

Table S1. Primer Sequences

Primer	Sequence
KDM5B-Forward	CTGCAGTGGAGAAGACATTCTG
KDM5B-Reverse	GGAAAACAAAAATTGGCAACAG
KDM2A-Forward	CAACAGCGATCCCAAGTTAGC
KDM2A-Reverse	TGGCCGAGTGGGGAATTTAAG
JMJD1C-Forward	CAGGTCTCGTGCCAATCAAAA
JMJD1C-Reverse	GCTGTTGCTGGTGTGTATTCT
JHDM1D-Forward	GTATCACTGTCCCAACTGTGC
JHDM1D-Reverse	TTCTGTGTAGTCATGTCTGTGC
KDM5C-Forward	CATCACTGCAGAAAGAACTCC
KDM5C-Reverse	AATGTCCAGAATAGGCAAATGG
PHF2-Forward	CTCCCCACGACGTTACCC
PHF2-Reverse	CAGTGGTATATGTCGATGTCGG
KDM6B-Forward	CACCCCAGCAAACCATATTATGC
KDM6B-Reverse	CACACAGCCATGCAGGGATT
KDM5A -Forward	TCTAGCTGGGGGAGAAGACA
KDM5A-Reverse	ATGGCTTTGCTGCAGTACCT
KDM4C-Forward	CAAAGCCTAAATGCTAGTTGTGG
KDM4C-Reverse	CCATGTTTGTTCATCTTTAATGG
KDM1B-Forward	ATCCAGCTTACTCCACAGATAGC
KDM1B-Reverse	AGGTCTCAGGCTTAATAGCAGT
JARID2-Forward	ACCAGTCTAAGGGATTAGGACC
JARID2-Reverse	TGCTGGGACTATTTCGGCTGA
KDM4A-Forward	ATCCCAGTGCTAGGATAATGACC
KDM4A-Reverse	ACTCTTTTGGAGGAACAACCTTG
KDM4D-Forward	GGGCAGGGGTGTTTACTCAAT
KDM4D-Reverse	TGTTTGCCAAATGGCGTACT
MINA-Forward	CCACATACTATGGGTCCCTGT
MINA-Reverse	TGAAACTGAATCGTTGCCCTT
KDM4E-Forward	TCCCCAGAACACGAGTCATAC
KDM4E-Reverse	TTGGGTGGAATTACCTTGCA
KDM2B-Forward	GGGTTCCCCTGATATTTGAGA
KDM2B-Reverse	GCTCCCCACTAGGAGTTTGAC
KDM3A-Forward	ACAGTGGCCTGCAATAACGTA
KDM3A-Reverse	TCCCAGAAAGCGAACAGAAAGT
KDM1A- Forward	CAAGAAGCAGCCTGTTTTCC
KDM1A- Reverse	CTGCAGTGTGCGGTTTCTAA
KDM8-Forward	AAGTTGTTGAGGTACACAGA
KDM8-Reverse	GGCTCATTACGATGTATTTGC
KDM4B-Forward	ACTTCAACAAATACGTGGCCTAC
KDM4B-Reverse	CGATGTCATCATACGTCTGCC
PHF8-Forward	GTGCCGGTGTATTGCCTCT
PHF8-Reverse	CAACACAAGTCCATGAAACC
KDM6A-Forward	TACAGGCTCAGTTGTGTAACCT
KDM6A-Reverse	CTGCGGGAATTGGTAGGCTC
KDM3B-Forward	GCTTCGGTTCCTGTCAGATG
KDM3B-Reverse	GACCTCGGCTGAATATCTCTTG
NO66-Forward	GCGAGCCAAAGACTTCATTG
NO66-Reverse	GAATTGGAAGCCCGTAAACA
KDM2A-L-Forward	CCGGATCCAGACTTCACTGT
KDM2A-L-Reverse	CTCCTCCTCTGGGGTCTCAT
KDM2A-S-Forward	TGAAGGGTCAGAGCTGGACT
KDM2A-S-Reverse	GAAGTTTCCCCAGCGTCTTT
BRAF-Forward	TGGGGAACGGAAGTATTTTTT
BRAF-Reverse	TTTTGTGGTACTTGGGGTTG
FABP5-Forward	TGAAGGAGCTAGGAGTGGGAA
FABP5-Reverse	TGCACCATCTGTAAAGTTGCAG
CHEK2-Forward	TTATCTGCCTTAGTGGGTATCCA
CHEK2-Reverse	CTGTCGTAAAACGTGCCTTTG
MAPK12-Forward	CATGAGAAGCTAGGCGAGGAC
MAPK12-Reverse	CAGCGTGGATATACCTCAGCC
ESAM-Forward	GGGGTCACAACAAGCAAACC
ESAM-Reverse	TTGTCTTGACATTACGGAG
AQP3-Forward	CCGTGACCTTTGCCATGTG
AQP3-Reverse	CGAAGTGCCAGATTGCATCATAA
IQGAP2-Forward	TGGTTAAGAGCGATGGAGTCT
IQGAP2-Reverse	CAGATACAAACTCAGTGCGTGA
RAC2-Forward	TCTGCTTCTCCCTCGTCAG
RAC2-Reverse	TCACCGAGTCAATCTCCTTGG
FAS-Forward	TCTGGTTCTTACGTCTGTTGC
FAS-Reverse	CTGTGCAGTCCCTAGCTTTCC
PMAIP1-Forward	ACCAAGCCGGATTTCGATT
PMAIP1-Reverse	ACTTGCACTTGTTCCTCGTGG
PUM1-Forward	GACGCTATGGTGGACTACTTCT
PUM1-Reverse	TGGAACGCACCTGATGTTCTG

Table S2. KDM2A shRNA and siRNA sequences

GIPZ Lentiviral Human KDM2A shRNA		
shRNA	Clone ID	Sequence (5'-3')
KDM2A-shRNA#1	V2LHS_51035	ACATTCACAAAGTTCTCTG
KDM2A-shRNA#2	V2LHS_51037	TCATAATCCAGGTTGACTC
KDM2A-shRNA#3	V2LHS_245727	ATAGGAACTCCAGTGAGGG

KDM2A-S and KDM2A-L MISSION siRNA		
siRNA	Oligo Name	Sequence (5'-3')
KDM2A-siRNA#1	KDM2A-S-siRNA-S1	GGCAGAAUAUCUAACUCCU
	KDM2A-S-siRNA-A1	AGGAGUUAGAUUUCUGCC
KDM2A-siRNA#2	KDM2A-S-siRNA-S2	CAGCUCCAGAGCGACGGGA
	KDM2A-S-siRNA-A2	UCCCGUCGCUCUGGAGCUG
KDM2A-siRNA#3	KDM2A-L-siRNA-S1	CUGGAUUCAUGCUGUGUAU
	KDM2A-L-siRNA-A1	AUACACAGCAUGAAUCCAG
KDM2A-siRNA#4	KDM2A-L-siRNA-S2	CUUGAGAGAUCCUCUGAUU
	KDM2A-L-siRNA-A2	AAUCAGAGGAUCUCUCAAG
KDM2A-siRNA#5	KDM2A-L-siRNA-S3	CAACAAAUUAAUGCCA AU
	KDM2A-L-siRNA-A3	AUUGGCAUUUAUUUGUUG

Table S3. Frequency (%) of genetic alterations of KDMs in Luminal A, Luminal B, HER2+ and basal-like subtypes of breast cancer

Gene	Luminal A			Luminal B			HER2			Basal		
	Amp	Homdel	Mutation	Amp	Homdel	Mutation	Amp	Homdel	Mutation	Amp	Homdel	Mutation
KDM1A	0.00	0.00	0.44	0.00	0.00	0.00	0.00	1.82	0.00	0.00	0.00	0.00
KDM1B	0.91	0.00	0.00	0.83	0.83	0.83	0.00	0.00	0.00	10.11	0.00	0.00
KDM2A	2.73	0.00	1.33	12.40	0.00	0.83	9.09	0.00	1.79	2.25	0.00	0.00
KDM2B	0.00	0.45	0.44	0.00	0.00	0.83	0.00	0.00	1.79	1.12	0.00	0.00
KDM3A	0.00	0.00	0.89	0.00	0.00	0.00	0.00	0.00	0.00	1.12	1.12	1.05
KDM3B	0.45	0.00	0.44	0.00	0.00	0.83	0.00	0.00	1.79	0.00	1.12	1.05
JMJD1C	0.45	0.00	0.44	1.65	0.83	0.83	1.82	0.00	0.00	5.62	0.00	0.00
KDM4A	0.45	0.00	1.33	0.83	0.00	1.65	3.64	0.00	0.00	3.37	0.00	0.00
KDM4B	0.91	0.00	0.89	3.31	0.00	0.00	0.00	0.00	0.00	2.25	0.00	0.00
KDM4C	0.45	0.45	0.89	0.00	0.83	0.00	1.82	1.82	0.00	12.36	1.12	1.05
KDM4D	0.45	0.91	0.44	1.65	2.48	0.00	1.82	0.00	0.00	5.62	0.00	0.00
KDM4E	0.45	0.91	0.00	1.65	2.48	0.00	1.82	0.00	0.00	4.49	0.00	0.00
KDM5A	0.91	0.00	0.44	4.13	0.00	0.83	3.64	0.00	1.79	17.98	1.12	2.11
KDM5B	13.18	0.00	0.44	15.70	0.00	0.00	16.36	0.00	0.00	8.99	0.00	1.05
KDM5C	0.91	0.00	0.00	0.00	0.00	0.83	3.64	0.00	5.36	0.00	2.25	1.05
KDM6A	0.91	0.45	1.78	0.83	0.00	1.65	0.00	0.00	0.00	0.00	2.25	2.11
KDM6B	0.00	0.45	0.00	0.00	2.48	0.00	0.00	1.82	1.79	0.00	1.12	0.00
KDM7A	0.45	0.00	0.00	0.83	0.00	0.00	1.82	0.00	0.00	5.62	1.12	2.11
PHF8	0.91	0.00	1.33	0.00	0.00	0.00	1.82	0.00	0.00	1.12	2.25	1.05
PHF2	0.00	0.45	0.44	0.83	0.00	0.00	1.82	1.82	0.00	1.12	0.00	1.05
MINA	0.45	0.00	0.00	2.48	0.83	0.00	1.82	0.00	0.00	2.25	0.00	0.00
NO66	0.45	0.00	0.44	0.00	0.83	0.00	0.00	1.82	0.00	0.00	1.12	1.05
KDM8	7.27	0.00	0.00	1.65	0.00	0.00	3.64	0.00	0.00	0.00	0.00	0.00
JARID2	1.36	0.00	0.44	0.00	0.83	0.00	0.00	1.82	0.00	10.11	0.00	2.11

Footnote: Amp=high-level amplification; Homdel=homozygous deletion.

Table S4. Correlation between copy number and mRNA expression of KDMs in breast cancer

Gene	Spearman	p-value	Kendall	p-value	Pearson	p-value
KDM2A	0.617	2.20E-16	0.506	2.20E-16	0.556	2.20E-16
KDM4C	0.606	2.20E-16	0.496	2.20E-16	0.611	2.20E-16
PHF2	0.553	2.20E-16	0.446	2.20E-16	0.547	2.20E-16
KDM3B	0.525	2.20E-16	0.423	2.20E-16	0.520	2.20E-16
NO66	0.517	2.20E-16	0.419	2.20E-16	0.495	2.20E-16
KDM4A	0.491	2.20E-16	0.394	2.20E-16	0.527	2.20E-16
KDM5B	0.482	2.20E-16	0.386	2.20E-16	0.454	2.20E-16
JARID2	0.456	2.20E-16	0.367	2.20E-16	0.440	2.20E-16
KDM1B	0.428	2.20E-16	0.343	2.20E-16	0.419	2.20E-16
KDM5A	0.425	2.20E-16	0.341	2.20E-16	0.494	2.20E-16
KDM8	0.425	2.20E-16	0.341	2.20E-16	0.417	2.20E-16
KDM4D	0.424	2.20E-16	0.341	2.20E-16	0.437	2.20E-16
KDM1A	0.414	2.20E-16	0.338	2.20E-16	0.377	2.20E-16
KDM6B	0.407	2.20E-16	0.327	2.20E-16	0.365	2.20E-16
JMJD1C	0.310	2.20E-16	0.245	2.20E-16	0.352	2.20E-16
KDM4B	0.297	2.20E-16	0.233	2.20E-16	0.282	2.20E-16
MINA	0.296	2.20E-16	0.236	2.20E-16	0.326	2.20E-16
KDM3A	0.239	6.19E-14	0.191	6.95E-14	0.292	2.20E-16
KDM2B	0.238	9.26E-14	0.189	8.59E-14	0.248	2.11E-14
KDM7A	0.198	6.12E-10	0.156	6.99E-10	0.240	5.35E-14
KDM5C	0.169	1.60E-07	0.134	1.26E-07	0.266	2.20E-16
KDM6A	0.165	2.70E-07	0.131	2.57E-07	0.226	1.52E-12
KDM4E	0.123	1.46E-04	0.106	1.34E-04	0.169	1.44E-07
PHF8	0.104	1.25E-03	0.082	1.20E-03	0.149	3.54E-06

