	0.00433
chr12	LOC105369666	13101404	13101880	2.31	0.00303	0.00724
chr15	LOXL1	73925826	73927669	2.31	1.79E-06	7.70E-05
chr18	ZNF521	25350006	25350971	2.31	2.99E-06	0.000101
chr18	SETBP1-DT	44679197	44679542	2.31	0.00138	0.00412
chr2	FAHD2B	97094977	97095459	2.31	0.00349	0.00805
chr4	RUFY3	70703757	70704125	2.31	0.00224	0.00582
chr9	CNTRL	121074999	121075688	2.31	2.58E-06	9.24E-05
chr10	LIPJ	88582817	88583541	2.3	3.25E-05	0.000376
chr11	PRR5L	36376411	36377880	2.3	3.71E-05	0.000401
chr11	FADS2	61815432	61816730	2.3	1.79E-07	2.20E-05
chr14	AK7	96391262	96391527	2.3	0.00248	0.00627
chr16	PKD1P6	15152194	15154287	2.3	0.00749	0.0144
chr17	LOC105371836	56960824	56960998	2.3	0.00277	0.00679
chr17	KDM6B	7841912	7844847	2.3	0.00718	0.0139
chr19	RFX1	14006832	14007452	2.3	1.02E-05	0.000193
chr2	ZNF514	95158566	95159540	2.3	1.81E-06	7.73E-05
chr3	LINC02618	141659782	141660220	2.3	0.00113	0.00358
chr5	ARHGAP26	142770802	142771647	2.3	2.16E-06	8.37E-05
chr7	CDCA7L	21945492	21946107	2.3	0.00107	0.00345
chr7	GLCC1	7968816	7969191	2.3	0.00286	0.00693
chr9	ARPC5L	124862138	124862832	2.3	3.63E-05	0.000397
chr1	OSCP1	36450010	36450428	2.29	3.31E-05	0.000378
chr10	BMS1P2	47553083	47554054	2.29	0.000113	0.000786
chr11	TM7SF2	65111868	65113418	2.29	1.77E-08	7.48E-06

chr11	CTSC	88337234	88337730	2.29	1.31E-05	0.000221
chr12	NFYB	104138424	104138898	2.29	0.00211	0.00558
chr14	CBLN3	24429192	24429839	2.29	0.000215	0.00118
chr16	CHMP1A	89657182	89657676	2.29	0.000481	0.00198
chr17	SLC25A35	8295544	8295887	2.29	0.00315	0.00745
chr19	DIRAS1	2720111	2720981	2.29	1.42E-05	0.000232
chr19	TRAPPC6A	45178795	45179448	2.29	2.56E-05	0.000327
chr22	CDPF1	46249752	46250271	2.29	4.27E-05	0.000434
chr4	FRYL	48779926	48780220	2.29	0.000621	0.00235
chr5	CDKN2AIPNL	134412026	134412400	2.29	0.000322	0.00152
chr6	UST	148747277	148748901	2.29	9.05E-11	8.28E-07
chr6	NUP153	17705949	17706892	2.29	8.89E-08	1.49E-05
chrX	LOC105373311	109732513	109733218	2.29	7.47E-06	0.000159
chrX	LINC00632	140764462	140764916	2.29	0.000191	0.00109
chrX	ZMYM3	71253933	71254138	2.29	0.00188	0.00512
chr1	SLC25A24	108200437	108200916	2.28	0.00309	0.00735
chr1	CCDC24	43990933	43992445	2.28	1.82E-05	0.000268
chr10	FAM107B	14604632	14604812	2.28	0.00452	0.00973
chr17	TMEM220	10729526	10730083	2.28	0.000478	0.00197
chr18	MBP	77131924	77132674	2.28	3.29E-06	0.000105
chr19	LIN7B	49114603	49115329	2.28	5.74E-06	0.000137
chr2	METTL21A	207625584	207626000	2.28	0.00061	0.00233
chr2	SNED1	240999382	240999812	2.28	0.00139	0.00414
chr2	C2orf81	74421212	74421579	2.28	0.00416	0.00915
chr22	ZNF74	20394171	20394726	2.28	0.000171	0.00101
chr22	H1-0	37802471	37803038	2.28	0.000106	0.000749
chr4	LCORL	18021256	18021682	2.28	0.000582	0.00225
chr6	CCDC170	151493831	151494490	2.28	0.00349	0.00805
chr9	BNC2	16871765	16871960	2.28	0.00266	0.00659
chr1	RNVU1-21	148334609	148335233	2.27	0.000197	0.00111
chr1	OSCP1	36450599	36451057	2.27	0.00199	0.00534

chr17	SPHK1	76382602	76383230	2.27	7.66E-05	0.000622
chr19	DYRK1B	39833791	39834125	2.27	0.00475	0.0101
chr19	EML2-AS1	45641611	45642150	2.27	0.000292	0.00143
chr2	FKBP1B	24049898	24050644	2.27	1.09E-05	0.000201
chr2	ANKMY1	240557174	240557650	2.27	0.000609	0.00232
chr2	FANCL	58240947	58241312	2.27	0.00216	0.00566
chr22	PITPNB	27918357	27918892	2.27	2.10E-05	0.000291
chr3	ABHD6	58237580	58238875	2.27	4.03E-06	0.000114
chr3	EIF4E3	71724481	71724985	2.27	0.000291	0.00142
chr6	MDGA1	37698432	37699047	2.27	0.000666	0.00247
chr7	HBP1	107169032	107169708	2.27	3.20E-05	0.000374
chr7	GATAD1	92447482	92447849	2.27	0.000218	0.00119
chr8	SOX17	54458324	54459130	2.27	1.43E-05	0.000233
chrX	PNPLA4	7926922	7927353	2.27	0.00116	0.00366
chr1	COP1	176206880	176207142	2.26	0.00119	0.00372
chr1	RRAGC	38858704	38859675	2.26	2.70E-06	9.50E-05
chr10	LOC101929846	63629756	63630212	2.26	0.000421	0.00181
chr12	TUBA1C	49264368	49264760	2.26	0.00171	0.00478
chr13	CRYL1	20525083	20525620	2.26	0.000681	0.0025
chr16	MAPK8IP3	1706271	1706629	2.26	0.000524	0.00209
chr16	ADCY9	4115119	4115508	2.26	0.00277	0.00679
chr17	LRR37A3	64919615	64920026	2.26	0.0271	0.0408
chr17	COG1	73192232	73192802	2.26	0.000975	0.00323
chr2	HPCAL1	10303178	10304000	2.26	3.16E-05	0.000372
chr2	EPHA4	221570911	221571184	2.26	0.00445	0.00962
chr2	NDUFA10	240025426	240025926	2.26	0.000388	0.00172
chr22	IL17RA	17085166	17086111	2.26	3.41E-05	0.000384
chr3	DVL3	184154926	184155220	2.26	0.00189	0.00514
chr7	KIAA1549	138980423	138981122	2.26	0.000237	0.00125
chr9	NINJ1	93132414	93134955	2.26	9.30E-09	5.16E-06
chr1	NOTCH2NLR	120723978	120726702	2.25	2.81E-05	0.000347

chr10	HHEX	92689076	92689425	2.25	0.00253	0.00637
chr12	SCARB1	124862418	124863889	2.25	2.23E-08	7.84E-06
chr12	PTHLH	27968993	27969614	2.25	2.84E-05	0.000348
chr15	HACD3	65530515	65531174	2.25	0.000149	0.000934
chr16	FANCA	89816801	89817386	2.25	0.00412	0.0091
chr19	DHPS	12680973	12681834	2.25	0.00102	0.00334
chr19	CALR	12937682	12938203	2.25	0.000315	0.0015
chr19	ZNF792	34963036	34964325	2.25	2.66E-06	9.44E-05
chr2	MARCHF4	216370997	216371666	2.25	0.000236	0.00125
chr3	WNT5A	55485376	55485677	2.25	0.00201	0.00538
chr4	SLC4A4	71186728	71187120	2.25	0.000555	0.00217
chr5	EGR1	138464305	138464943	2.25	6.45E-05	0.000561
chr6	VEGFA	43770196	43771852	2.25	2.63E-07	2.74E-05
chr9	KDM4C	6758096	6759222	2.25	3.67E-06	0.00011
chrX	HTATSF1	136497699	136498059	2.25	0.00262	0.00653
chr1	RCOR3	211260174	211261154	2.24	2.01E-06	7.96E-05
chr1	GPR3	27392791	27393174	2.24	0.000132	0.000861
chr11	PARVA	12377103	12377446	2.24	0.00203	0.00541
chr16	CCDC102A	57536660	57537129	2.24	0.00273	0.00672
chr17	FGF11	7440282	7440777	2.24	0.000401	0.00175
chr17	CSNK1D	82273203	82274447	2.24	6.51E-06	0.000147
chr18	CTIF	48539159	48540241	2.24	7.40E-08	1.35E-05
chr19	FAM98C	38403198	38403873	2.24	0.000314	0.0015
chr2	KHK	27085367	27086543	2.24	6.55E-05	0.000565
chr4	METAP1	98995765	98996070	2.24	0.00326	0.00765
chr5	TRIO	14144063	14144695	2.24	1.35E-05	0.000226
chr9	TJP2	69174227	69174840	2.24	0.000162	0.000981
chrX	ARMCX5-GPRASP2	102659525	102659857	2.24	0.00152	0.0044
chr10	SFXN2	102714654	102715105	2.23	0.00246	0.00624
chr10	CHST3	71963437	71964413	2.23	1.51E-05	0.00024
chr11	LOC101928053	10809162	10809674	2.23	0.00045	0.00189