Table S5. Comparison of mRNA expression between basal and non-basal breast cancer subtypes

Gene	T-statistic	p-value
KDM1A	6.343	4.04E-09
KDM1B	4.511	9.41E-06
KDM2A	-0.490	3.13E-01
KDM2B	6.517	1.82E-09
KDM3A	2.547	6.26E-03
KDM3B	-6.341	4.07E-09
JMJD1C	1.514	6.67E-02
KDM4A	2.626	5.05E-03
KDM4B	-14.937	9.56E-27
KDM4C	4.015	6.01E-05
KDM4D	5.358	3.04E-07
KDM4E	3.199	9.44E-04
KDM5A	3.234	8.45E-04
KDM5B	-0.045	4.82E-01
KDM5C	1.510	6.72E-02
KDM6A	-4.207	2.98E-05
KDM6B	-1.951	2.70E-02
KDM7A	0.929	1.78E-01
PHF8	-4.286	2.22E-05
PHF2	-1.997	2.44E-02
MINA	4.544	8.28E-06
NO66	-3.174	1.02E-03
KDM8	-9.900	1.67E-16
JARID2	2.914	2.23E-03

Table S6. Summary of log-rank statistical analysis of overall survival correlated with expression levels of 24 KDMs in breast cancer

Gene	Chi Square	p-value	Hazard Ratio	95%CI
MINA	6.738	0.009	1.761	1.153 to 2.722
KDM6A	6.894	0.009	1.745	1.173 to 2.810
KDM2A	5.309	0.021	1.640	1.085 to 2.578
KDM3A	4.003	0.045	1.547	1.011 to 2.383
KDM4E	3.421	0.064	1.488	0.9825 to 2.317
KDM4D	2.868	0.090	1.457	0.9454 to 2.227
JMJD1C	2.927	0.087	1.444	0.9517 to 2.251
KDM1B	1.783	0.182	1.336	0.8732 to 2.059
JARID2	1.483	0.223	1.299	0.8525 to 2.02
PHF8	1.398	0.237	1.291	0.8431 to 2.017
KDM3B	1.356	0.244	1.287	0.8407 to 1.987
KDM5B	1.049	0.306	1.249	0.8150 to 1.927
KDM5A	0.604	0.437	1.182	0.7716 to 1.840
KDM5C	0.379	0.538	1.143	0.7460 to 1.756
KDM7A	0.000	0.992	0.998	0.6493 to 1.533
KDM6B	0.019	0.891	0.971	0.6322 to 1.49
KDM4C	0.288	0.591	0.890	0.5794 to 1.364
PHF2	0.543	0.461	0.852	0.5538 to 1.306
KDM8	0.579	0.447	0.848	0.5516 to 1.298
KDM2B	0.683	0.409	0.834	0.5436 to 1.280
KDM4A	1.485	0.223	0.764	0.4985 to 1.174
KDM1A	2.012	0.156	0.739	0.4703 to 1.121
NO66	2.810	0.094	0.696	0.4488 to 1.061
KDM4B	10.710	0.001	0.488	0.3158 to 0.7454

Table S7. Summary of log-rank statistical analysis of overall survival correlated with expression levels of 24 KDMs in Luminal breast cancer

Gene	Chi-Square	p-value	Hazard Ratio	95% CI
MINA	4.974	0.0257	2.051	1.100 to 3.976
KDM4E	4.549	0.0329	1.961	1.082 to 3.897
KDM5A	3.607	0.0575	1.814	0.9930 to 3.681
KDM3B	3.547	0.0596	1.808	0.9858 to 3.652
KDM2A	2.726	0.0987	1.715	0.9063 to 3.240
KDM6A	2.363	0.1242	1.628	0.8762 to 3.199
PHF8	1.482	0.2235	1.475	0.7836 to 2.907
KDM3A	1.360	0.2435	1.458	0.7757 to 2.769
JARID2	1.029	0.3103	1.392	0.7366 to 2.628
PHF2	0.813	0.3672	1.351	0.7084 to 2.550
KDM1B	0.627	0.4284	1.289	0.6844 to 2.467
JMJD1C	0.569	0.4506	1.273	0.6766 to 2.436
KDM2B	0.231	0.6305	1.167	0.6154 to 2.242
KDM7A	0.002	0.9686	1.013	0.5238 to 1.962
KDM4D	0.094	0.7587	0.907	0.4767 to 1.712
KDM5C	0.127	0.7218	0.891	0.4711 to 1.683
KDM4C	0.148	0.7004	0.883	0.4663 to 1.665
KDM5B	0.264	0.6077	0.846	0.4479 to 1.598
KDM4A	0.350	0.5543	0.823	0.4343 to 1.563
KDM6B	0.738	0.3903	0.757	0.3999 to 1.428
KDM8	1.382	0.2398	0.688	0.3560 to 1.285
KDM1A	3.261	0.0710	0.569	0.2763 to 1.037
NO66	8.765	0.0031	0.403	0.1825 to 0.6883
KDM4B	8.712	0.0032	0.365	0.2017 to 0.7209

Table S8. Summary of log-rank statistical analysis of overall survival correlated with expression levels of 24 KDMs in basal breast cancer

Gene	Chi-Square	p-value	Hazard Ratio	95% CI
KDM6B	1.688	0.1939	2.199	0.6734 to 7.271
KDM4B	1.649	0.1990	2.189	0.6645 to 7.170
JARID2	1.575	0.2095	2.146	0.6549 to 7.049
JMJD1C	1.285	0.2570	2.106	0.6084 to 6.576
KDM7A	1.155	0.2826	1.924	0.5900 to 6.289
KDM3A	0.635	0.4255	1.631	0.4985 to 5.307
KDM1A	0.343	0.5584	1.411	0.4277 to 4.938
KDM6A	0.202	0.6534	1.321	0.3994 to 4.347
KDM4D	0.033	0.8564	1.115	0.3384 to 3.690
MINA	0.014	0.9051	1.075	0.3291 to 3.511
KDM5B	0.007	0.9327	0.950	0.2906 to 3.106
NO66	0.014	0.9072	0.932	0.2829 to 3.065
KDM4C	0.019	0.8904	0.919	0.2637 to 3.174
KDM1B	0.028	0.8677	0.905	0.2769 to 2.950
KDM4E	0.047	0.8275	0.877	0.2688 to 2.860
KDM5C	0.054	0.8159	0.870	0.2617 to 2.869
PHF8	0.180	0.6713	0.778	0.2284 to 2.568
KDM3B	0.416	0.5191	0.679	0.2059 to 2.217
PHF2	0.712	0.3988	0.605	0.1800 to 1.973
KDM8	0.808	0.3687	0.588	0.1725 to 1.901
KDM2A	1.075	0.2999	0.530	0.1634 to 1.740
KDM4A	2.207	0.1374	0.382	0.1247 to 1.326
KDM5A	4.007	0.0453	0.309	0.081 to 0.965
KDM2B	3.545	0.0597	0.303	0.0967 to 1.042

Table S9. Summary of multivariate analysis of overall survival for 24KDM expressions in breast cancer

Multivariate	JARID2	Age	ER Status	PR Status	HER2 Status	Tumor Size	Lymph Node	Metastasis	PAM50 Subtype
Hazard Ratio	2.43519	1.04036	0.55571	0.31282	0.38206	0.97246	1.87462	3.07427	0.50462
P-value	0.00923	0.00218	0.31085	0.01094	0.15655	0.94667	0.08435	0.02982	0.21853
95% Conf. Interval	1.2461 4.7591	1.0144 1.067	0.1784 1.731	0.1278 0.7657	0.1009 1.4462	0.4291 2.204	0.9183 3.8267	1.1161 8.4677	0.1698 1.5001
Multivariate	JMJD1C	Age	ER Status	PR Status	HER2 Status	Tumor Size	Lymph Node	Metastasis	PAM50 Subtype
Hazard Ratio	2.21902	1.03347	0.65943	0.23172	0.37433	1.1224	1.70523	3.42194	0.4292
P-value	0.02642	0.00863	0.46613	0.00198	0.14638	0.78078	0.1426	0.02494	0.13549
95% Conf. Interval	1.09786 4.4852	1.00839 1.0592	0.21521 2.0206	0.09176 0.5852	0.0994 1.4097	0.49771 2.5312	0.83548 3.4804	1.16759 10.0289	0.14137 1.3031
Multivariate	NO66	Age	ER Status	PR Status	HER2 Status	Tumor Size	Lymph Node	Metastasis	PAM50 Subtype
Hazard Ratio	0.53487	1.03218	0.54308	0.34169	0.40033	1.06065	1.90377	2.24401	0.46379
P-value	0.0564	0.011	0.3017	0.018	0.1688	0.8866	0.0744	0.1061	0.1742
95% Conf. Interval	0.2812 1.0173	1.0073 1.0577	0.1705 1.7299	0.1404 0.8317	0.1087 1.4745	0.4723 2.3817	0.9386 3.8614	0.8418 5.9818	0.1531 1.4048
Multivariate	KDM1A	Age	ER Status	PR Status	HER2 Status	Tumor Size	Lymph Node	Metastasis	PAM50 Subtype
Hazard Ratio	0.83384	1.03396	0.67202	0.27722	0.4441	1.0593	1.89974	2.20327	0.58837
P-value	0.58635	0.00924	0.49365	0.00477	0.2218	0.89189	0.08463	0.1105	0.34287
95% Conf. Interval	0.4333 1.6045	1.0083 1.0603	0.2153 2.0972	0.1137 0.6757	0.1208 1.633	0.4616 2.431	0.9161 3.9396	0.8351 5.8128	0.1966 1.7605
Multivariate	KDM1B	Age	ER Status	PR Status	HER2 Status	Tumor Size	Lymph Node	Metastasis	PAM50 Subtype
Hazard Ratio	1.15836	1.0331	0.68741	0.27815	0.43511	1.07392	1.90575	2.31439	0.54106
P-value	0.65626	0.01226	0.5194	0.00503	0.21196	0.86521	0.08307	0.10204	0.27858
95% Conf. Interval	0.6063 2.213	1.0071 1.0598	0.2198 2.15	0.1138 0.6801	0.1178 1.6072	0.4713 2.4469	0.9191 3.9517	0.8464 6.3284	0.1781 1.6435
Multivariate	KDM2A	Age	ER Status	PR Status	HER2 Status	Tumor Size	Lymph Node	Metastasis	PAM50 Subtype
Hazard Ratio	1.24313	1.03464	0.62387	0.29241	0.42539	1.0868	1.90088	2.29054	0.52311
P-value	0.49788	0.00745	0.42828	0.00653	0.20297	0.84243	0.08108	0.09808	0.26121
95% Conf. Interval	0.6625 2.3325	1.0092 1.0608	0.1941 2.0048	0.1206 0.7093	0.1141 1.5859	0.4783 2.4693	0.9237 3.9118	0.858 6.1149	0.1689 1.6199
Multivariate	KDM2B	Age	ER Status	PR Status	HER2 Status	Tumor Size	Lymph Node	Metastasis	PAM50 Subtype
Hazard Ratio	0.88944	1.03509	0.709	0.27192	0.44263	1.09522	2.00124	2.11326	0.60619
P-value	0.74774	0.00876	0.56427	0.0061	0.21975	0.82993	0.0635	0.13945	0.39588
95% Conf. Interval	0.4355 1.8164	1.0087 1.0621	0.2202 2.2825	0.1072 0.6897	0.1204 1.6269	0.4776 2.5116	0.9618 4.1642	0.7834 5.7006	0.1909 1.9251
Multivariate	KDM3A	Age	ER Status	PR Status	HER2 Status	Tumor Size	Lymph Node	Metastasis	PAM50 Subtype
Hazard Ratio	1.50506	1.03336	0.73807	0.28635	0.47326	1.08188	1.96082	2.38079	0.56797
P-value	0.19344	0.01	0.59434	0.00611	0.25948	0.85335	0.06714	0.08167	0.29929
95% Conf. Interval	0.8128 2.7871	1.0079 1.0595	0.2414 2.257	0.1171 0.7001	0.1289 1.7371	0.4696 2.4922	0.9536 4.032	0.8967 6.3213	0.1952 1.6528
Multivariate	KDM3B	Age	ER Status	PR Status	HER2 Status	Tumor Size	Lymph Node	Metastasis	PAM50 Subtype
Hazard Ratio	1.18545	1.03377	0.69269	0.28737	0.48847	1.09121	1.92802	2.37265	0.61024
P-value	0.60756	0.00988	0.52695	0.0057	0.2963	0.83579	0.07445	0.09873	0.38698
95% Conf. Interval	0.6193 2.2691	1.008 1.0602	0.2221 2.1604	0.1187 0.6956	0.1273 1.874	0.478 2.4908	0.9372 3.9662	0.8507 6.6173	0.1993 1.8684
Multivariate	KDM4A	Age	ER Status	PR Status	HER2 Status	Tumor Size	Lymph Node	Metastasis	PAM50 Subtype
Hazard Ratio	0.86382	1.03339	0.65819	0.28495	0.44498	1.06889	1.92643	2.14621	0.56342
P-value	0.65227	0.01118	0.47621	0.00568	0.22301	0.87387	0.07425	0.12684	0.30524
95% Conf. Interval	0.457 1.6329	1.0075 1.0599	0.2083 2.0802	0.117 0.6937	0.121 1.6367	0.4696 2.4332	0.9378 3.9574	0.8051 5.721	0.1882 1.6872
Multivariate	KDM4B	Age	ER Status	PR Status	HER2 Status	Tumor Size	Lymph Node	Metastasis	PAM50 Subtype
Hazard Ratio	0.32166	1.03383	0.51778	0.43025	0.33036	1.16317	1.43898	2.62448	0.31662
P-value	0.00319	0.00626	0.2871	0.07514	0.11324	0.71805	0.34258	0.0633	0.05688
95% Conf. Interval	0.15134 0.6837	1.00946 1.0588	0.15411 1.7397	0.16995 1.0892	0.08389 1.3009	0.51205 2.6423	0.67866 3.0511	0.94794 7.2662	0.09693 1.0342