chr12	PRICKLE1	42482462	42483954	2.23	2.04E-05	0.000285
chr12	MSRB3	65278501	65279323	2.23	2.80E-06	9.70E-05
chr14	KLC1	103629249	103630221	2.23	2.47E-06	8.98E-05
chr14	LOC105370461	39432717	39433165	2.23	0.000433	0.00184
chr17	HS3ST3A1	13601021	13601883	2.23	3.85E-05	0.00041
chr17	SGSM2	2336606	2337421	2.23	6.90E-05	0.000583
chr17	ANKRD40	50707024	50707669	2.23	4.16E-06	0.000115
chr17	TBX2-AS1	61398065	61399583	2.23	2.62E-06	9.34E-05
chr17	CYB561	63445624	63446041	2.23	3.00E-04	0.00145
chr18	SERPINB8	63970116	63970496	2.23	9.99E-05	0.000724
chr2	PFN4	24123811	24124199	2.23	0.000972	0.00323
chr22	LOC107985532	21652150	21653062	2.23	4.40E-06	0.000118
chr22	HDAC10	50247984	50248316	2.23	0.006	0.0121
chr3	STT3B	31532646	31533305	2.23	0.000859	0.00295
chr6	FRK	116100377	116100679	2.23	0.00216	0.00566
chr6	LRRRC73	43510494	43511014	2.23	0.000774	0.00273
chr7	LOC102723758	1124264	1124494	2.23	0.0137	0.0233
chr7	CDK13	39949811	39951074	2.23	4.61E-07	3.66E-05
chrX	TAB3	30888248	30889068	2.23	1.61E-05	0.000251
chr1	FAM72C	143972682	143976657	2.22	0.0302	0.0447
chr11	BRSK2	1389054	1389549	2.22	0.000704	0.00256
chr11	RPS6KB2	67427953	67428319	2.22	0.00176	0.00489
chr17	RAI1	17682042	17682872	2.22	8.75E-06	0.000175
chr17	TRR-CCT2-1	75034567	75035017	2.22	0.00103	0.00336
chr19	ANKRD24	4182718	4183042	2.22	0.000665	0.00246
chr2	GLS	190880295	190880582	2.22	0.00154	0.00446
chr20	SLC2A4RG	63740513	63741691	2.22	3.57E-05	0.000393
chr3	IQSEC1	12993505	12993856	2.22	0.00313	0.00742
chr3	DZIP1L	138115236	138116427	2.22	3.31E-06	0.000105
chr4	SMARCA5	143513145	143513319	2.22	0.00551	0.0113
chr4	ADD1	2842755	2843714	2.22	4.66E-06	0.000122

chr4	CRACD	56049516	56050112	2.22	0.000276	0.00138
chr5	ERAP1	96935294	96935863	2.22	0.000277	0.00138
chr9	PKN3	128702276	128702708	2.22	0.00431	0.00938
chr9	PPP1R26	135480357	135481084	2.22	5.38E-05	0.000501
chrX	SLC9A6	135985027	135985372	2.22	0.00251	0.00634
chr1	LRRC71	156920102	156920468	2.21	0.00351	0.00807
chr1	CHML	241639857	241640103	2.21	0.0109	0.0195
chr1	LDLRAP1	25543877	25545136	2.21	5.71E-07	4.12E-05
chr10	ARHGAP21	24722930	24723202	2.21	0.00323	0.00759
chr11	LOC105369422	87037328	87037674	2.21	0.00318	0.00752
chr12	LOC105369663	12724489	12725077	2.21	0.000129	0.000853
chr12	PAWR	79690114	79690994	2.21	3.18E-07	3.03E-05
chr12	SLC6A15	84912233	84912748	2.21	0.00465	0.00995
chr15	CRTC3-AS1	90716775	90717112	2.21	0.000476	0.00196
chr17	ADORA2B	15945263	15945709	2.21	0.00015	0.000934
chr17	PER1	8151361	8152388	2.21	3.01E-06	0.000101
chr19	MRI1	13764159	13764707	2.21	0.0015	0.00437
chr2	CUL3	224584859	224585389	2.21	0.00239	0.00611
chr3	NGLY1	25782788	25783302	2.21	3.32E-05	0.000379
chr3	SHISA5	48503522	48504087	2.21	0.00149	0.00435
chr5	GFPT2	180352637	180353352	2.21	0.000279	0.00139
chr7	PTPN12	77536336	77536830	2.21	0.000101	0.000728
chr9	RFX3	3526102	3527418	2.21	6.53E-06	0.000147
chrX	ATRX	77785847	77786163	2.21	0.00384	0.00863
chrX	RPS6KA6	84187497	84187880	2.21	0.000974	0.00323
chr1	KCNC4	110210864	110211653	2.2	5.00E-05	0.000479
chr1	SHC1	154973926	154974389	2.2	0.000112	0.000781
chr1	SLC6A9	44030461	44031540	2.2	1.51E-05	0.00024
chr13	ANKRD10	110914681	110914991	2.2	0.0017	0.00477
chr13	TSC22D1	44576878	44577311	2.2	0.000514	0.00207
chr14	EFCAB11	89954286	89954667	2.2	0.000214	0.00118

chr15	TIPIN	66386481	66386667	2.2	0.00385	0.00865
chr16	LPCAT2	55509677	55509899	2.2	0.00509	0.0106
chr17	FAM171A2	44362848	44363606	2.2	6.23E-05	0.00055
chr19	ZNF460-AS1	57280010	57280334	2.2	0.000476	0.00196
chr2	GPN1	27628262	27628867	2.2	3.74E-05	0.000402
chr4	ING2	183505222	183506608	2.2	6.83E-07	4.57E-05
chr4	ADH5	99088528	99088765	2.2	0.00222	0.00579
chr6	TRI-AAT5-2	27177435	27177812	2.2	0.00067	0.00247
chr10	BBIP1	110918715	110919132	2.19	0.000365	0.00165
chr11	C1QTNF5	119340320	119341076	2.19	3.83E-05	0.000409
chr14	GPHN	66508196	66509677	2.19	4.33E-08	1.04E-05
chr16	RRN3	15093076	15094216	2.19	0.0195	0.031
chr17	LOC105371770	39573725	39574290	2.19	0.00029	0.00142
chr17	TBKBP1	47694128	47695632	2.19	1.02E-06	5.56E-05
chr17	PFN1	4947589	4948361	2.19	3.66E-06	0.00011
chr17	LINC01970	82292175	82292786	2.19	0.000293	0.00143
chr19	PVR	44643919	44644891	2.19	1.91E-06	7.89E-05
chr2	SLC1A4	64988277	64988817	2.19	4.46E-05	0.000446
chr22	SNAP29	20859092	20859428	2.19	0.00086	0.00295
chr3	RPN1	128650451	128650799	2.19	0.00026	0.00133
chr4	NAAA	75939939	75940831	2.19	5.48E-05	0.000507
chr5	FBXL17	108381511	108382239	2.19	1.41E-05	0.000231
chr7	GET4	876677	877377	2.19	2.08E-05	0.000289
chr8	AP3M2	42152257	42152604	2.19	0.00808	0.0152
chrX	TCEAL3	103607411	103607773	2.19	0.0022	0.00574
chr1	CHD1L	147172753	147173185	2.18	0.000349	0.0016
chr1	NBPF9	149101954	149103975	2.18	0.00722	0.014
chr1	FMN2	240092049	240093910	2.18	2.12E-08	7.84E-06
chr1	MYCL	39900667	39901648	2.18	4.15E-05	0.000429
chr10	C10orf95	102450892	102451674	2.18	2.39E-05	0.000314
chr10	MEIG1	14959392	14960714	2.18	0.000159	0.000969

chr13	MRPS31P5	52194139	52194395	2.18	0.00232	0.00597
chr15	TLN2	62390969	62392331	2.18	1.04E-06	5.64E-05
chr16	BCKDK	31108180	31109231	2.18	4.55E-07	3.66E-05
chr16	PDF	69330781	69331289	2.18	5.00E-04	0.00203
chr16	WVOX	78099724	78100153	2.18	0.00224	0.00581
chr17	SRR	2304009	2304331	2.18	0.000593	0.00228
chr19	JUND	18280013	18280801	2.18	3.62E-06	0.000109
chr2	UXS1	106193163	106194187	2.18	1.12E-05	0.000202
chr2	EML6	54723109	54723317	2.18	0.00159	0.00455
chr2	REL-DT	60881004	60881388	2.18	0.000589	0.00227
chr20	SNTA1	33443952	33444313	2.18	0.00437	0.00948
chr21	CFAP410	44339470	44339961	2.18	0.000334	0.00156
chr3	TNK2	195894574	195895907	2.18	2.55E-07	2.71E-05
chr5	RICTOR	39074556	39075205	2.18	0.000165	0.000993
chr6	CNKS3	154509449	154510301	2.18	9.00E-06	0.000178
chr7	FAM220A	6348295	6348814	2.18	0.000429	0.00183
chr8	TRAM1	70607873	70608294	2.18	0.000454	0.0019
chr9	FAM120AOS	93450732	93451488	2.18	8.67E-06	0.000174
chrX	TRMT2B	101051102	101051547	2.18	0.00115	0.00363
chr1	NTNG1	107140272	107140614	2.17	0.00314	0.00744
chr1	IER5	181088794	181089402	2.17	0.000302	0.00146
chr1	NEXN	77888145	77889305	2.17	1.50E-07	1.97E-05
chr11	DDX6	118791290	118792172	2.17	7.89E-07	4.81E-05
chr11	PGAP2	3808057	3808950	2.17	2.29E-06	8.62E-05
chr11	INPPL1	72223611	72224426	2.17	2.21E-06	8.42E-05
chr15	CDAN1	42737265	42737587	2.17	5.15E-05	0.000488
chr15	MYEF2	48177727	48178089	2.17	0.000783	0.00276
chr17	MFS11	76736783	76737311	2.17	0.000225	0.00122
chr19	DOCK6	11261470	11262177	2.17	5.64E-06	0.000135
chr2	TLK1	171160333	171160691	2.17	0.0012	0.00375
chr3	RYK	134250957	134251256	2.17	0.0125	0.0217

chr3	IL17RD	57164209	57165277	2.17	5.05E-05	0.000482
chr4	FBXL5	15655566	15655904	2.17	0.00243	0.00618
chr4	PDGFC	156971989	156972402	2.17	0.000838	0.0029
chr4	UBE2K	39697327	39697962	2.17	4.77E-05	0.000465
chr4	KCTD8	44448028	44448804	2.17	0.00014	0.000901
chr7	LOC107986862	151091331	151091652	2.17	0.00693	0.0136
chr8	ADCK5	144374085	144374447	2.17	0.000669	0.00247
chr8	ZNF703	37696051	37696932	2.17	1.34E-06	6.59E-05
chr8	ZNF703	37697097	37697641	2.17	0.000386	0.00171
chr8	RAD54B	94474550	94475044	2.17	0.00181	0.00499
chr9	VAV2	133992972	133993740	2.17	0.000114	0.000788
chr9	GCNT1	76459222	76459835	2.17	2.49E-05	0.000321
chr1	GNB1	1889901	1890357	2.16	7.86E-05	0.000631
chr1	ZC3H12A-DT	37471808	37472098	2.16	0.0081	0.0153
chr11	MIR4687	3855699	3856461	2.16	3.80E-05	0.000406
chr11	PTDSS2	448247	448679	2.16	0.001	0.00329
chr13	ING1	110712597	110712875	2.16	0.00423	0.00927
chr15	SIN3A	75454801	75455785	2.16	3.28E-06	0.000105
chr16	MEAK7	84504912	84505466	2.16	0.000112	0.000778
chr17	ENO3	4949198	4949502	2.16	0.0065	0.0128
chr17	PRKCA	66302908	66303948	2.16	3.69E-06	0.00011
chr17	SPHK1	76383511	76384192	2.16	9.76E-05	0.000717
chr19	ZNF551	57682025	57682886	2.16	6.10E-05	0.000541
chr2	EPHA4	221572696	221573582	2.16	3.87E-05	0.000412
chr2	RHBDD1	226835428	226835836	2.16	0.00167	0.00472
chr2	RAB11FIP5	73113110	73113542	2.16	0.00149	0.00436
chr22	ZDHHC8	20130999	20131556	2.16	0.000146	0.000922
chr4	MYL5	674525	675871	2.16	2.21E-08	7.84E-06
chr5	MAN2A1	109689913	109691077	2.16	7.12E-07	4.60E-05
chr5	LOC105379028	72107378	72108621	2.16	1.99E-05	0.00028
chr5	FOXD1	73447697	73447957	2.16	0.00182	0.00501

chr6	MAN1A1	119348861	119349779	2.16	2.68E-05	0.000337
chr6	LOC105374907	7727887	7728405	2.16	0.00231	0.00593
chr7	LOC100996437	66653703	66654448	2.16	7.75E-05	0.000626
chrX	AMMECR1	110317221	110318032	2.16	9.06E-05	0.000686
chrX	RBBP7	16869389	16869671	2.16	0.000712	0.00257
chrX	NHS	17375275	17375814	2.16	0.000519	0.00208
chr1	RPL21P29	21906232	21906628	2.15	0.00122	0.00378
chr1	H3-3A	226061712	226062016	2.15	0.00283	0.00689
chr1	SERINC2	31413308	31414293	2.15	3.52E-06	0.000108
chr10	JCAD	30058465	30059151	2.15	9.60E-05	0.000711
chr10	DDIT4	72273122	72273630	2.15	6.78E-05	0.000579
chr11	ZNHIT2	65116446	65117669	2.15	9.03E-06	0.000178
chr12	SNRNP35	123458132	123458928	2.15	0.000503	0.00204
chr12	AMIGO2	47080084	47080613	2.15	0.000585	0.00226
chr12	RAP1B	68610076	68610694	2.15	0.000113	0.000785
chr13	CCDC122	43878813	43879496	2.15	0.000138	0.000895
chr13	ABCC4	95300572	95300984	2.15	0.000457	0.00191
chr16	GPT2	46884504	46885277	2.15	0.000198	0.00112
chr17	CACNB1	39196895	39197722	2.15	1.07E-05	0.000198
chr17	KCTD11	7350463	7351628	2.15	5.16E-07	3.90E-05
chr18	FHOD3	36296818	36297292	2.15	0.00416	0.00914
chr19	ZNF788P	12092276	12092803	2.15	0.000166	0.000996
chr2	RHOQ	46543022	46544082	2.15	4.86E-06	0.000125
chr22	CHKB	50581915	50582858	2.15	1.66E-06	7.48E-05
chr3	TM4SF19-AS1	196318381	196318693	2.15	0.0034	0.00788
chr3	NT5DC2	52534082	52534320	2.15	0.00328	0.00769
chr5	CDHR2	176542510	176542879	2.15	0.00161	0.0046
chr7	C7orf50	1137708	1138042	2.15	0.00207	0.00548
chr7	ITGB8	20330768	20331683	2.15	3.57E-07	3.30E-05
chr8	DPY19L4	94719368	94719732	2.15	0.000349	0.0016
chr9	CDKN2A	21993869	21994416	2.15	0.000183	0.00105