Multivariate	KDM4C	Age	ER Status	PR Status	HER2 Status	Tumor Size	Lymph Node	Metastasis	PAM50 Subtype
Hazard Ratio	0.82579	1.03533	0.66498	0.30219	0.45316	1.06154	1.98597	2.14497	0.63544
P-value	0.5657	0.0077	0.4796	0.0097	0.2324	0.8881	0.0637	0.1276	0.4369
95% Conf. Interval	0.4298	1.0092	0.2145	0.122	0.1236	0.4621	0.9616	0.8036	0.2026
	1.5867	1.0621	2.0611	0.7484	1.6612	2.4387	4.1015	5.7254	1.9932
Multivariate	KDM4D	Age	ER Status	PR Status	HER2 Status	Tumor Size	Lymph Node	Metastasis	PAM50 Subtype
Hazard Ratio	1.13232	1.03456	0.64815	0.28689	0.43186	1.10631	1.91428	2.23558	0.52751
P-value	0.71072	0.00824	0.46516	0.00561	0.21061	0.81201	0.08115	0.10844	0.28387
95% Conf. Interval	0.5872	1.0088	0.2024	0.1186	0.116	0.4812	0.9228	0.8371	0.1638
	2.1836	1.061	2.0752	0.6942	1.6078	2.5436	3.9712	5.9702	1.6992
Multivariate	KDM4E	Age	ER Status	PR Status	HER2 Status	Tumor Size	Lymph Node	Metastasis	PAM50 Subtype
Hazard Ratio	0.99784	1.034295	0.676888	0.284759	0.444119	1.081376	1.959729	2.179276	0.568875
P-value	0.99461	0.00886	0.51392	0.00611	0.22272	0.85272	0.06928	0.13081	0.31779
95% Conf. Interval	0.5327	1.0085	0.2097	0.116	0.1205	0.4734	0.9483	0.7933	0.1881
	1.869	1.0607	2.1848	0.6989	1.6372	2.4699	4.05	5.9865	1.7205
Multivariate	KDM5A	Age	ER Status	PR Status	HER2 Status	Tumor Size	Lymph Node	Metastasis	PAM50 Subtype
Hazard Ratio	0.87201	1.03558	0.66682	0.29419	0.43591	1.093	2.01896	2.0615	0.61205
P-value	0.70457	0.00868	0.48822	0.00769	0.21349	0.83364	0.06236	0.16519	0.40534
95% Conf. Interval	0.4296	1.0089	0.212	0.1196	0.1178	0.4767	0.9644	0.7421	0.1926
	1.7701	1.063	2.0973	0.7234	1.6126	2.5061	4.2268	5.7265	1.9453
Multivariate	KDM5B	Age	ER Status	PR Status	HER2 Status	Tumor Size	Lymph Node	Metastasis	PAM50 Subtype
Hazard Ratio	0.74234	1.03678	0.60352	0.30563	0.43575	1.06866	2.03428	2.19195	0.56635
P-value	0.34951	0.00597	0.40778	0.00954	0.21884	0.87417	0.05435	0.11943	0.32059
95% Conf. Interval	0.3977	1.0104	0.1826	0.1247	0.1159	0.4698	0.9868	0.8163	0.1844
	1.3858	1.0638	1.9949	0.7489	1.6379	2.4309	4.1936	5.8861	1.7391
Multivariate	KDM5C	Age	ER Status	PR Status	HER2 Status	Tumor Size	Lymph Node	Metastasis	PAM50 Subtype
Hazard Ratio	0.94091	1.03412	0.67723	0.28863	0.44281	1.09319	1.96409	2.19633	0.57965
P-value	0.84765	0.00902	0.50347	0.00654	0.22071	0.83415	0.06653	0.11572	0.33641
95% Conf. Interval	0.5055	1.0084	0.2162	0.1179	0.1202	0.4747	0.955	0.824	0.1907
	1.7514	1.0605	2.1213	0.7068	1.6309	2.5173	4.0394	5.854	1.7622
Multivariate	KDM6A	Age	ER Status	PR Status	HER2 Status	Tumor Size	Lymph Node	Metastasis	PAM50 Subtype
Hazard Ratio	1.63844	1.03147	0.59379	0.2812	0.43113	1.11304	1.75191	2.65272	0.52504
P-value	0.13258	0.01641	0.37046	0.00561	0.2033	0.79651	0.12929	0.05539	0.24948
95% Conf. Interval	0.861	1.0057	0.1898	0.1146	0.1179	0.4932	0.8489	0.9778	0.1754
	3.118	1.0579	1.8579	0.6901	1.5759	2.512	3.6153	7.1969	1.5718
Multivariate	KDM6B	Age	ER Status	PR Status	HER2 Status	Tumor Size	Lymph Node	Metastasis	PAM50 Subtype
Hazard Ratio	0.62547	1.03492	0.64286	0.27931	0.43747	1.07486	1.90339	2.28801	0.47435
P-value	0.13609	0.00736	0.46651	0.00541	0.21452	0.86404	0.08119	0.10532	0.20465
95% Conf. Interval	0.3375	1.0093	0.1957	0.1137	0.1186	0.4705	0.9233	0.8403	0.1498
	1.159	1.061	2.112	0.686	1.614	2.456	3.924	6.23	1.502
Multivariate	KDM7A	Age	ER Status	PR Status	HER2 Status	Tumor Size	Lymph Node	Metastasis	PAM50 Subtype
Hazard Ratio	0.83034	1.03501	0.67588	0.28535	0.45661	1.08083	2.01477	2.16607	0.59562
P-value	0.56344	0.00803	0.49957	0.00542	0.24017	0.85458	0.06038	0.119	0.35896
95% Conf. Interval	0.4419	1.009	0.2168	0.1179	0.1234	0.4707	0.9699	0.8197	0.1969
	1.5602	1.0617	2.1074	0.6906	1.6891	2.4817	4.1852	5.7238	1.8021
Multivariate	KDM8	Age	ER Status	PR Status	HER2 Status	Tumor Size	Lymph Node	Metastasis	PAM50 Subtype
Hazard Ratio	0.62123	1.03557	0.65457	0.25856	0.40022	1.02559	2.00367	2.13494	0.44208
P-value	0.14165	0.00608	0.45745	0.0034	0.16526	0.95133	0.05662	0.12505	0.15273
95% Conf. Interval	0.3293	1.01	0.2141	0.1046	0.1098	0.4555	0.9806	0.8101	0.1444
	1.1721	1.0618	2.0017	0.6392	1.459	2.309	4.0941	5.6268	1.3533
Multivariate	MINA	Age	ER Status	PR Status	HER2 Status	Tumor Size	Lymph Node	Metastasis	PAM50 Subtype
Hazard Ratio	1.61375	1.03329	0.68555	0.29061	0.3768	1.0835	1.76076	2.15442	0.47846
P-value	0.15262	0.01008	0.51957	0.00684	0.14706	0.84705	0.12571	0.12824	0.19644
95% Conf. Interval	0.8376	1.0078	0.2173	0.1187	0.1007	0.4796	0.8535	0.8013	0.1563
	3.1091	1.0594	2.1629	0.7116	1.4096	2.4476	3.6324	5.7922	1.4642

Multivariate	PHF2	Age	ER Status	PR Status	HER2 Status	Tumor Size	Lymph Node	Metastasis	PAM50 Subtype
Hazard Ratio	0.89605	1.03464	0.66812	0.28097	0.41916	1.08178	1.93198	2.16683	0.54265
P-value	0.73375	0.00839	0.48877	0.00522	0.20607	0.85163	0.07376	0.12019	0.28855
95% Conf. Interval	0.476	1.0088	0.2133	0.1153	0.1089	0.4747	0.9387	0.8171	0.1755
	1.6866	1.0612	2.0928	0.6847	1.6133	2.4653	3.9764	5.7464	1.678
Multivariate	PHF8	Age	ER Status	PR Status	HER2 Status	Tumor Size	Lymph Node	Metastasis	PAM50 Subtype
Hazard Ratio	0.98277	1.03443	0.67924	0.28449	0.44344	1.08536	1.95029	2.18714	0.5684
P-value	0.95907	0.00984	0.51041	0.00552	0.22216	0.84813	0.07711	0.11813	0.31099
95% Conf. Interval	0.506	1.0082	0.2147	0.1171	0.1202	0.4693	0.9299	0.8196	0.1906
	1.9089	1.0614	2.1489	0.6912	1.6362	2.51	4.0902	5.8366	1.6954

Table S10. Relative expression level of 24 KDM genes in 18 breast cancer cell lines

Cell line	KDM1A	KDM1B	KDM2A	KDM2B	KDM3A	KDM3B	JMJD1C	KDM4A	KDM4B	KDM4C	KDM4D	KDM4E	KDM5A	KDM5B	KDM5C	KDM6A	KDM6B	KDM7A	PFH8	PFH2	MINA	NO66	KDM8	JARID2
SUM1315	-0.24	-1.49	-1.04	0.36	0.85	-0.29	-0.23	1.03	-2.90	-0.08	-1.31	3.62	0.13	0.94	0.01	-0.46	-1.38	-1.79	-0.71	-0.85	0.45	0.31	1.25	-0.52
SUM102	0.75	-0.38	0.80	-1.34	-0.29	-0.39	-0.05	-0.41	-1.40	0.74	1.21	0.00	0.94	1.10	-0.39	-0.03	-0.03	0.66	0.10	-0.53	0.06	0.56	1.69	0.70
SUM159	-0.50	-1.33	-1.31	0.91	0.50	-1.36	0.15	-0.34	-0.73	-0.25	2.40	3.25	-0.29	-0.09	0.20	-0.77	-1.49	-0.94	-0.46	-0.73	0.33	0.04	1.79	-0.40
Colo824	0.88	0.02	0.53	2.45	1.62	2.02	1.33	0.91	1.92	4.61	3.30	6.24	1.65	3.12	1.40	0.35	0.45	2.09	1.58	1.35	0.26	1.68	-0.09	5.32
SUM229	-1.34	-1.00	-0.78	0.31	0.36	-1.53	-1.79	-0.61	-1.55	0.29	1.65	-1.50	-2.34	-0.12	-0.93	-0.57	-0.28	-1.19	-0.85	-0.32	-1.74	-1.69	0.92	-0.69
SUM149	-0.47	0.12	0.38	0.29	0.52	-1.48	-0.46	0.33	-1.83	1.81	1.19		-0.56	-0.94	-1.31	-1.24	0.56	-1.61	-0.81	0.06	0.37	-0.34	-1.58	0.39
HCC70	-1.01	-1.21	-1.00	0.32	-0.40	-1.62	-1.19	-0.07	-1.09	0.67	-0.61	-0.82	-2.15	0.84	-0.86	-1.43	-1.33	-0.25	-1.28	-1.25	-0.12	-0.93	-0.03	-0.97
HCC1937	0.15	0.04	0.76	0.74	-0.58	-0.81	-0.81	0.36	0.67	0.17	1.29		1.87	0.99	-1.18	0.07	0.03	-2.76	-0.96	0.14	0.47	0.56	0.52	0.98
MDA-MB-468	0.16	0.01	0.15	1.49	0.12	-0.87	1.02	1.50	0.09	1.38	1.12	5.88	0.01	1.27	0.89	0.73	0.39	-1.16	1.20	-0.22	0.54	1.52	2.43	1.97
HCC1954	0.34	-0.63	0.26	-0.15	0.32	-0.62	-0.39	0.30	-1.58	2.60	3.31	4.05	0.10	0.54	2.03	1.15	0.28	0.31	0.69	-0.03	-0.45	0.39	0.30	1.12
SUM190	-0.39	0.36	-0.34	1.04	0.41	-0.70	0.41	-0.58	-1.15	0.21	1.92	0.69	-1.31	1.15	1.19	0.83	2.10	2.67	1.05	-0.19	0.10	-0.33	-0.17	1.11
SUM225	-2.63	0.16	0.56	-0.20	-0.71	-1.23	-0.35	1.33	0.24	-0.51	1.03	1.24	-2.54	1.12	-0.18	-1.18	0.56	0.69	-0.88	-0.66	-0.97	-0.94	0.85	-0.78
HCC1428	-0.43	0.37	1.00	0.78	1.03	-0.70	-0.39	1.38	3.55	-1.38	0.56	6.47	0.28	0.63	1.37	1.29	0.77	1.47	0.70	0.28	-0.94	-0.28	0.80	1.01
SUM44	-1.01	1.66	2.36	2.54	2.03	0.27	0.47	0.39	3.50	-0.05	0.61	2.19	0.40	2.89	1.38	1.86	1.50	0.99	1.76	0.35	-1.74	1.11	2.78	0.49
SUM52	-1.30	-0.67	1.05	0.16	-0.37	-0.73	-0.69	0.39	2.28	-0.98	0.81	-0.48	-1.64	0.65	0.28	-1.60	1.15	0.59	-0.43	-0.89	-0.81	-1.23	0.14	-1.64
T47D	-1.59	-0.13	1.37	2.86	-0.08	-0.46	0.06	0.66	3.98	-0.36	2.38	2.72	-1.35	3.35	1.34	1.31	1.03	2.19	1.00	-0.66	-0.68	0.90	2.07	0.12
SUM185	-0.77	-0.75	0.33	0.36	1.45	-0.31	1.66	0.14	2.53	0.38	0.79	5.45	-0.07	3.16	1.19	2.38	3.47	2.44	0.32	1.08	-0.33	-0.50	0.80	0.28
ZR75-1	-2.24	-0.79	2.09	1.49	0.78	-0.26	1.65	0.00	-0.07	1.15	0.02	1.44	-0.28	3.44	1.26	2.15	2.85	2.23	0.56	-0.22	0.56	1.24	2.20	0.50