chr1	ERO1B	236281185	236281968	2.14	0.000181	0.00105
chr1	AK5	77282293	77283264	2.14	9.66E-05	0.000712
chr15	CHST14	40471316	40472213	2.14	0.000152	0.000943
chr16	PRR14	30650867	30651417	2.14	0.000248	0.00129
chr17	TEN1	75979572	75980339	2.14	3.28E-05	0.000377
chr17	RNF213	80261174	80261846	2.14	3.24E-05	0.000376
chr18	MPPE1	11907969	11908825	2.14	8.29E-06	0.000169
chr19	ZNF564	12550650	12551492	2.14	8.10E-05	0.000643
chr2	SAP130	128028299	128028586	2.14	0.00806	0.0152
chr22	MIR1281	41091798	41092123	2.14	0.0012	0.00374
chr3	CGGBP1	88058148	88058939	2.14	3.44E-05	0.000386
chr5	TNPO1	72848177	72848500	2.14	0.00115	0.00362
chr6	CUL7	43052962	43053891	2.14	2.09E-07	2.42E-05
chr6	BCKDHB	80106685	80107265	2.14	0.000467	0.00194
chr7	KDM7A	140175805	140176220	2.14	0.00135	0.00407
chr7	LOC105375284	55019545	55020489	2.14	1.38E-05	0.000228
chr7	DAGLB	6446870	6447922	2.14	2.90E-07	2.89E-05
chr8	LOC112268016	98941445	98942134	2.14	0.000504	0.00204
chr9	SLC25A25	128097847	128098348	2.14	0.000506	0.00205
chrX	MTMR1	150693930	150694415	2.14	0.00334	0.00778
chrX	RPS6KA3	20265681	20266631	2.14	4.92E-05	0.000474
chr1	CSMD2	34163410	34164000	2.13	0.000651	0.00243
chr1	SSBP3	54404950	54405768	2.13	0.000473	0.00196
chr1	SLC35D1	67053819	67054566	2.13	3.70E-05	0.000401
chr10	VCL	73998129	73998326	2.13	0.00404	0.00896
chr11	FKBP2	64241663	64242778	2.13	3.05E-07	2.95E-05
chr13	STK24-AS1	98577451	98578121	2.13	6.13E-05	0.000543
chr15	ANP32A	68820701	68820891	2.13	0.00578	0.0117
chr15	POLG	89333737	89334811	2.13	3.25E-06	0.000105
chr16	XYLT1	17471074	17471360	2.13	0.00286	0.00694
chr17	PITPNC1	67377522	67378812	2.13	7.93E-05	0.000635

chr19	ELL	18520733	18522084	2.13	1.83E-09	4.24E-06
chr19	ZNF57	2901301	2901852	2.13	0.00121	0.00375
chr2	SATB2	199458701	199459296	2.13	0.000515	0.00207
chr2	LRRFIP1	237626913	237627370	2.13	0.00111	0.00354
chr2	LINC01800	64865249	64865585	2.13	0.000959	0.0032
chr3	POLR2H	184362941	184363289	2.13	0.00175	0.00487
chr4	LCORL	18022305	18022901	2.13	0.000219	0.00119
chr5	LOC100996419	179858967	179859888	2.13	2.93E-06	9.93E-05
chr6	TFAP2A	10412554	10414360	2.13	4.54E-09	4.24E-06
chr6	AIG1	143060207	143060656	2.13	5.87E-05	0.000527
chr7	UBN2	139231250	139231597	2.13	0.0026	0.00649
chr7	CRPPA	16420750	16421664	2.13	2.41E-05	0.000316
chr9	MEGF9	120714744	120715262	2.13	0.000824	0.00286
chr9	TOR4A	137277316	137278556	2.13	8.06E-06	0.000167
chrX	TCEAL3	103608013	103608491	2.13	0.00296	0.00712
chrX	BCORL1	129983501	129983937	2.13	0.000789	0.00278
chr1	LINC01786	1274036	1275145	2.12	8.03E-06	0.000166
chr1	THEM4	151909729	151910103	2.12	0.00412	0.0091
chr1	PLEKHM2	15683759	15684286	2.12	0.000183	0.00105
chr1	LRRC8C	89632491	89632912	2.12	0.0127	0.0219
chr10	ZMIZ1	79067923	79068506	2.12	0.00366	0.00833
chr13	FBXL3	77027368	77027588	2.12	0.00967	0.0176
chr14	STYX	52730169	52731032	2.12	7.25E-06	0.000156
chr14	FOS	75278864	75280403	2.12	1.57E-06	7.20E-05
chr15	MEIS2	37100700	37102029	2.12	4.58E-06	0.000121
chr16	ZDHHC1	67415636	67416451	2.12	1.44E-05	0.000235
chr16	SPG7	89507133	89508233	2.12	4.34E-07	3.59E-05
chr17	CDK5R1	32483728	32484014	2.12	0.0054	0.0111
chr17	IGFBP4	40442854	40443454	2.12	0.000118	0.000805
chr17	VPS53	714957	715334	2.12	0.000675	0.00249
chr19	ZNF569	37466674	37467392	2.12	7.46E-05	0.000611

chr19	ZNF329	58154216	58155103	2.12	1.29E-05	0.000219
chr2	ERBB4	212537196	212537541	2.12	0.00627	0.0125
chr2	C2orf81	74415262	74415651	2.12	0.00417	0.00916
chr22	TPST2	26589099	26589852	2.12	5.83E-05	0.000526
chr22	SELENOO	50199801	50200544	2.12	4.95E-05	0.000476
chr3	FAM86HP	130110772	130111438	2.12	6.97E-05	0.000586
chr3	FAM86DP	75434407	75435079	2.12	5.05E-05	0.000481
chr4	LOC107986250	2467852	2468913	2.12	3.40E-06	0.000107
chr5	PPP2CA	134226410	134227096	2.12	5.68E-05	0.000518
chr6	CDKN1A	36678795	36680313	2.12	2.55E-06	9.15E-05
chr7	TMEM178B	141073422	141073926	2.12	0.00197	0.0053
chr7	ADAP1	953286	953657	2.12	0.000989	0.00327
chr9	GBGT1	133163109	133164354	2.12	0.000145	0.000918
chr9	DPH7	137579075	137579577	2.12	0.000829	0.00287
chr9	MLLT3	20620715	20621814	2.12	1.82E-06	7.75E-05
chr1	CASP9	15523808	15524325	2.11	8.97E-05	0.00068
chr11	RAD9A	67391979	67392898	2.11	5.98E-06	0.00014
chr12	TUBA1C	49265116	49265718	2.11	0.000103	0.000738
chr14	ANKRD9	102508557	102509356	2.11	8.84E-05	0.000675
chr15	CDIN1	36579205	36579521	2.11	0.00415	0.00914
chr16	TELO2	1493425	1494884	2.11	1.02E-05	0.000193
chr17	UBTF	44220180	44220849	2.11	3.75E-05	0.000402
chr17	TBC1D16	80035192	80035671	2.11	9.96E-05	0.000723
chr19	CEBPA-DT	33302877	33304042	2.11	0.000143	0.000912
chr19	PIP5K1C	3699005	3700109	2.11	1.28E-06	6.41E-05
chr2	PHOSPHO2-KLHL23	169694514	169695153	2.11	3.24E-05	0.000376
chr2	PELI1	64144076	64144421	2.11	0.00223	0.00579
chr22	ARSA	50628341	50628786	2.11	0.00449	0.00968
chr3	STAG1	136751333	136751973	2.11	0.00058	0.00224
chr3	PBRM1	52685311	52685568	2.11	0.000452	0.0019
chr4	CPEB2	15002528	15003169	2.11	8.41E-05	0.000658

chr4	HERC3	88592490	88593082	2.11	0.000134	0.000873
chr5	ZFR	32444107	32444704	2.11	9.61E-05	0.000711
chr6	BVES	105136215	105136965	2.11	0.000144	0.000915
chr8	TNFRSF10D	23163639	23163977	2.11	0.000411	0.00178
chr9	KLF4	107490123	107490655	2.11	0.000181	0.00105
chrX	WDR45	49079402	49080366	2.11	0.000162	0.000981
chr1	PACC1	212413936	212414859	2.1	6.53E-05	0.000564
chr10	HNRNPF	43407936	43408833	2.1	8.68E-05	0.00067
chr10	STAMBPL1	88880517	88881234	2.1	4.21E-05	0.000433
chr11	BDNF	27699241	27700325	2.1	8.33E-06	0.00017
chr11	PPFIBP2	7513991	7514664	2.1	8.10E-05	0.000643
chr16	NAE1	66830369	66830929	2.1	0.000255	0.00131
chr16	GSE1	85553690	85554125	2.1	0.00943	0.0172
chr17	LOC105371785	43369078	43369445	2.1	0.00594	0.012
chr17	HEXD	82418788	82419044	2.1	0.00431	0.00938
chr18	SEH1L	12946960	12947643	2.1	4.43E-05	0.000444
chr19	PGLS-DT	17511707	17512780	2.1	0.000147	0.000925
chr20	NAPB	23420138	23421461	2.1	2.86E-07	2.87E-05
chr22	LINC01521	31346794	31347515	2.1	0.000138	0.000893
chr4	SH3RF1	169271254	169272114	2.1	3.68E-06	0.00011
chr5	SHROOM1	132829430	132829755	2.1	0.00429	0.00936
chr6	PDE10A	165660269	165661988	2.1	5.34E-06	0.000131
chr6	RPL7L1	42877331	42877674	2.1	0.00849	0.0159
chr7	DNAJB6	157336351	157336872	2.1	0.000489	0.002
chr9	FBXO10	37576400	37576795	2.1	0.00126	0.00388
chr9	TRIM14	98118862	98119566	2.1	0.00121	0.00375
chr1	MAP3K6	27365700	27366295	2.09	0.000656	0.00244
chr1	LINC01135	58785403	58785817	2.09	0.00026	0.00133
chr10	NRP1	33335006	33336611	2.09	8.98E-07	5.21E-05
chr10	BMPRI1A	86755484	86756371	2.09	3.30E-06	0.000105
chr11	PITPNM1	67504566	67505189	2.09	0.000368	0.00166

chr12	TUBA1B	49130861	49131419	2.09	0.000459	0.00192
chr13	UBAC2	99199957	99200690	2.09	2.79E-05	0.000345
chr14	ZNF219	21103804	21104579	2.09	0.00021	0.00116
chr14	PPP1R3E	23302471	23302907	2.09	0.00369	0.00837
chr14	SOS2	50231760	50232011	2.09	0.00764	0.0146
chr16	B3GNT9	67150464	67151377	2.09	0.000237	0.00125
chr16	TMEM170A	75463157	75464643	2.09	2.30E-06	8.62E-05
chr16	MPG	78524	79371	2.09	5.74E-05	0.000521
chr17	ATXN7L3-AS1	44222310	44222733	2.09	0.000627	0.00237
chr18	ATP8B1	57801812	57803808	2.09	6.52E-07	4.45E-05
chr20	CEP250	35455159	35455795	2.09	0.000284	0.0014
chr22	EFCAB6	43812438	43813221	2.09	0.000258	0.00132
chr22	SBF1	50475164	50475815	2.09	0.00147	0.00433
chr3	ZNF502	44712740	44713073	2.09	0.00413	0.00911
chr4	LARP1B	128062075	128062527	2.09	0.000171	0.00101
chr7	GTF2IRD1P1	66843821	66844823	2.09	9.14E-05	0.00069
chr8	RGS20	53880031	53882512	2.09	3.03E-09	4.24E-06
chr9	CTNNA1	109012543	109013433	2.09	2.15E-05	0.000295
chr9	LPAR1	111038393	111038881	2.09	0.000193	0.00109
chrX	TIMP1	47582448	47582719	2.09	0.00323	0.00759
chr1	ATXN7L2	109483995	109484419	2.08	0.0032	0.00754
chr1	OSBPL9	51617136	51618160	2.08	4.42E-06	0.000118
chr1	F3	94540647	94541703	2.08	1.91E-06	7.89E-05
chr11	DIXDC1	111936012	111936590	2.08	0.0041	0.00906
chr11	PHLDB1	118620873	118621231	2.08	0.00385	0.00865
chr11	EXT2	44095705	44096869	2.08	9.30E-07	5.29E-05
chr11	MIR7155	64342034	64342538	2.08	0.00178	0.00492
chr11	C11orf80	66744044	66744630	2.08	2.04E-05	0.000285
chr11	AQP11	77589676	77590653	2.08	0.00121	0.00377
chr11	PNPLA2	818353	819395	2.08	3.58E-06	0.000109
chr13	FOXO1	40665217	40665759	2.08	0.000239	0.00126

chr15	CLN6	68229836	68230421	2.08	0.00753	0.0144
chr16	LOC105371050	2459418	2459972	2.08	0.000141	0.000906
chr16	TRAP1	3717671	3718097	2.08	0.00187	0.00511
chr17	VAT1	43021694	43022168	2.08	0.00016	0.000975
chr17	WBP2	75855656	75856633	2.08	0.000123	0.000827
chr17	LOC105371901	77141418	77141817	2.08	0.000983	0.00325
chr17	PYCR1	81935793	81936187	2.08	0.00276	0.00677
chr2	CCDC93	118012755	118014053	2.08	6.60E-08	1.29E-05
chr2	LOC100287387	238847360	238847793	2.08	2.83E-05	0.000348
chr22	HMGXB4	35257507	35258628	2.08	3.07E-05	0.000366
chr3	LOC101926886	115148057	115148602	2.08	0.000613	0.00233
chr3	HMCES	129278290	129278699	2.08	0.00189	0.00515
chr3	SHISA5	48504318	48504920	2.08	0.000368	0.00166
chr3	FAM107A	58584959	58585434	2.08	0.00273	0.00672
chr4	CCDC110	185471489	185472207	2.08	0.000328	0.00154
chr4	CPZ	8592814	8593822	2.08	0.000125	0.000837
chr5	EFNA5	107673229	107673589	2.08	0.00126	0.00388
chr5	CTNNA1	138753720	138754448	2.08	7.43E-05	0.00061
chr6	CCND3	41940537	41941665	2.08	3.65E-06	0.00011
chr7	PTPRZ1	121873193	121873763	2.08	0.000377	0.00168
chr7	PDGFA	517884	519342	2.08	2.69E-06	9.49E-05
chr7	ZNF789	99472854	99473281	2.08	0.000668	0.00247
chr8	DPYSL2	26514140	26514485	2.08	0.00169	0.00475
chr8	MRPS28	80029521	80030201	2.08	5.40E-05	0.000503
chr9	GADD45G	89605014	89605958	2.08	0.000625	0.00237
chrX	SLC16A2	74422043	74423080	2.08	0.000104	0.000742
chr1	MIIP	12019535	12020209	2.07	2.33E-05	0.00031
chr1	PLXNA2	208243560	208244277	2.07	5.67E-05	0.000518
chr10	MXI1	110210153	110210952	2.07	1.44E-06	6.88E-05
chr10	EDRF1-DT	125718774	125719443	2.07	7.22E-05	0.000598
chr10	RPP38	15096647	15096923	2.07	0.00671	0.0132

chr11	UBASH3B	122655756	122656180	2.07	0.0022	0.00575
chr11	RELA-DT	65663297	65663926	2.07	2.02E-05	0.000283
chr13	DGKH	42048061	42048629	2.07	2.68E-05	0.000337
chr14	LOC105370680	102516539	102516972	2.07	0.000978	0.00324
chr14	GPR68	91243868	91244178	2.07	0.0029	0.00701
chr15	PKM	72230447	72231101	2.07	0.000202	0.00113
chr16	PAGR1	29816150	29817357	2.07	9.60E-06	0.000185
chr16	LOC105371038	648051	649235	2.07	1.01E-06	5.53E-05
chr16	ST3GAL2	70437568	70438822	2.07	2.47E-06	8.98E-05
chr17	ATP5PD	75046448	75046961	2.07	9.15E-05	0.00069
chr19	CDKN2D	10568214	10568691	2.07	0.00105	0.0034
chr19	LOC105372253	5293353	5293839	2.07	0.00118	0.0037
chr19	ZIK1	57584167	57584670	2.07	0.000666	0.00247
chr2	EPHA4	221571477	221572235	2.07	6.17E-05	0.000545
chr4	DGKQ	971734	973265	2.07	2.39E-07	2.61E-05
chr6	SAMD3	130365563	130366062	2.07	0.00113	0.00359
chr7	ARF5	127587760	127588283	2.07	0.000266	0.00135
chr7	LOC100506302	155643692	155644383	2.07	0.000107	0.000754
chr7	POR	75914330	75914929	2.07	0.00103	0.00336
chr8	PLEC	143947866	143948519	2.07	0.000349	0.0016
chrX	USP9X	41084919	41086341	2.07	8.50E-07	5.00E-05
chr1	NBPF8	120414634	120416442	2.06	7.72E-05	0.000625
chr1	RNF187	228486328	228486927	2.06	0.00317	0.00749
chr1	ECHDC2	52927044	52928406	2.06	1.98E-06	7.94E-05
chr1	JUN	58781862	58783981	2.06	6.18E-07	4.30E-05
chr10	LOC441666	42367295	42367956	2.06	0.00071	0.00257
chr10	HNRNPF	43407377	43407738	2.06	0.00206	0.00547
chr10	UNC5B	71212937	71213616	2.06	3.74E-05	0.000402
chr10	LINC00863	87342700	87343733	2.06	0.0023	0.00592
chr10	IFIT5	89414805	89415754	2.06	1.38E-06	6.69E-05
chr10	PANK1-AS1	89645336	89645538	2.06	0.0162	0.0267