Footnote: Expression level of KDM genes was detected by quantitative RT-PCR assays in 18 breast cancer cell lines. Basal-type cell lines are colored in red; HER2+ in green, and Luminal in blue. The log2 transformed expression level of each gene in one breast cancer cell line is relative to its abundance in the MCF10A cell line. Log2 ratio greater than 1.0 was highlighted in red, less than -1.0 in green.

Table S11. Upregulated and downregulated genes after KDM2A knockdown in ZR75-1 breast cancer cells

Tracking_id	Gene_short_name	FPKM_sh_#1	FPKM_sh_#3	FPKM_shRNA_Ctrl	log2(sh_1/sh-Ctrl)	log2(sh_3/sh-Ctrl)
XLOC_023331	SNORD90	2,048.12	292.79	0.00	44.22	41.41
XLOC_004227	SNORD67	643.14	65.68	0.00	42.55	39.26
XLOC_014802	RNU12	400.38	12.46	0.00	41.86	36.86
XLOC_007034	RTL1	154.07	0.63	0.00	40.49	32.56
XLOC_024176	LOC550643	20.63	38.07	0.00	37.59	38.47
XLOC_020709	VWC2	4.42	1.25	0.00	35.36	33.54
XLOC_010930	UPK1A	3.26	3.90	0.00	34.92	35.18
XLOC_011958	SLC17A7	3.11	0.70	0.00	34.86	32.70
XLOC_010083	UNC13D	2.76	0.69	0.00	34.68	32.68
XLOC_013713	SNAP25	1.93	0.29	0.00	34.17	31.45
XLOC_011822	GRIK5	1.59	0.26	0.00	33.89	31.26
XLOC_006896	RTN1	1.30	0.47	0.00	33.60	32.12
XLOC_013888	ZMYND8	1.19	0.00	0.00	33.46	22.95
XLOC_004365	NRXN2	1.06	0.08	0.00	33.30	29.52
XLOC_015157	SYN2	0.67	0.04	0.00	32.64	28.62
XLOC_020888	MUC17	0.49	0.13	0.00	32.19	30.32
XLOC_023888	GRIA3	0.44	0.09	0.00	32.05	29.74
XLOC_019188	SNAP91	0.36	0.07	0.00	31.74	29.31
XLOC_016742	GRIA2	0.30	0.10	0.00	31.50	29.85
XLOC_023806	DRP2	0.29	0.16	0.00	31.45	30.55
XLOC_002402	CELF2	0.21	0.08	0.00	30.98	29.52
XLOC_005023	SLC26A10	0.24	0.88	0.00	9.19	11.09
XLOC_015685	SNORD2	58,199.40	7,672.28	428.26	7.09	4.16
XLOC_000351	SNORD46	7,743.97	675.07	65.75	6.88	3.36
XLOC_007286	GABPB1	0.23	0.89	0.00	6.26	8.22
XLOC_018085	CAMK2A	3.66	0.45	0.05	6.16	3.15
XLOC_002252	AKT3	0.64	0.05	0.01	5.61	2.00
XLOC_009996	HEATR6,MIR4737	438.05	63.96	9.16	5.58	2.80
XLOC_015754	ATP2B2	0.50	0.22	0.02	4.76	3.55
XLOC_005019	KIF5A	1.55	0.44	0.06	4.65	2.84
XLOC_018938	OR11A1	1.16	0.25	0.05	4.60	2.39
XLOC_017928	MEF2C	0.37	0.06	0.02	4.38	1.77
XLOC_003028	SPOCK2	1.50	0.36	0.08	4.22	2.18
XLOC_015569	TRPC1	0.30	0.19	0.02	4.21	3.50
XLOC_015306	BSN	1.54	0.23	0.09	4.17	1.41
XLOC_000801	ATP1A2	0.75	0.20	0.04	4.17	2.27
XLOC_016663	ANK2	0.65	0.13	0.04	4.14	1.82
XLOC_015917	C3orf18	18.43	4.88	1.05	4.13	2.21
XLOC_022171	NEFL	2.36	0.75	0.14	4.09	2.44
XLOC_010494	SNORD58A	3,754.86	1,411.25	224.03	4.07	2.66
XLOC_009498	C17orf91,MIR22	27,254.50	9,823.70	1,676.98	4.02	2.55
XLOC_013304	ZEB2	0.18	0.04	0.01	4.01	1.78
XLOC_010622	C19orf29OS	10.40	7.22	0.65	4.00	3.48
XLOC_017616	LOC728264,MIR143,MIR145	29,206.90	8,385.57	1,851.55	3.98	2.18
XLOC_007754	CYP1A1	3.18	1.52	0.21	3.92	2.85
XLOC_011993	SHANK1	2.43	0.66	0.17	3.84	1.96
XLOC_000938	CFH	1.67	0.49	0.12	3.78	2.01
XLOC_012757	UNC80	0.14	0.03	0.01	3.77	1.32
XLOC_015954	ERC2	0.27	0.10	0.02	3.75	2.33
XLOC_007353	PAQR5	8.27	2.63	0.77	3.42	1.77
XLOC_022774	FSD1L	0.99	0.33	0.11	3.23	1.66
XLOC_015891	C3orf62	13.99	4.34	1.50	3.22	1.53
XLOC_014848	SHANK3	2.39	1.96	0.26	3.21	2.92
XLOC_013302	LRP1B	0.06	0.06	0.01	3.15	3.17
XLOC_021088	CHPF2,MIR671	237.10	368.29	28.80	3.04	3.68
XLOC_004029	IFITM10	0.68	0.77	0.09	2.99	3.15
XLOC_011600	LOC284454,MIR24-2	4,532.81	1,302.61	609.20	2.90	1.10
XLOC_010467	CELF4	0.60	0.24	0.08	2.88	1.56
XLOC_017019	MAPK10	0.40	0.25	0.06	2.79	2.09
XLOC_005433	TMTC1	0.40	0.35	0.06	2.78	2.59
XLOC_001219	CHD5	0.45	0.24	0.07	2.72	1.82

XLOC_023244	GABBR2	0.62	0.15	0.09	2.70	0.69
XLOC_004902	PRPH	3.31	4.00	0.51	2.69	2.97
XLOC_016864	NKX3-2	1.77	0.94	0.29	2.62	1.71
XLOC_009596	NCRNA00324	15.15	6.49	2.49	2.61	1.38
XLOC_003022	C10orf27	2.70	2.73	0.46	2.56	2.57
XLOC_012603	KIF5C	0.75	0.49	0.15	2.31	1.69
XLOC_017644	CYFIP2	3.51	1.47	0.72	2.29	1.04
XLOC_010448	CDH2	0.42	0.29	0.09	2.29	1.74
XLOC_014244	HRH3	3.46	2.07	0.72	2.26	1.51
XLOC_007787	ADAMTS7	1.36	0.66	0.29	2.25	1.22
XLOC_012653	RAPGEF4	0.48	0.22	0.10	2.22	1.12
XLOC_010953	ZNF568	0.61	0.41	0.13	2.21	1.63
XLOC_013041	NRXN1	0.17	0.09	0.04	2.16	1.26
XLOC_008980	SHISA6	0.82	0.39	0.18	2.16	1.09
XLOC_017317	PTGER4	0.21	0.51	0.05	2.14	3.43
XLOC_000239	LOC100129196	6.41	2.60	1.46	2.13	0.83
XLOC_006983	PTPN21	1.99	1.15	0.47	2.09	1.31
XLOC_001495	ZSWIM5	1.15	0.72	0.27	2.08	1.41
XLOC_010259	GNAL	3.75	2.80	0.90	2.06	1.64
XLOC_015322	DOCK3	0.24	0.13	0.06	2.06	1.15
XLOC_021157	VWDE	0.41	0.34	0.10	2.06	1.80
XLOC_013792	BPIFB1	141.40	79.52	34.59	2.03	1.20
XLOC_005116	APAF1	15.66	6.33	3.95	1.99	0.68
XLOC_023626	MAOA	0.22	0.26	0.06	1.98	2.21
XLOC_017385	MAP1B	0.60	0.23	0.15	1.96	0.59
XLOC_018169	DOK3	3.26	1.52	0.84	1.96	0.86
XLOC_021330	GTF2IRD2	0.37	0.54	0.10	1.91	2.45
XLOC_022988	RFX3	0.64	0.58	0.17	1.90	1.76
XLOC_013230	LOC151009	1.10	0.90	0.30	1.88	1.59
XLOC_012960	KIF3C	0.84	0.59	0.23	1.88	1.36
XLOC_011730	U2AF1L4	5.29	5.68	1.45	1.87	1.97
XLOC_017101	QRFPF	1.22	0.70	0.34	1.83	1.02
XLOC_002782	HTRA1	1.43	1.12	0.41	1.82	1.47
XLOC_021024	MTRNR2L6	2.11	1.93	0.61	1.80	1.67
XLOC_023041	ELAVL2	0.39	0.16	0.11	1.80	0.48
XLOC_012931	FAM49A	0.38	0.28	0.11	1.77	1.33
XLOC_013425	SATB2	1.04	0.61	0.31	1.76	0.98
XLOC_002618	FAM22D	0.67	0.44	0.20	1.74	1.15
XLOC_017999	FSTL4	0.45	0.39	0.13	1.74	1.57
XLOC_008594	LOC613037	2.40	2.04	0.72	1.74	1.51
XLOC_002655	PLCE1	1.31	0.74	0.40	1.72	0.90
XLOC_021105	RNF32	1.20	1.25	0.36	1.72	1.78
XLOC_002385	AKR1C3	3.03	2.14	0.92	1.72	1.21
XLOC_017583	PCDHB14	0.50	0.86	0.15	1.70	2.49
XLOC_021278	DDC	0.76	1.72	0.23	1.70	2.88
XLOC_012756	MAP2	0.62	0.44	0.20	1.66	1.16
XLOC_016730	TRIM2	0.16	0.10	0.05	1.65	0.95
XLOC_016413	SORCS2	0.56	0.40	0.18	1.64	1.15
XLOC_000986	TMCC2	2.10	1.47	0.68	1.63	1.11
XLOC_007416	KIAA1024	0.72	0.71	0.23	1.62	1.60
XLOC_022591	FLJ35282	1.25	0.78	0.41	1.60	0.92
XLOC_004669	CDON	0.26	0.34	0.09	1.59	2.02
XLOC_009202	AOC2	2.33	2.18	0.78	1.59	1.49
XLOC_015453	GTPBP8	2.60	1.83	0.87	1.58	1.07
XLOC_014206	FAM65C	1.15	0.76	0.39	1.56	0.97
XLOC_011382	LOC100131691	1.33	0.89	0.46	1.54	0.97
XLOC_014727	HMOX1	106.11	112.90	37.24	1.51	1.60
XLOC_014002	SIRPB1	0.57	0.96	0.20	1.50	2.26
XLOC_014541	CBS	3.28	2.91	1.18	1.47	1.30
XLOC_024178	LOC550643	57.67	62.98	20.91	1.46	1.59
XLOC_008052	ABCC6P1	0.73	0.67	0.26	1.46	1.34
XLOC_023134	PGM5P2	0.98	1.31	0.36	1.46	1.87
XLOC_023966	MAGEA4	0.87	0.48	0.32	1.45	0.61