chr11	ARNTL	13278131	13279365	2.06	1.27E-05	0.000217
chr11	ARHGAP1	46699863	46700582	2.06	6.67E-06	0.000147
chr12	B4GALNT1	57631946	57632945	2.06	4.54E-05	0.00045
chr14	NIN	50831328	50831860	2.06	0.000991	0.00327
chr14	GPR68	91244388	91244675	2.06	0.00233	0.00599
chr15	PYGO1	55587413	55587962	2.06	0.00461	0.00988
chr16	TRM-CAT6-1	87384097	87384983	2.06	2.00E-04	0.00112
chr16	FBXO31	87391336	87392079	2.06	0.000106	0.000752
chr17	SLC16A13	7036158	7036901	2.06	0.000653	0.00243
chr18	CDH2	28178154	28178598	2.06	0.00276	0.00677
chr19	CCDC159	11346722	11347102	2.06	0.00178	0.00493
chr19	DBP	48636499	48637195	2.06	0.000118	0.000802
chr19	ARID3A	924595	925950	2.06	3.33E-07	3.11E-05
chr2	METAP1D	171999990	172000450	2.06	0.00299	0.00717
chr21	ADAMTS5	26967495	26967981	2.06	0.00161	0.00459
chr21	AGPAT3	43864186	43864539	2.06	0.00274	0.00674
chr21	LOC101928796	45973883	45974855	2.06	7.35E-05	0.000605
chr22	SLC25A1	19179086	19179527	2.06	0.00254	0.00638
chr22	TOM1	35300244	35300798	2.06	3.17E-05	0.000372
chr3	EOGT	69013425	69014253	2.06	7.64E-05	0.000621
chr4	NSD2	1869995	1870789	2.06	3.73E-05	0.000402
chr4	RAP1GDS1	98259993	98261124	2.06	2.60E-07	2.73E-05
chr4	DNAJB14	99946824	99947341	2.06	0.000534	0.00212
chr6	PNRC1	89080776	89081297	2.06	0.00187	0.00511
chr7	MDFIC	114922229	114922878	2.06	0.000222	0.0012
chr7	LOC100288712	5562930	5563696	2.06	0.000632	0.00238
chr7	SUMF2	56064311	56065355	2.06	1.87E-05	0.000272
chr8	PLEC	143942302	143943946	2.06	3.47E-05	0.000387
chr8	LACTB2	70668790	70669109	2.06	0.00265	0.00657
chr9	PTGR1	111599305	111599817	2.06	0.000439	0.00186
chr9	PHPT1	136847713	136849164	2.06	1.07E-06	5.72E-05

chr9	GAS1	86945936	86946157	2.06	0.0208	0.0327
chrX	APEX2	55000383	55000557	2.06	0.00633	0.0126
chr1	TRK-CTT13-1	165598425	165598678	2.05	0.00296	0.00711
chr1	MDM4	204516444	204517145	2.05	0.000922	0.00311
chr1	ZBTB18	244047670	244048185	2.05	0.000309	0.00148
chr10	KIF11	92593168	92593583	2.05	0.00247	0.00625
chr10	ZDHHC16	97446189	97446679	2.05	0.000491	0.002
chr11	GPR137	64270228	64270876	2.05	0.000162	0.00098
chr11	PGM2L1	74397710	74398430	2.05	0.000118	0.000802
chr12	YBX3	10722292	10722816	2.05	0.000351	0.00161
chr12	LOC729291	28190996	28191275	2.05	0.00638	0.0127
chr13	BIVM	102799688	102800230	2.05	0.000584	0.00226
chr14	ATL1	50532755	50533094	2.05	0.00303	0.00724
chr16	NPRL3	138803	139136	2.05	0.00595	0.012
chr16	UBALD1	4616598	4617213	2.05	8.84E-05	0.000675
chr16	CIAO3	739739	740970	2.05	1.37E-07	1.91E-05
chr16	FANCA	89815798	89816260	2.05	0.00133	0.00404
chr17	FAM117A	49763167	49763659	2.05	0.0057	0.0116
chr19	ARHGEF1	41883425	41884102	2.05	0.000383	0.0017
chr2	RGPD8	112432345	112433122	2.05	0.00244	0.0062
chr2	DLX1	172084409	172085235	2.05	0.00011	0.000773
chr2	KIDINS220	8836964	8837573	2.05	0.000114	0.000788
chr20	CEBPB-AS1	50191740	50192069	2.05	0.000986	0.00326
chr3	RABL3	120741997	120742486	2.05	0.000644	0.00241
chr4	MFSD10	2933535	2934407	2.05	0.000551	0.00216
chr4	NAP1L5	88697206	88697819	2.05	0.000425	0.00182
chr6	HIVEP1	12012719	12013164	2.05	0.000182	0.00105
chr6	SUPT3H	45377036	45378039	2.05	0.000181	0.00105
chr7	GSAP	77415723	77416370	2.05	0.000169	0.00101
chr9	PTGS1	122370936	122371726	2.05	9.63E-05	0.000711
chr9	STKLD1	133376286	133376957	2.05	2.01E-05	0.000283

chrX	PAK3	111096390	111096703	2.05	0.00553	0.0113
chr1	ATP13A2	17010499	17011745	2.04	3.83E-07	3.38E-05
chr1	PIK3C2B	204493601	204494664	2.04	3.72E-05	0.000402
chr1	TMEM200B	29124053	29124635	2.04	0.000226	0.00122
chr1	LOC107984966	64470834	64471644	2.04	0.00123	0.0038
chr11	MSANTD4	106021590	106022225	2.04	1.10E-05	0.000201
chr11	CD81-AS1	2377509	2379266	2.04	1.75E-09	4.24E-06
chr12	PTMS	6767048	6767524	2.04	0.000633	0.00238
chr14	ZBTB1	64504003	64504768	2.04	1.62E-05	0.000251
chr16	NUDT16L1	4694840	4695658	2.04	0.000221	0.0012
chr16	PLEKHG4	67277964	67278578	2.04	0.000254	0.00131
chr17	ALDH3A2	19647929	19648614	2.04	0.000508	0.00205
chr17	NLE1	35141640	35142262	2.04	6.79E-05	0.000579
chr17	CCDC40	80036009	80036520	2.04	0.000144	0.000915
chr17	FAAP100	81552491	81553150	2.04	9.83E-05	0.000719
chr19	DOT1L	2164193	2165687	2.04	4.26E-07	3.55E-05
chr2	PKP4	158457460	158458613	2.04	8.46E-05	0.00066
chr2	OSBPL6	178194690	178195741	2.04	8.93E-05	0.000679
chr2	PTMA	231706292	231706957	2.04	0.000274	0.00138
chr2	KLHL29	23385999	23387491	2.04	2.18E-07	2.45E-05
chr20	LOC107985400	25695592	25697187	2.04	6.46E-08	1.29E-05
chr22	LMF2	50506288	50507674	2.04	3.67E-08	9.34E-06
chr3	TMEM43	14125116	14125800	2.04	4.51E-05	0.000448
chr3	NLGN1	173395763	173396222	2.04	0.000457	0.00191
chr3	POLR2H	184361837	184362675	2.04	6.55E-06	0.000147
chr5	EFNA5	107671236	107671995	2.04	0.000498	0.00203
chr5	HNRNPAB	178203857	178204337	2.04	0.000708	0.00257
chr7	PDE1C	32071111	32071437	2.04	0.00465	0.00995
Chr6	SOX4	21594553	21595071	2.04	0.000313	0.0015
chr8	JRK	142668761	142669705	2.04	0.00045	0.0019
chr9	ZMYND19	137590750	137591530	2.04	0.000554	0.00217

chr9	ANP32B	97982346	97983084	2.04	4.05E-06	0.000114
chr1	TUT4	52553581	52554039	2.03	0.000648	0.00242
chr11	LOC105379882	10931298	10931997	2.03	0.000872	0.00298
chr11	SLC22A18	2902288	2903661	2.03	0.000778	0.00275
chr11	BEST1	61954939	61956546	2.03	3.84E-07	3.38E-05
chr11	PTPRCAP	67434482	67434814	2.03	0.0108	0.0192
chr11	FUT4	94543966	94544363	2.03	0.00094	0.00315
chr12	GOLGA3	132827737	132828679	2.03	3.55E-05	0.000392
chr12	LOC102723983	51270133	51271003	2.03	0.000145	0.000917
chr13	TEX30	102772970	102773742	2.03	0.000531	0.00211
chr15	ADAL	43329325	43330159	2.03	1.94E-05	0.000276
chr15	RORA	60591006	60591734	2.03	9.53E-05	0.000709
chr16	DCTPP1	30429189	30430021	2.03	9.77E-05	0.000717
chr17	AKAP1	57085442	57086755	2.03	0.000112	0.000782
chr17	LOC107985034	75129391	75129675	2.03	0.017	0.0278
chr19	JUNB	12793795	12794278	2.03	0.000982	0.00325
chr19	MRPL34	17305843	17306787	2.03	9.84E-06	0.000189
chr19	ZNF446	58476175	58477116	2.03	0.000472	0.00195
chr2	PAX8-AS1	113235576	113236269	2.03	0.00378	0.00852
chr2	FNDC4	27494457	27494849	2.03	0.00315	0.00746
chr2	MSH2	47403260	47404187	2.03	0.000164	0.000987
chr20	RIN2	19757153	19759401	2.03	6.01E-08	1.23E-05
chr22	NUP50-DT	45163027	45163703	2.03	0.000311	0.00149
chr3	CHCHD6	126703763	126704073	2.03	0.0074	0.0142
chr3	EPHB1	134795407	134797362	2.03	1.01E-05	0.000191
chr3	ACTL6A	179562970	179563854	2.03	9.91E-05	0.000721
chr6	SMIM13	11093076	11093595	2.03	0.00112	0.00357
chr7	GNB2	100675288	100676131	2.03	2.25E-05	0.000302
chr8	HEY1	79767327	79767820	2.03	0.000607	0.00232
chr8	CFAP418	95268520	95269374	2.03	0.000153	0.000947
chr9	NACC2	136095941	136096500	2.03	0.00127	0.00389

chr9	INPP5E	136438173	136439428	2.03	8.30E-07	4.93E-05
chr9	SMARCA2	2014397	2015065	2.03	9.99E-05	0.000724
chr1	GNB1-DT	1891549	1892204	2.02	9.45E-05	0.000705
chr1	FAAP20	2194874	2195776	2.02	0.000319	0.00151
chr10	FRMD4A	13892065	13892426	2.02	0.00171	0.0048
chr12	PRICKLE1	42588562	42589426	2.02	4.46E-05	0.000446
chr12	HOXC6	54017588	54018133	2.02	0.00105	0.0034
chr14	GCH1	54901115	54902473	2.02	3.54E-06	0.000108
chr15	GPR176	39918908	39920857	2.02	3.58E-09	4.24E-06
chr16	ZNF597	3442871	3443435	2.02	0.00151	0.00438
chr16	ZFPM1	88453895	88455495	2.02	2.25E-09	4.24E-06
chr17	JUP	41785741	41786349	2.02	0.0078	0.0148
chr17	USP36	78841065	78841558	2.02	0.00249	0.00629
chr19	HOOK2	12773521	12773947	2.02	0.00226	0.00585
chr19	KLF16	1864263	1865414	2.02	9.71E-06	0.000187
chr19	INSR	7292991	7293784	2.02	2.82E-05	0.000347
chr2	RAB10	26033130	26033734	2.02	0.00018	0.00105
chr20	LOC105372505	2652068	2652377	2.02	0.00301	0.00721
chr22	RTL10	19855058	19855990	2.02	2.03E-05	0.000284
chr22	DUSP18	30667968	30668557	2.02	0.00229	0.0059
chr3	RAF1	12664328	12664657	2.02	0.00054	0.00213
chr3	GMPPB	49724196	49724544	2.02	0.00309	0.00735
chr3	CDHR4	49802521	49803130	2.02	0.00127	0.0039
chr5	CTNNA1-AS1	138752523	138753274	2.02	2.60E-05	0.000332
chr5	DAB2	39424725	39425052	2.02	0.00271	0.00669
chr6	RAET1G	149922759	149923076	2.02	0.00749	0.0144
chr6	JARID2	15245517	15245867	2.02	0.00256	0.00643
chr7	C7orf50	1138474	1138822	2.02	0.00558	0.0114
chr7	GUSB	65981746	65982207	2.02	0.00311	0.00738
chr7	SLC25A40	87875662	87876334	2.02	0.00138	0.00414
chr9	MEGF9	120714298	120714468	2.02	0.00961	0.0175

chr9	FBXW5	136943367	136944253	2.02	3.23E-05	0.000375
chr9	UAP1L1	137077830	137078962	2.02	3.37E-05	0.000381
chr9	KDM4C	6757130	6757838	2.02	0.000533	0.00212
chrX	XIAP	123860153	123860900	2.02	0.000112	0.000778
chrX	TMEM47	34655712	34657074	2.02	3.44E-06	0.000107
chr1	KIF14	200620416	200620733	2.01	0.00474	0.0101
chr1	LOC105372888	208244610	208244884	2.01	0.00738	0.0142
chr1	LOC101929626	46133231	46133780	2.01	0.000637	0.00239
chr10	SIRT1	67885027	67885416	2.01	0.00163	0.00464
chr11	SNX19	130915307	130916440	2.01	1.65E-07	2.08E-05
chr11	FANCF	22624910	22625804	2.01	0.000145	0.000919
chr11	BDNF	27700595	27701484	2.01	1.12E-05	0.000202
chr12	TRS-CGA4-1	56189770	56190305	2.01	0.00014	0.000903
chr13	ANKRD10	110915374	110916117	2.01	0.000112	0.00078
chr13	WASF3	26558169	26558683	2.01	0.000769	0.00273
chr15	ZFAND6	80060167	80060653	2.01	0.000613	0.00233
chr15	MEX3B	82044085	82045509	2.01	3.25E-06	0.000105
chr15	ARPIN	89911931	89913341	2.01	2.66E-05	0.000336
chr16	SOCS1	11256361	11256988	2.01	0.000803	0.00281
chr16	TBL3	1971414	1971907	2.01	0.00041	0.00178
chr16	POLR3E	22297457	22298249	2.01	4.92E-05	0.000474
chr16	C16orf87	46830023	46831155	2.01	1.77E-05	0.000264
chr16	PHAF1	67109936	67110820	2.01	9.44E-07	5.30E-05
chr16	ATP6V0D1	67480215	67481119	2.01	7.00E-07	4.59E-05
chr17	C17orf58	67993907	67994429	2.01	0.000522	0.00208
chr17	SMIM5	75632649	75633004	2.01	0.0117	0.0206
chr19	MOB3A	2095869	2096248	2.01	0.0055	0.0113
chr19	RABAC1	41958049	41959377	2.01	6.63E-06	0.000147
chr19	BICRA	47607810	47608704	2.01	3.13E-05	0.00037
chr2	LOC105369164	24792844	24793292	2.01	0.00429	0.00936
chr22	LIMK2	31212239	31212762	2.01	0.000442	0.00187

chr22	MCAT	43142591	43143372	2.01	5.05E-05	0.000482
chr3	CTNNB1	41199516	41199736	2.01	0.00919	0.0169
chr3	FHIT	61250958	61251427	2.01	5.00E-04	0.00203
chr4	DDX60L	168479835	168480461	2.01	0.00263	0.00655
chr4	SEPSECS	25159967	25160438	2.01	0.000927	0.00312
chr5	FNIP1	131797236	131797789	2.01	0.00151	0.00439
chr5	EGR1	138465782	138467614	2.01	5.61E-05	0.000515
chr5	ANKHD1-EIF4EBP3	140401844	140402926	2.01	5.07E-07	3.85E-05
chr5	PIK3R1	68288527	68289170	2.01	0.00107	0.00345
chr6	JARID2	15248928	15249472	2.01	0.00121	0.00377
chr6	DSP	7541595	7543226	2.01	1.25E-06	6.38E-05
chr7	ELN-AS1	74061616	74062261	2.01	7.24E-05	0.000598
chr8	NSD3	38381590	38382169	2.01	0.000101	0.000728
chr9	C9orf50	129620503	129620900	2.01	0.00117	0.00368
chr9	FRG1HP	40991415	40992056	2.01	0.000798	0.0028
chr9	LOC107984035	41358160	41360096	2.01	0.007	0.0136
chr1	PPM1J-DT	112715581	112716027	2	0.00103	0.00336
chr1	CD101-AS1	117059488	117060074	2	0.000569	0.00221
chr1	ACADM	75724188	75725178	2	1.38E-05	0.000228
chr10	MINDY3	15859759	15860472	2	4.71E-05	0.000462
chr10	CCNJ	96043590	96045364	2	2.13E-08	7.84E-06
chr11	ARHGEF17	73308477	73308721	2	0.00523	0.0109
chr11	AKIP1	8911237	8912159	2	1.17E-05	0.000208
chr12	RAB3IP	69739394	69739950	2	0.00142	0.0042
chr12	ERC1	990389	991004	2	0.00051	0.00206
chr14	AJUBA	22980974	22982592	2	4.41E-06	0.000118
chr14	FUT8	65411875	65412423	2	0.000513	0.00207
chr14	EXD2	69191332	69192163	2	4.29E-05	0.000436
chr15	TUBGCP4	43370216	43371796	2	1.93E-06	7.89E-05
chr15	RORA	61227388	61228011	2	0.000489	0.002
chr15	SPG21	64990012	64990467	2	0.00445	0.00962