XLOC_013829	VSTM2L	5.60	2.91	2.05	1.45	0.51
XLOC_011679	TSSK6	3.24	2.53	1.19	1.44	1.09
XLOC_012726	FZD7	1.74	1.70	0.65	1.43	1.40
XLOC_006917	FUT8	1.41	0.91	0.53	1.42	0.78
XLOC_007731	LARP6	4.01	2.79	1.51	1.41	0.88
XLOC_005522	KRT81	26.66	21.80	10.06	1.41	1.12
XLOC_003563	RTN4RL2	17.48	17.70	6.61	1.40	1.42
XLOC_012375	ATP6V1B1	41.64	27.26	15.78	1.40	0.79
XLOC_014888	SCARF2	6.55	4.24	2.49	1.40	0.77
XLOC_013092	ASPRV1,LOC400960	1.97	2.05	0.75	1.39	1.45
XLOC_011403	C19orf23	2.82	2.83	1.07	1.39	1.40
XLOC_016199	LOC730091	0.76	0.71	0.29	1.38	1.27
XLOC_023750	NLGN3	0.62	0.71	0.24	1.36	1.56
XLOC_008659	CES1	195.58	173.81	76.29	1.36	1.19
XLOC_000888	TNN	0.42	0.52	0.16	1.36	1.68
XLOC_014297	RBM11	0.44	0.58	0.17	1.35	1.76
XLOC_018667	TRAF3IP2-AS1	0.55	0.67	0.22	1.34	1.63
XLOC_016927	SGCB	0.57	0.61	0.23	1.33	1.44
XLOC_013669	SNPH	42.42	31.04	16.93	1.33	0.87
XLOC_002125	SLC45A3	1.12	0.67	0.45	1.32	0.58
XLOC_021034	TMEM139	7.78	7.10	3.12	1.32	1.19
XLOC_003040	ZMYND17	0.78	0.70	0.32	1.30	1.14
XLOC_020802	CCDC146	0.44	0.47	0.18	1.30	1.39
XLOC_021425	GATS	3.80	2.15	1.55	1.30	0.47
XLOC_011988	FAM71E1	9.17	5.44	3.73	1.30	0.54
XLOC_021538	PODXL	6.35	4.62	2.59	1.30	0.84
XLOC_002037	LOC100527964	1.59	1.16	0.65	1.29	0.84
XLOC_019301	SLC2A12	0.26	0.16	0.11	1.29	0.61
XLOC_018329	BTN2A2	1.72	1.38	0.71	1.28	0.97
XLOC_001109	RYR2	0.21	0.15	0.09	1.28	0.76
XLOC_014657	DDTL	1.63	1.69	0.67	1.28	1.33
XLOC_018758	RAB32	7.22	6.46	2.99	1.27	1.11
XLOC_024463	PDZD4	2.70	1.61	1.13	1.26	0.52
XLOC_015999	FAM86DP	3.33	2.32	1.39	1.26	0.74
XLOC_001349	LOC646471	1.86	2.86	0.78	1.25	1.87
XLOC_011821	ATP1A3	5.78	4.14	2.44	1.25	0.76
XLOC_005391	GRIN2B	0.65	0.39	0.27	1.24	0.51
XLOC_009551	LOC728392	4.70	3.27	1.99	1.24	0.72
XLOC_002142	PLXNA2	0.73	0.50	0.31	1.23	0.68
XLOC_011685	LOC284440	0.14	0.65	0.06	1.23	3.40
XLOC_009097	RHBDL3	5.75	4.72	2.46	1.23	0.94
XLOC_005964	FREM2	0.29	0.28	0.12	1.22	1.16
XLOC_020621	GPNMB	8.79	7.22	3.77	1.22	0.94
XLOC_014044	JAG1	0.17	0.27	0.07	1.20	1.87
XLOC_014915	DERL3	9.34	7.57	4.06	1.20	0.90
XLOC_018127	ATP10B	0.54	0.35	0.23	1.20	0.57
XLOC_017027	ABCG2	0.75	0.96	0.33	1.20	1.55
XLOC_010938	APLP1	42.26	33.22	18.57	1.19	0.84
XLOC_021444	CLDN15	6.20	5.40	2.74	1.18	0.98
XLOC_011761	ZNF573	0.50	0.60	0.22	1.17	1.45
XLOC_006208	THSD1P1	0.57	0.79	0.25	1.17	1.64
XLOC_009636	C17orf76	1.52	1.82	0.68	1.16	1.42
XLOC_017782	ANKH	0.19	0.15	0.08	1.16	0.89
XLOC_022391	SYBU	0.62	0.72	0.28	1.16	1.37
XLOC_020562	GPR146	1.94	1.91	0.88	1.15	1.12
XLOC_010734	ZNF441	0.80	0.66	0.36	1.15	0.88
XLOC_001164	LOC729737	1.22	2.10	0.55	1.15	1.93
XLOC_021603	LOC401431	2.90	1.86	1.31	1.15	0.51
XLOC_000923	SWT1	1.23	1.38	0.56	1.14	1.31
XLOC_007778	LINGO1	4.93	4.75	2.23	1.14	1.09
XLOC_016256	ABCC5	3.83	4.47	1.74	1.14	1.36
XLOC_006353	DHRS2	6.10	6.00	2.77	1.14	1.12
XLOC_003436	NAV2	0.46	0.43	0.21	1.14	1.03

XLOC_016994	ANKRD56	2.51	2.15	1.14	1.14	0.92
XLOC_007295	TMOD2	0.57	0.53	0.26	1.13	1.02
XLOC_022919	ADAMTS13	3.33	2.12	1.52	1.13	0.48
XLOC_021431	SAP25	1.59	6.18	0.73	1.13	3.09
XLOC_014339	OLIG1	2.29	2.51	1.05	1.12	1.26
XLOC_019355	SYNE1	0.09	0.09	0.04	1.12	1.19
XLOC_015967	ACOX2	2.13	1.52	0.98	1.12	0.64
XLOC_008480	C16orf5	15.89	14.06	7.31	1.12	0.94
XLOC_002924	NRP1	2.12	2.31	0.98	1.11	1.24
XLOC_000904	FLJ23867,QSOX1	17.95	14.68	8.31	1.11	0.82
XLOC_015336	GLYCTK	3.42	3.93	1.59	1.11	1.31
XLOC_012182	LOC150622	0.19	0.12	0.09	1.11	0.50
XLOC_011334	ZNF583	0.99	0.83	0.46	1.10	0.85
XLOC_002877	RSU1	2.37	2.44	1.10	1.10	1.14
XLOC_021519	PRRT4	6.31	5.00	2.95	1.10	0.76
XLOC_003669	PPP2R5B	5.33	4.79	2.50	1.09	0.94
XLOC_019061	MDGA1	0.46	0.55	0.22	1.08	1.35
XLOC_021791	DPYSL2	0.54	0.47	0.26	1.07	0.86
XLOC_009949	DLX3	1.08	1.44	0.52	1.07	1.47
XLOC_002616	FAM22A	3.61	2.76	1.73	1.06	0.68
XLOC_008521	ABCC6	11.23	10.96	5.39	1.06	1.02
XLOC_002756	ATRNL1	0.38	0.27	0.18	1.06	0.56
XLOC_020700	ADCY1	1.51	1.10	0.73	1.05	0.59
XLOC_011391	SHC2	8.96	8.37	4.36	1.04	0.94
XLOC_012235	DPYSL5	2.09	1.70	1.02	1.04	0.74
XLOC_013585	KIF1A	13.36	12.92	6.52	1.04	0.99
XLOC_000323	C1orf50	8.24	7.95	4.04	1.03	0.98
XLOC_018292	ID4	3.42	2.49	1.69	1.02	0.56
XLOC_007653	MYO5A	1.62	1.47	0.81	1.01	0.86
XLOC_021727	MSRA	4.13	3.53	2.06	1.00	0.78
XLOC_018267	GCNT2	2.24	1.80	1.12	1.00	0.68
XLOC_019182	ELOVL4	0.20	0.26	0.10	1.00	1.34
XLOC_020610	HDAC9	1.61	1.25	0.81	0.99	0.63
XLOC_014926	POM121L10P	0.24	0.47	0.12	0.99	1.92
XLOC_000620	FAM72B	0.55	0.44	0.28	0.99	0.66
XLOC_015513	CCDC48	2.28	3.58	1.15	0.98	1.64
XLOC_022404	SNTB1	1.05	0.82	0.53	0.98	0.61
XLOC_004884	TMEM117	0.39	0.42	0.20	0.98	1.10
XLOC_008607	C16orf93	11.65	8.37	5.90	0.98	0.50
XLOC_023224	C9orf130	2.99	3.18	1.52	0.97	1.06
XLOC_006912	GPX2	135.35	147.68	69.00	0.97	1.10
XLOC_009904	LRRC37A4	2.80	2.14	1.43	0.97	0.58
XLOC_003619	DAGLA	1.54	1.58	0.79	0.97	1.01
XLOC_022021	KHDRBS3	0.85	1.35	0.44	0.97	1.63
XLOC_021748	ZDHHC2	1.22	1.01	0.63	0.97	0.69
XLOC_004476	KLHL35	9.32	7.74	4.78	0.96	0.69
XLOC_008814	C16orf7	18.04	18.68	9.26	0.96	1.01
XLOC_017280	LOC100505738,MIR4458	0.90	81.45	0.46	0.96	7.47
XLOC_015959	IL17RD	0.54	0.42	0.28	0.96	0.58
XLOC_005545	LOC283335	1.17	1.25	0.60	0.96	1.06
XLOC_001770	HIST2H2BC	14.65	12.37	7.56	0.96	0.71
XLOC_003219	CHST15	9.45	8.58	4.89	0.95	0.81
XLOC_009389	OTOP3	4.45	3.97	2.30	0.95	0.78
XLOC_015592	AADAC	0.63	0.74	0.33	0.95	1.18
XLOC_005424	BHLHE41	7.37	7.13	3.83	0.94	0.90
XLOC_019393	RPS6KA2	1.00	1.47	0.52	0.94	1.49
XLOC_023390	FAM78A	2.69	1.99	1.41	0.94	0.50
XLOC_022929	OLFM1	12.63	10.95	6.62	0.93	0.73
XLOC_022449	TSNARE1	5.09	3.98	2.67	0.93	0.58
XLOC_015380	GPR27	3.71	3.05	1.95	0.93	0.65
XLOC_018038	MZB1	6.24	5.78	3.28	0.93	0.82
XLOC_023768	TSIX	0.04	0.04	0.02	0.93	0.96
XLOC_022353	C8orf37	0.73	0.56	0.39	0.93	0.53