chr15	TTLL13	90249560	90249917	2	0.00309	0.00735
chr16	VPS35L	19555030	19555408	2	0.00578	0.0117
chr16	RABEP2	28925303	28926072	2	0.000571	0.00222
chr16	PDF	69329434	69330426	2	0.000216	0.00118
chr18	GALNT1	35580840	35581293	2	0.00187	0.00511
chr19	MPND	4342242	4342715	2	0.00156	0.00451
chr19	ZNF132	58439497	58440123	2	0.000564	0.0022
chr2	PLEKHB2	131104664	131105011	2	0.00285	0.00692
chr2	SH3YL1	263945	264521	2	0.000271	0.00137
chr2	USP39	85602873	85603548	2	8.97E-05	0.00068
chr21	RCAN1	34614159	34614565	2	0.000675	0.00249
chr3	TBC1D5	17741950	17742537	2	0.000594	0.00228
chr3	KAT2B	20040922	20041653	2	0.000327	0.00154
chr4	IL15	141636232	141637410	2	0.000168	0.001
chr4	CCDC149	24912312	24912697	2	0.00416	0.00914
chr6	MAN1A1	119349995	119350543	2	0.000245	0.00128
chr6	TFB1M	155313397	155314486	2	1.07E-05	0.000198
chr6	SOD2	159693611	159694198	2	7.88E-05	0.000633
chr6	PDCD2	170584722	170585264	2	0.000918	0.0031
chr6	GPLD1	24495347	24495771	2	0.00279	0.00683
chr7	RNY5	148940679	148941188	2	0.000112	0.000778
chr8	PTK2	141001511	141002426	2	1.68E-05	0.000256
chr8	SLC52A2	144358667	144360477	2	5.67E-07	4.12E-05
chrX	MOSPD1	134914351	134915234	2	0.00028	0.00139
chrX	FHL1	136146838	136147121	2	0.00769	0.0147
chrX	DKC1	154762962	154764122	2	5.68E-05	0.000518

Table 2. Differentially acetylated upstream loci regulated by EMAP II/ SPHK2.

MPG	PRR14	FKBP2	GAP43	INTS11	PRR5L	PHAF1	ARPC5L
NPRL3	TAB3	GPR137	PTGFRN	CLCN7	CDKN1A	GPHN	TRIB1
PUF60	BCKDK	PRDX5	FBXW8	ERC1	FHOD3	KDM2A	CHCHD6
SLC9A3-AS1	LINC01521	MIR7155	CD101-AS1	TELO2	CDIN1	PLEKHG4	ARF5
ODF3L2	SERINC2	LOC107984966	CCDC93	MAFK	MEIS2	RAD9A	LARP1B
DIP2C	SFI1	ZBTB1	PHLDB1	CRAMP1	ZNF569	ZDHHC1	SLC25A25
PDGFA	RNF138	SPG21	CEP85L	MAPK8IP3	ZC3H12A-DT	RPS6KB2	RPN1
CDC34	MTMR9LP	SLC1A4	DDX6	KLF16	RELL1	ATP6V0D1	IER5L
LOC105371038	ZFR	GNA13	DENND10	GNB1	MDGA1	AIP	HMCES
MYL5	NRG1	CCT6P3	MAN1A1	NSD2	ZNF703	PITPNM1	BCORL1
JMJD8	NRP1	TM7SF2	NKRF	TBL3	H1-0	CTCF	FAM86HP
VPS53	CEBPG	MSRB3	NBPF8	NELFA	NSD3	PITPNC1	SAMD3
CIAO3	HMGA1	SPRED2	MEGF9	MOB3A	KLF3-AS1	FAM86C2P	IMP4
PNPLA2	SMIM29	LTBP3	NOTCH2NLR	SMARCA2	JOSD1	SIRT1	SNX19
SUN1	TMEM47	LEPR	CNTRL	FAAP20	RRAGC	C17orf58	PLEKHB2
GET4	ZNF302	PDE7A	PTGS1	DOT1L	LASP1	CLN6	NTNG2
CHID1	ZNF792	GUSB	KPNA1	OAZ1	RICTOR	DNA2	PWWP2B
R3HDM4	NLE1	TRY-GTA5-2	UBASH3B	SNX8	CACNB1	ANP32A	SEPTIN8
ADAP1	SFPQ	B4GAT1	ZHX1	CD81-AS1	FBXL20	PJA1	AFF4

DGKQ	TOM1	TIPIN	SPRY1	LOC10798 6250	LOC10537 1770	EXD2	ZNF140
ARID3A	NFKBIA	PRKCA	SNRNP35	MIR3178	LOC10537 0461	TJP2	GBGT1
C7orf50	GALNT 1	C11orf80	XIAP	VLDLR-AS1	DYRK1B	PDF	VAV2
CBARP	BRMS1 L	GTF2IRD1P 1	TMEM65	PAFAH1B1	GPR176	FADD	CDKN2AIP NL
LINC01786	OSCP1	SLC35D1	SCARB1	SLC22A18	MOCS1	ST3GAL2	PABIR3
ADD1	CAP1	TRAM1	EPHB1	DAGLB	ZNF239	COMTD1	HIVEP2
ZNF77	CDK13	UNC5B	MACROH 2A1	KLHL21	VEGFA	MIF4GD- DT	CHST2
MMP25- AS1	NR1D1	CEMIP2	PPP1R26	CHD4	EFCAB6	FOS	GAB1
TRP-TGG3- 3	N4BP2	FAM86C1P	NACC2	THAP3	CCDC122	FAM86DP	SMARCA5
ZNF597	IGFBP4	CHST3	MSL2	PTMS	CCDC24	SIN3A	PLEC
NAA60	FOXO1	PKM	PHPT1	KIAA0232	SLC6A9	TMEM170 A	SHARPIN
RFX3	MED14	INPPL1	EDF1	SLC16A13	POLD2	TMEM231	MROH1
PIP5K1C	FRG1H P	DDIT4	FBXW5	GRPEL1	UBTF	ACADM	DGAT1
TAX1BP3	USP9X	DPF3	UAP1L1	KDM4C	ATXN7L3- AS1	WBP2	SLC52A2
TRAP1	CTNNB 1	TNPO1	TOR4A	PHF23	EXT2	TRIM47	ZNF827
PGAP2	BACE2	POM121	ZMYND1 9	INSR	TSC22D1	POR	RNVU1-21
CEP104	EIF1	RAB11FIP5	DZIP1L	KCTD11	KCTD8	TEN1	ADRB2
MIR4687	ARHGE F1	COG1	EGR1	DSP	PVR	SPHK1	EZH2
ZBTB7A	CCND3	CDC42EP4	CTNNA1- AS1	PPFIBP2	SETBP1-DT	ZNF516-DT	UST

ANKRD24	RABAC 1	FOXD1	CTNNA1	KDM6B	NUP50-DT	GCNT1	GINM1
MPND	DGKH	ELN-AS1	UBN2	PER1	TRAPPC6A	MFSD11	PCMT1
UBE2G1	PRICKL E1	TET3	SETD7	CPZ	SUPT3H	LOC10798 4638	MAMLD1
MYBBP1A	CYB5R3	VCL	CYSTM1	AKIP1	VASP	MBP	MTHFD1L
UBALD1	CDAN1	MTHFD2	ANKHD1- EIF4EBP3	ERI1	EML2-AS1	PTPN12	LOC10798 6862
PFN1	RPL7L1	PDPR2P	LINC0063 2	WEE1	IRF2BP1	RSBN1L	GALNT11
INCA1	CUL7	PGM2L1	PTK2	VAPA	LOC10192 9626	CNOT6L	ARL6IP6
EEF2KMT	MCAT	SEMA7A	TMEM17 8B	RAVER1	CDPF1	NEXN	RPL10
LOC72839 2	SRF	SLC16A2	LINC0261 8	TFAP2A	ELMO2	SOCS3	CNKSR3
LOC10028 8712	ADAL	TRR-CCT2- 1	IL15	PGD	RHOQ	GAB2	DKC1
FBH1	TUBGC P4	ATP5PD	JRK	KEAP1	HARBI1	USP36	LARP1
TMEM220	ARHGA P1	ZMIZ1	SHC1				