XLOC_007485	SLCO3A1	3.88	4.65	2.04	0.93	1.19
XLOC_015663	VWA5B2	1.19	1.35	0.63	0.92	1.11
XLOC_023448	LOC100131193	11.18	10.03	5.90	0.92	0.77
XLOC_002948	ANUBL1	0.53	0.39	0.28	0.92	0.48
XLOC_022213	STAR	0.32	0.65	0.17	0.92	1.95
XLOC_015495	LOC100125556	2.05	2.36	1.09	0.92	1.12
XLOC_023152	TMEM2	1.39	1.24	0.74	0.91	0.75
XLOC_000325	ERMAP	1.51	2.00	0.81	0.91	1.31
XLOC_017329	PARP8	0.59	0.49	0.32	0.91	0.63
XLOC_016258	CAMK2N2	30.75	22.82	16.42	0.91	0.47
XLOC_006421	PTGER2	4.04	4.48	2.16	0.90	1.05
XLOC_012362	APLF	0.31	0.28	0.17	0.90	0.74
XLOC_013363	GPR155	0.95	0.84	0.51	0.90	0.72
XLOC_021794	SCARA3	19.05	14.53	10.20	0.90	0.51
XLOC_018988	HSPA1L	1.54	1.33	0.83	0.90	0.69
XLOC_011347	ZNF460	0.73	0.70	0.39	0.90	0.84
XLOC_007732	THAP10	3.14	2.33	1.68	0.90	0.47
XLOC_009114	SLFN5	1.26	0.94	0.68	0.89	0.46
XLOC_014772	FAM83F	2.64	2.36	1.42	0.89	0.73
XLOC_012371	MXD1	1.94	2.24	1.05	0.89	1.10
XLOC_000753	LOC645676	2.77	2.27	1.51	0.88	0.59
XLOC_018835	LOC401233	0.25	0.30	0.14	0.87	1.14
XLOC_007340	SMAD6	15.37	11.83	8.40	0.87	0.49
XLOC_014987	APOL4	0.71	0.73	0.39	0.87	0.91
XLOC_020879	MOSPD3	29.42	32.88	16.08	0.87	1.03
XLOC_007040	ANKRD9	23.46	20.75	12.83	0.87	0.69
XLOC_003475	FJX1	47.36	43.65	25.91	0.87	0.75
XLOC_020814	RUNDC3B	0.22	0.23	0.12	0.87	0.93
XLOC_006033	SLAIN1	2.58	3.16	1.42	0.86	1.16
XLOC_009208	IFI35	3.10	2.39	1.71	0.86	0.49
XLOC_009299	HLF	1.39	1.23	0.77	0.86	0.68
XLOC_023680	USP27X	2.05	1.92	1.13	0.86	0.77
XLOC_018760	STXBP5	0.54	0.47	0.30	0.85	0.66
XLOC_017489	SNX24	1.18	1.43	0.66	0.85	1.12
XLOC_007858	ADAMTS17	1.34	1.35	0.74	0.85	0.85
XLOC_024213	CITED1	25.92	25.10	14.43	0.85	0.80
XLOC_023769	JPX	3.28	2.65	1.83	0.84	0.54
XLOC_021356	CACNA2D1	1.14	0.88	0.64	0.84	0.46
XLOC_021255	CAMK2B	2.76	3.61	1.54	0.84	1.23
XLOC_012538	DPP10	1.35	1.39	0.75	0.84	0.88
XLOC_014016	SLC4A11	10.41	9.76	5.83	0.84	0.74
XLOC_013767	PSIMCT-1	3.83	3.06	2.14	0.83	0.51
XLOC_007735	GRAMD2	2.23	2.09	1.25	0.83	0.74
XLOC_007679	RORA	0.13	0.11	0.07	0.83	0.58
XLOC_003857	DYNC2H1	0.18	0.16	0.10	0.83	0.66
XLOC_024197	AWAT2	8.94	7.84	5.03	0.83	0.64
XLOC_022178	TRIM35	3.99	3.38	2.26	0.82	0.58
XLOC_000375	CYP4B1	34.90	33.61	19.75	0.82	0.77
XLOC_012701	GLS	6.22	5.69	3.52	0.82	0.69
XLOC_010057	MGC16275	1.20	1.53	0.68	0.81	1.16
XLOC_018969	HLA-B	73.28	60.48	41.75	0.81	0.53
XLOC_021068	ATP6V0E2	84.27	66.74	48.03	0.81	0.47
XLOC_005359	KLRAP1	0.45	0.56	0.26	0.81	1.12
XLOC_013997	C20orf46	3.09	2.67	1.77	0.81	0.60
XLOC_002720	CNNM2	4.35	4.79	2.49	0.80	0.94
XLOC_015296	TREX1	14.62	12.98	8.38	0.80	0.63
XLOC_010168	RAB40B	14.05	13.83	8.06	0.80	0.78
XLOC_001379	SNORD99	1,554.01	1,499.33	892.97	0.80	0.75
XLOC_022180	CLU	157.65	138.78	90.72	0.80	0.61
XLOC_001545	LDLRAD1	4.60	4.95	2.64	0.80	0.90
XLOC_003622	FADS2	4.42	3.58	2.55	0.80	0.49
XLOC_008220	NLRC5	0.74	0.93	0.43	0.80	1.12
XLOC_024280	RAB9B	0.59	0.73	0.34	0.79	1.09

XLOC_016068	HGD	56.63	58.07	32.75	0.79	0.83
XLOC_001976	ILDR2	0.31	0.29	0.18	0.79	0.67
XLOC_018869	ATXN1	1.05	0.87	0.61	0.79	0.52
XLOC_005173	SH2B3	0.66	0.71	0.38	0.79	0.90
XLOC_021250	PGAM2	31.38	26.11	18.21	0.79	0.52
XLOC_006402	C14orf28	0.79	0.83	0.46	0.78	0.85
XLOC_013066	FAM161A	1.02	1.08	0.59	0.78	0.86
XLOC_024224	FTX	0.39	0.38	0.22	0.78	0.77
XLOC_023176	SLC28A3	2.84	2.52	1.66	0.78	0.60
XLOC_001755	FMO5	2.90	3.65	1.69	0.78	1.11
XLOC_016847	CCDC96	3.51	4.05	2.05	0.78	0.98
XLOC_004127	NRIP3	0.87	0.78	0.51	0.77	0.63
XLOC_006979	STON2	1.16	1.07	0.68	0.77	0.64
XLOC_021387	PON3	1.49	1.81	0.87	0.77	1.05
XLOC_001723	VTCN1	64.90	52.83	38.10	0.77	0.47
XLOC_020837	PEG10	21.14	19.72	12.47	0.76	0.66
XLOC_024043	MID1	3.28	2.90	1.94	0.76	0.58
XLOC_021766	BMP1	3.47	3.54	2.05	0.76	0.79
XLOC_008936	KCTD11	3.67	3.27	2.17	0.76	0.59
XLOC_015378	MITF	0.85	0.88	0.51	0.76	0.79
XLOC_006873	FERMT2	12.49	11.01	7.39	0.76	0.57
XLOC_004717	LOC100288778	5.42	5.37	3.21	0.75	0.74
XLOC_008340	OSGIN1	26.97	28.20	16.03	0.75	0.81
XLOC_016980	CXCL2	0.57	0.98	0.34	0.75	1.53
XLOC_012013	VSIG10L	7.37	6.17	4.39	0.75	0.49
XLOC_010729	C19orf39	3.59	3.35	2.14	0.75	0.65
XLOC_012125	ZSCAN18	6.42	8.10	3.83	0.75	1.08
XLOC_010040	WIPI1	27.49	26.14	16.40	0.75	0.67
XLOC_024233	TTC3P1	1.86	1.96	1.11	0.74	0.83
XLOC_018278	SIRT5	2.89	2.83	1.73	0.74	0.71
XLOC_022597	LOC100129250	13.44	15.45	8.04	0.74	0.94
XLOC_018317	HIST1H2AC	12.37	12.41	7.40	0.74	0.75
XLOC_001172	C1orf170	1.48	1.63	0.88	0.74	0.88
XLOC_024125	PCSK1N	82.41	81.33	49.45	0.74	0.72
XLOC_008726	NQO1	583.67	662.95	350.73	0.73	0.92
XLOC_017014	HPSE	0.43	0.41	0.26	0.73	0.64
XLOC_023762	PIN4	1.54	1.87	0.93	0.73	1.01
XLOC_004197	CSTF3	14.91	16.84	9.01	0.73	0.90
XLOC_005061	KCNMB4	1.40	1.41	0.84	0.73	0.74
XLOC_015069	EFCAB6	0.40	0.46	0.24	0.73	0.94
XLOC_005520	KRT80	11.62	12.40	7.06	0.72	0.81
XLOC_012689	GULP1	2.34	2.51	1.42	0.72	0.82
XLOC_000144	PQLC2	26.48	23.33	16.13	0.72	0.53
XLOC_014784	TEF	5.86	6.18	3.57	0.72	0.79
XLOC_006128	FLT3	3.86	4.07	2.36	0.71	0.78
XLOC_001772	HIST2H2BE	4.06	4.20	2.49	0.70	0.76
XLOC_005541	KRT4	9.31	11.84	5.72	0.70	1.05
XLOC_006579	C14orf132	0.61	1.00	0.37	0.70	1.42
XLOC_018865	GFOD1	1.27	1.27	0.78	0.70	0.70
XLOC_017499	SLC12A2	3.83	3.79	2.36	0.70	0.68
XLOC_008892	ITGAE	496.24	1,867.27	306.37	0.70	2.61
XLOC_023113	MCART1	3.91	3.33	2.42	0.69	0.46
XLOC_005142	C12orf75	1.52	2.33	0.94	0.69	1.31
XLOC_012119	ZNF814	0.34	0.30	0.21	0.69	0.52
XLOC_011667	CRLF1	5.11	7.19	3.17	0.69	1.18
XLOC_010955	ZNF383	2.20	1.97	1.36	0.69	0.53
XLOC_018319	HIST1H2BD	10.57	13.33	6.56	0.69	1.02
XLOC_014957	RNF215	15.62	15.35	9.69	0.69	0.66
XLOC_021169	TWIST1	9.30	8.46	5.78	0.68	0.55
XLOC_020855	ZNF789	4.53	4.22	2.82	0.68	0.58
XLOC_018274	TMEM170B	0.77	0.74	0.48	0.68	0.63
XLOC_011230	ZNF331	2.00	1.73	1.25	0.68	0.47
XLOC_010114	TIMP2	10.99	10.65	6.87	0.68	0.63

XLOC_021098	LOC100132707	2.32	2.56	1.46	0.67	0.82
XLOC_012236	MAPRE3	25.34	22.52	15.93	0.67	0.50
XLOC_005098	CRADD	4.23	4.23	2.66	0.67	0.67
XLOC_011085	CCDC61	3.99	3.78	2.51	0.67	0.59
XLOC_005084	TMTC2	1.35	1.26	0.85	0.67	0.57
XLOC_002654	SLC35G1	0.81	0.95	0.51	0.66	0.89
XLOC_000133	CROCC	2.09	1.99	1.32	0.66	0.59
XLOC_012308	CAMKMT	4.24	4.15	2.68	0.66	0.63
XLOC_001729	ZNF697	0.70	0.63	0.44	0.66	0.50
XLOC_018613	CYB5R4	6.88	7.23	4.38	0.65	0.72
XLOC_007227	C15orf62	2.00	2.15	1.27	0.65	0.75
XLOC_012433	NCRNA00152	30.31	30.41	19.31	0.65	0.66
XLOC_000147	OTUD3	1.22	1.32	0.78	0.65	0.76
XLOC_018632	TSG1	0.08	0.18	0.05	0.65	1.78
XLOC_002457	BAMBI	240.14	238.28	153.80	0.64	0.63
XLOC_023110	FBXO10	0.59	0.76	0.38	0.64	0.99
XLOC_010030	LRRC37A3	4.71	4.56	3.02	0.64	0.59
XLOC_005994	CDADC1	1.51	1.46	0.97	0.64	0.59
XLOC_012563	LOC285103	1.39	2.00	0.89	0.64	1.17
XLOC_021754	NAT2	1.08	1.82	0.70	0.64	1.39
XLOC_008334	PLCG2	1.65	2.00	1.06	0.64	0.91
XLOC_022165	TNFRSF10A	9.59	9.46	6.17	0.64	0.62
XLOC_020737	ZNF273	0.27	0.39	0.17	0.64	1.19
XLOC_011570	ZNF433	1.06	1.04	0.68	0.64	0.61
XLOC_007826	NTRK3	1.33	1.54	0.85	0.63	0.85
XLOC_014436	C21orf91,NCRNA00285	0.54	1.03	0.35	0.63	1.57
XLOC_011380	ZNF446	12.08	10.99	7.80	0.63	0.49
XLOC_001719	ATP1A1OS	7.04	13.18	4.55	0.63	1.54
XLOC_018276	EDN1	8.03	9.14	5.20	0.63	0.81
XLOC_016897	TLR6	0.37	0.36	0.24	0.62	0.60
XLOC_001378	SNHG12,SNORA61	159.69	151.41	104.06	0.62	0.54
XLOC_016047	WDR52	0.33	0.40	0.21	0.62	0.90
XLOC_005136	TXNRD1	85.98	94.01	56.12	0.62	0.74
XLOC_018287	CAP2	2.53	2.72	1.65	0.62	0.72
XLOC_002839	AKR1C2	72.51	107.87	47.39	0.61	1.19
XLOC_003914	TTC36	6.26	7.04	4.10	0.61	0.78
XLOC_015247	ZBTB47	2.70	2.96	1.77	0.61	0.74
XLOC_011536	OLFM2	17.87	16.55	11.73	0.61	0.50
XLOC_007092	LOC653061	0.45	0.56	0.29	0.60	0.93
XLOC_010307	MAPRE2	5.11	5.01	3.37	0.60	0.57
XLOC_012723	CASP8	6.67	7.38	4.41	0.60	0.74
XLOC_024480	G6PD	1,094.24	1,041.12	723.93	0.60	0.52
XLOC_022465	C8orf73	2.67	3.29	1.76	0.60	0.90
XLOC_006422	GPR137C	0.45	0.54	0.30	0.60	0.87
XLOC_004040	KCNQ1OT1	0.02	0.03	0.01	0.60	1.06
XLOC_001526	EPS15	5.40	5.48	3.58	0.59	0.62
XLOC_016861	HS3ST1	1.09	1.06	0.72	0.59	0.56
XLOC_009968	C17orf67	2.85	4.56	1.89	0.59	1.27
XLOC_006742	TEP1	2.41	2.35	1.60	0.59	0.55
XLOC_012531	CBWD2	2.22	2.62	1.48	0.59	0.82
XLOC_002143	LAMB3,MIR4260	4.14	4.07	2.75	0.59	0.56
XLOC_023333	ZBTB26	1.32	1.28	0.88	0.58	0.54
XLOC_003500	MAPK8IP1	16.42	16.07	10.96	0.58	0.55
XLOC_007865	PCSK6	5.79	5.35	3.86	0.58	0.47
XLOC_017349	PART1	0.92	1.02	0.62	0.58	0.74
XLOC_017492	GRAMD3	5.63	5.16	3.76	0.58	0.46
XLOC_011481	PSPN	12.78	18.03	8.55	0.58	1.08
XLOC_018027	NME5	1.39	1.65	0.93	0.58	0.83
XLOC_000864	GORAB	2.38	2.20	1.60	0.58	0.46
XLOC_015848	ALS2CL	2.73	3.11	1.83	0.58	0.77
XLOC_011316	ZNF628	4.08	3.74	2.73	0.58	0.45
XLOC_012518	ZC3H6	0.59	0.59	0.40	0.58	0.58
XLOC_018281	CD83	1.82	2.05	1.22	0.58	0.75

XLOC_015479	EAF2	2.41	2.77	1.62	0.57	0.77
XLOC_022796	C9orf43	0.85	1.19	0.57	0.57	1.07
XLOC_019254	TUBE1	1.83	1.84	1.23	0.57	0.58
XLOC_022785	DNAJC25,DNAJC25-GNG10,GNG10	17.48	17.98	11.77	0.57	0.61
XLOC_019037	GRM4	1.32	2.07	0.89	0.57	1.22
XLOC_012602	EPC2	2.65	2.49	1.78	0.57	0.48
XLOC_018345	ZNF391	0.47	1.16	0.32	0.57	1.88
XLOC_019221	USP45	0.50	0.64	0.34	0.57	0.92
XLOC_002471	LOC399744	1.51	2.10	1.02	0.57	1.04
XLOC_002881	PTPLA	2.75	2.97	1.86	0.56	0.67
XLOC_003771	P2RY6	4.26	6.92	2.89	0.56	1.26
XLOC_007209	SPRED1	1.17	1.37	0.79	0.56	0.78
XLOC_022121	FAM167A	1.75	2.13	1.19	0.56	0.84
XLOC_000561	GSTM4	19.76	18.78	13.40	0.56	0.49
XLOC_003009	RUFY2	3.76	3.96	2.55	0.56	0.64
XLOC_013451	FASTKD2	4.80	5.42	3.27	0.56	0.73
XLOC_016841	CRMP1	0.28	0.61	0.19	0.56	1.68
XLOC_009632	TRIM16	25.18	26.34	17.13	0.56	0.62
XLOC_021984	MED30	8.38	8.63	5.71	0.55	0.59
XLOC_020929	MDFIC	2.10	2.07	1.43	0.55	0.53
XLOC_010607	ZNF554	1.61	1.90	1.10	0.55	0.79
XLOC_015337	DNAH1	0.51	0.48	0.35	0.55	0.46
XLOC_004849	ETNK1	7.31	9.45	5.01	0.55	0.92
XLOC_009666	ULK2	3.98	4.81	2.73	0.55	0.82
XLOC_001730	HMGCS2	17.70	18.71	12.18	0.54	0.62
XLOC_024414	SLITRK4	0.20	0.21	0.14	0.54	0.62
XLOC_023914	NCRNA00086	1.04	0.99	0.72	0.54	0.47
XLOC_015459	ZDHHC23	4.39	4.17	3.02	0.54	0.46
XLOC_024408	LDOC1	26.94	26.68	18.60	0.53	0.52
XLOC_021342	TMEM120A	28.57	29.09	19.73	0.53	0.56
XLOC_008139	ZNF771	3.99	4.02	2.76	0.53	0.54
XLOC_000316	LOC100507178	0.13	0.38	0.09	0.53	2.05
XLOC_011707	C19orf12	2.92	3.45	2.02	0.53	0.77
XLOC_014895	PI4KAP2	4.70	5.80	3.26	0.53	0.83
XLOC_007287	LOC100129387	0.42	0.60	0.29	0.53	1.03
XLOC_000142	PAX7	1.46	1.41	1.01	0.53	0.47
XLOC_001286	NBPF1	3.82	3.94	2.65	0.53	0.57
XLOC_023579	YY2	0.50	0.52	0.35	0.53	0.57
XLOC_015741	LOC440944	0.75	0.97	0.52	0.52	0.90
XLOC_020782	GTF2IRD2B	0.43	0.70	0.30	0.52	1.24
XLOC_010047	ABCA10,ABCA5	0.47	0.49	0.33	0.52	0.60
XLOC_000665	C1orf51	3.69	4.70	2.58	0.51	0.86
XLOC_011880	EML2	19.10	18.95	13.38	0.51	0.50
XLOC_024214	HDAC8	10.18	10.48	7.14	0.51	0.55
XLOC_011043	ZNF155	1.35	2.06	0.95	0.51	1.12
XLOC_000198	CNKSR1	27.71	28.20	19.48	0.51	0.53
XLOC_008168	ZNF720	1.60	1.61	1.12	0.51	0.52
XLOC_003120	MORN4	1.66	2.04	1.17	0.51	0.80
XLOC_012220	LOC375190	1.24	1.64	0.87	0.51	0.91
XLOC_023433	DNLZ	41.00	44.38	28.89	0.51	0.62
XLOC_008045	C16orf45	14.92	14.67	10.51	0.50	0.48
XLOC_023967	GABRQ	3.05	3.02	2.15	0.50	0.49
XLOC_004321	FTH1	4,338.00	4,543.88	3,057.22	0.50	0.57
XLOC_018769	ULBP1	0.74	1.10	0.52	0.50	1.07
XLOC_021270	SEPT7P2	1.40	1.60	0.99	0.50	0.70
XLOC_009357	CACNG4	7.15	7.49	5.05	0.50	0.57
XLOC_023053	DDX58	0.72	0.82	0.51	0.50	0.70
XLOC_003793	TSKU	6.26	8.68	4.43	0.50	0.97
XLOC_009898	PLCD3	43.00	44.32	30.52	0.49	0.54
XLOC_012468	INPP4A	3.84	4.26	2.73	0.49	0.64
XLOC_022167	ENTPD4	10.03	10.35	7.12	0.49	0.54
XLOC_013736	SLC24A3	0.86	0.93	0.61	0.49	0.61
XLOC_018618	C6orf162	0.60	0.70	0.43	0.49	0.71

XLOC_013006	CYP1B1	58.54	69.16	41.66	0.49	0.73
XLOC_018359	ZNF192	0.35	0.55	0.25	0.49	1.14
XLOC_024445	GABRA3	3.00	3.01	2.14	0.49	0.49
XLOC_010652	VMAC	5.83	6.17	4.16	0.49	0.57
XLOC_019292	STX7	4.12	4.33	2.94	0.49	0.56
XLOC_002149	SLC30A1	6.42	7.21	4.59	0.49	0.65
XLOC_011914	MEIS3	25.32	25.22	18.10	0.48	0.48
XLOC_001884	PAQR6	4.37	7.36	3.12	0.48	1.24
XLOC_015106	CHKB,CHKB-CPT1B,CPT1B	18.19	19.43	13.02	0.48	0.58
XLOC_019405	WDR27	1.70	2.08	1.22	0.48	0.77
XLOC_019116	CYP39A1	1.26	1.40	0.90	0.48	0.63
XLOC_017671	FOX11	71.19	75.89	51.09	0.48	0.57
XLOC_009100	CDK5R1	2.23	2.36	1.60	0.48	0.56
XLOC_001244	CASZ1	17.38	17.06	12.48	0.48	0.45
XLOC_014239	PPP1R3D	21.42	25.95	15.39	0.48	0.75
XLOC_002687	ABCC2	56.62	60.63	40.72	0.48	0.57
XLOC_003140	SEC31B	0.35	0.71	0.25	0.48	1.50
XLOC_024394	ARHGEF6	0.41	0.46	0.29	0.47	0.66
XLOC_015189	NR1D2	5.89	5.89	4.25	0.47	0.47
XLOC_011486	DENND1C	1.33	2.35	0.96	0.47	1.29
XLOC_008005	GLIS2	5.46	5.68	3.94	0.47	0.53
XLOC_010369	SERPINB8	2.07	2.85	1.49	0.47	0.93
XLOC_018039	LOC389333	3.71	3.74	2.68	0.47	0.48
XLOC_001237	GPR157	29.13	29.92	21.07	0.47	0.51
XLOC_015261	ZNF35	4.37	4.56	3.16	0.47	0.53
XLOC_020732	ZNF736	0.38	0.63	0.28	0.46	1.17
XLOC_000168	EPHB2	0.36	1.00	0.26	0.46	1.95
XLOC_015350	CACNA1D	2.48	2.61	1.81	0.46	0.53
XLOC_008540	DCUN1D3	2.43	2.74	1.77	0.46	0.63
XLOC_012881	SNED1	2.61	2.85	1.90	0.46	0.58
XLOC_009290	ABCC3	22.14	26.97	16.14	0.46	0.74
XLOC_020780	PMS2P5	5.31	5.59	3.88	0.45	0.53
XLOC_017931	MBLAC2	1.09	1.16	0.80	0.45	0.54
XLOC_021072	ZNF775	1.76	2.85	1.29	0.45	1.15
XLOC_018288	FAM8A1	2.80	3.18	2.05	0.45	0.64
XLOC_003434	TMEM86A	30.10	31.39	22.03	0.45	0.51
XLOC_014923	C22orf45	0.00	0.52	2.54	-34.56	-2.29
XLOC_018404	MUC21	0.00	0.07	0.93	-33.11	-3.73
XLOC_005967	MIR621,SLC25A15	5.17	5.28	200.52	-5.28	-5.25
XLOC_021166	AGR3	0.33	1.71	4.22	-3.66	-1.30
XLOC_019082	FRS3	0.26	0.93	3.25	-3.65	-1.81
XLOC_016322	KIAA0226,MIR922	8.66	8.45	99.99	-3.53	-3.57
XLOC_010959	ZNF793	0.01	0.06	0.16	-3.50	-1.35
XLOC_010056	C17orf54	0.19	1.24	1.90	-3.34	-0.62
XLOC_016168	CP	0.13	0.26	1.30	-3.33	-2.33
XLOC_016206	RARRES1	0.40	1.22	3.70	-3.20	-1.60
XLOC_010779	CASP14	0.22	0.16	1.92	-3.15	-3.58
XLOC_001498	CCDC163P	0.22	0.97	1.87	-3.09	-0.95
XLOC_009188	STAT5A	0.10	0.22	0.87	-3.07	-1.96
XLOC_014351	CLIC6	0.14	0.24	1.18	-3.04	-2.27
XLOC_005752	TRPV4	0.40	1.32	2.87	-2.83	-1.12
XLOC_017974	LOX	0.08	0.31	0.57	-2.79	-0.90
XLOC_011779	FBXO17	0.31	0.66	2.08	-2.75	-1.66
XLOC_005513	TFCP2	0.17	0.24	0.99	-2.51	-2.03
XLOC_004540	PGR	0.02	0.05	0.09	-2.47	-0.92
XLOC_005560	CBX5,MIR3198-2	130.85	14.79	701.19	-2.42	-5.57
XLOC_012759	CPS1	1.42	5.35	7.61	-2.42	-0.51
XLOC_009089	MIR4724,RAB11FIP4	8.62	9.15	45.94	-2.41	-2.33
XLOC_020975	LOC100287482	0.47	1.20	2.51	-2.41	-1.06
XLOC_002842	CALML5	1.13	2.01	5.86	-2.38	-1.54
XLOC_015637	NLGN1	0.18	0.56	0.86	-2.26	-0.63
XLOC_021236	TARP	3.39	7.47	16.03	-2.24	-1.10

XLOC_022806	PAPPA	0.04	0.04	0.19	-2.21	-2.23
XLOC_020592	ZNF853	0.44	0.42	2.03	-2.20	-2.27
XLOC_003143	PDZD7	0.51	0.90	2.20	-2.10	-1.29
XLOC_009468	SLC16A3	8.53	18.52	36.30	-2.09	-0.97
XLOC_024265	ARMCX2	0.52	0.65	2.21	-2.08	-1.76
XLOC_011925	CARD8	0.99	1.87	4.05	-2.03	-1.11
XLOC_006728	CRIP1	202.23	291.44	825.10	-2.03	-1.50
XLOC_013813	SPAG4	1.03	1.02	4.21	-2.03	-2.04
XLOC_007511	HERC2P3	0.24	0.32	0.95	-2.00	-1.58
XLOC_002256	SMYD3	0.49	0.91	1.94	-1.97	-1.09
XLOC_010368	HMSD	1.26	1.22	4.94	-1.97	-2.01
XLOC_002663	C10orf131	6.03	16.89	23.09	-1.94	-0.45
XLOC_020999	AKR1D1	0.34	0.89	1.30	-1.92	-0.55
XLOC_022575	CNTLN	0.10	0.22	0.38	-1.91	-0.76
XLOC_001966	RGS5	0.06	0.15	0.20	-1.88	-0.46
XLOC_006762	SALL2	0.38	0.65	1.37	-1.86	-1.08
XLOC_015419	TMEM45A	0.51	0.91	1.83	-1.85	-1.02
XLOC_005816	RHOF	0.56	1.39	1.96	-1.81	-0.50
XLOC_021912	FABP5	12.44	18.26	43.50	-1.81	-1.25
XLOC_021483	IMMP2L	0.32	0.57	1.12	-1.79	-0.99
XLOC_017221	SORBS2	0.32	0.73	1.09	-1.78	-0.58
XLOC_005659	CSRP2	1.21	1.96	4.12	-1.77	-1.07
XLOC_005500	FAM186B	0.35	0.77	1.19	-1.75	-0.62
XLOC_017219	CCDC110	0.16	0.27	0.53	-1.74	-0.98
XLOC_003743	GAL	6.01	14.47	19.88	-1.72	-0.46
XLOC_003991	JAM3	0.21	0.12	0.71	-1.72	-2.56
XLOC_015611	IQCJ,IQCJ-SCHIP1,SCHIP1	0.24	0.55	0.80	-1.72	-0.55
XLOC_022642	FAM201A	1.08	1.92	3.51	-1.70	-0.87
XLOC_004746	CD9	3.81	7.06	12.35	-1.70	-0.81
XLOC_020810	CD36	0.20	0.05	0.64	-1.69	-3.57
XLOC_000309	DEM1	0.74	1.04	2.35	-1.66	-1.18
XLOC_003841	KDM4D	0.39	0.39	1.22	-1.65	-1.62
XLOC_002993	SLC16A9	0.31	0.49	0.98	-1.65	-1.01
XLOC_015262	ZNF502	0.12	0.27	0.39	-1.65	-0.54
XLOC_005392	PLBD1	5.04	4.99	15.73	-1.64	-1.66
XLOC_011695	ZNF43	0.09	0.18	0.28	-1.61	-0.61
XLOC_008336	CDH13	0.22	0.29	0.66	-1.61	-1.19
XLOC_007406	CRABP1	6.20	6.44	18.84	-1.60	-1.55
XLOC_006146	CCDC169,CCDC169-SOHLH2,SOHLH2	0.48	0.65	1.46	-1.60	-1.17
XLOC_015846	LTF	7.40	8.50	22.40	-1.60	-1.40
XLOC_006039	GPC5	0.48	0.59	1.42	-1.58	-1.28
XLOC_009635	CENPV	1.55	2.79	4.60	-1.57	-0.72
XLOC_003664	CCDC88B	0.60	0.43	1.73	-1.54	-2.01
XLOC_003613	TMEM216	2.22	3.24	6.43	-1.53	-0.99
XLOC_002450	APBB1IP	0.39	0.14	1.12	-1.53	-2.97
XLOC_001552	TTC22	1.09	0.60	3.12	-1.52	-2.38
XLOC_002503	ZNF488	0.86	1.31	2.45	-1.51	-0.91
XLOC_017327	NNT	0.66	0.52	1.86	-1.51	-1.85
XLOC_001496	MUTYH	4.63	7.68	13.09	-1.50	-0.77
XLOC_018095	CCDC69	0.74	1.13	2.10	-1.50	-0.89
XLOC_012593	HNMT	1.06	1.07	2.99	-1.49	-1.48
XLOC_024350	SMARCA1	0.14	0.27	0.40	-1.49	-0.54
XLOC_003165	CALHM2	1.63	1.17	4.51	-1.47	-1.95
XLOC_011063	APOE	2.89	2.91	7.99	-1.47	-1.46
XLOC_001081	DUSP5P,RHOU	0.43	0.54	1.17	-1.45	-1.11
XLOC_010802	NWD1	0.15	0.22	0.41	-1.43	-0.89
XLOC_005398	MGP	2.23	4.11	6.01	-1.43	-0.55
XLOC_009270	B4GALNT2	19.76	31.56	53.11	-1.43	-0.75
XLOC_015000	C1QTNF6	0.72	0.98	1.94	-1.42	-0.98
XLOC_010355	PMAIP1	0.30	0.44	0.78	-1.39	-0.81
XLOC_001421	ZMYM6NB	3.40	2.78	8.91	-1.39	-1.68
XLOC_014612	DGCR8,MIR1306,MIR3618	19.72	12.78	51.61	-1.39	-2.01
XLOC_015969	FAM3D	4.86	6.31	12.68	-1.38	-1.01

XLOC_000819	PCP4L1	1.30	2.20	3.37	-1.38	-0.62
XLOC_023062	AQP3	10.95	12.19	28.45	-1.38	-1.22
XLOC_008435	NOXO1	4.51	8.37	11.68	-1.37	-0.48
XLOC_007311	MYO1E	1.64	1.08	4.24	-1.37	-1.98
XLOC_023074	CNTFR	2.03	2.93	5.23	-1.36	-0.83
XLOC_016448	FLJ39653	0.48	0.65	1.21	-1.34	-0.90
XLOC_013420	ANKRD44	0.15	0.24	0.39	-1.33	-0.71
XLOC_020615	DNAH11	0.14	0.21	0.35	-1.32	-0.77
XLOC_001274	AGMAT	0.94	1.61	2.33	-1.31	-0.53
XLOC_011861	ZNF235	0.37	0.60	0.91	-1.31	-0.60
XLOC_001355	SLC30A2	0.72	0.52	1.78	-1.31	-1.78
XLOC_010525	SERPINB4	4.40	6.63	10.84	-1.30	-0.71
XLOC_019313	IL20RA	1.10	1.23	2.69	-1.30	-1.13
XLOC_019261	TSPYL4	0.53	0.82	1.30	-1.29	-0.66
XLOC_014815	RIBC2	3.06	4.24	7.48	-1.29	-0.82
XLOC_024312	KLHL13	1.15	1.55	2.79	-1.27	-0.85
XLOC_018087	CD74	46.81	50.76	112.51	-1.27	-1.15
XLOC_004275	SLC43A3	6.93	5.69	16.32	-1.24	-1.52
XLOC_015521	LOC100507032	0.23	0.27	0.55	-1.23	-1.02
XLOC_021383	TFPI2	1.75	1.44	4.09	-1.22	-1.51
XLOC_008996	ADORA2B	1.49	1.53	3.48	-1.22	-1.18
XLOC_008214	MT1X	12.65	16.15	29.46	-1.22	-0.87
XLOC_017100	TNIP3	0.80	1.26	1.86	-1.22	-0.57
XLOC_004983	METTL7B	2.85	4.62	6.61	-1.21	-0.52
XLOC_005692	CCDC41	1.22	1.93	2.82	-1.21	-0.55
XLOC_017356	RNF180	0.80	0.91	1.85	-1.21	-1.01
XLOC_004750	TAPBPL	6.51	6.86	14.96	-1.20	-1.12
XLOC_014796	FAM109B	0.92	0.85	2.11	-1.19	-1.32
XLOC_011725	DMKN	24.10	28.21	55.02	-1.19	-0.96
XLOC_018665	SLC16A10	2.88	3.71	6.57	-1.19	-0.82
XLOC_024175	USP51	0.23	0.29	0.52	-1.18	-0.83
XLOC_006730	TMEM121	20.25	25.12	45.70	-1.17	-0.86
XLOC_016573	PARM1	2.65	4.30	5.95	-1.17	-0.47
XLOC_012201	GREB1	0.42	0.40	0.95	-1.17	-1.23
XLOC_021350	LOC100505854	0.88	1.12	1.97	-1.16	-0.81
XLOC_001827	PGLYRP4	4.38	6.98	9.76	-1.16	-0.48
XLOC_012374	VAX2	3.20	4.10	7.11	-1.15	-0.79
XLOC_006865	PYGL	1.11	1.38	2.44	-1.14	-0.82
XLOC_003295	ATHL1	1.34	1.81	2.90	-1.12	-0.68
XLOC_017963	MCC	0.39	0.42	0.85	-1.11	-1.02
XLOC_015787	SGOL1	2.88	3.84	6.18	-1.10	-0.69
XLOC_024315	SLC25A5	25.71	32.13	55.21	-1.10	-0.78
XLOC_020931	CAV2	0.28	0.42	0.60	-1.10	-0.51
XLOC_021379	HEPACAM2	1.51	1.83	3.23	-1.09	-0.82
XLOC_020863	ZSCAN21	1.61	2.48	3.42	-1.09	-0.46
XLOC_005487	FKBP11	11.67	10.45	24.77	-1.09	-1.24
XLOC_004823	EMP1	0.68	0.97	1.44	-1.08	-0.58
XLOC_023300	DFNB31	4.33	5.69	9.18	-1.08	-0.69
XLOC_017380	SMN2	0.54	0.79	1.15	-1.08	-0.55
XLOC_005400	ARHGDI1	39.92	47.18	83.92	-1.07	-0.83
XLOC_018773	MTHFD1L	4.44	6.19	9.32	-1.07	-0.59
XLOC_004137	MRVI1	0.18	0.08	0.38	-1.05	-2.23
XLOC_021368	STEAP4	1.33	1.91	2.74	-1.04	-0.52
XLOC_010855	ZNF93	0.94	0.78	1.93	-1.04	-1.31
XLOC_001435	CSF3R	1.09	1.56	2.23	-1.04	-0.52
XLOC_011912	BBC3	4.00	4.15	8.17	-1.03	-0.98
XLOC_010298	DSG3	0.20	0.15	0.41	-1.03	-1.45
XLOC_012608	FMNL2	0.26	0.33	0.52	-1.02	-0.66
XLOC_011162	FCGRT	18.35	22.53	37.10	-1.02	-0.72
XLOC_012553	LOC254128	0.48	0.55	0.98	-1.01	-0.84
XLOC_006800	CIDEB	5.88	6.78	11.80	-1.00	-0.80
XLOC_020885	TRIP6	30.20	36.48	60.28	-1.00	-0.72
XLOC_019010	HLA-DRB1	9.25	11.62	18.42	-0.99	-0.66

XLOC_015058	RRP7B	0.79	1.04	1.56	-0.99	-0.59
XLOC_016444	CC2D2A	0.99	0.93	1.96	-0.99	-1.07
XLOC_016237	TNFSF10	8.30	11.29	16.46	-0.99	-0.54
XLOC_019009	HLA-DRB6	1.43	1.03	2.83	-0.99	-1.46
XLOC_008135	CORO1A,LOC606724	14.92	16.63	29.50	-0.98	-0.83
XLOC_009590	HES7	1.49	1.13	2.93	-0.98	-1.38
XLOC_004726	LRTM2	0.65	0.28	1.28	-0.98	-2.21
XLOC_007505	LRRK1	2.06	2.40	4.06	-0.98	-0.76
XLOC_020671	GPR141	1.33	1.54	2.62	-0.98	-0.77
XLOC_005321	C1R	0.84	1.11	1.64	-0.97	-0.56
XLOC_002867	CDNF	0.74	0.35	1.44	-0.96	-2.04
XLOC_010274	ANKRD30B	0.21	0.22	0.40	-0.96	-0.87
XLOC_016696	PCDH10	0.14	0.06	0.27	-0.95	-2.15
XLOC_019185	UBE2CBP	1.02	0.69	1.97	-0.95	-1.51
XLOC_017972	SEMA6A	0.13	0.13	0.24	-0.94	-0.91
XLOC_015738	OXTR	0.22	0.16	0.43	-0.94	-1.41
XLOC_018201	TRIM7	4.49	4.61	8.55	-0.93	-0.89
XLOC_015097	MAPK12	10.77	12.12	20.43	-0.92	-0.75
XLOC_015002	RAC2	2.85	3.59	5.39	-0.92	-0.59
XLOC_004111	CYB5R2	8.79	11.78	16.63	-0.92	-0.50
XLOC_001280	EPHA2	2.73	3.38	5.17	-0.92	-0.61
XLOC_014808	PARVB	4.56	4.78	8.61	-0.92	-0.85
XLOC_002751	ADRB1	0.57	0.71	1.08	-0.92	-0.61
XLOC_013408	TMEM194B	0.58	0.75	1.09	-0.92	-0.53
XLOC_023869	SLC6A14	1.12	1.38	2.10	-0.91	-0.61
XLOC_009221	C17orf53	3.77	4.11	7.07	-0.91	-0.78
XLOC_019142	GSTA4	4.59	5.13	8.61	-0.91	-0.75
XLOC_000719	S100A7A	0.66	0.60	1.24	-0.91	-1.05
XLOC_006183	LCP1	12.94	14.49	24.17	-0.90	-0.74
XLOC_008058	TMC5	1.07	0.70	1.97	-0.89	-1.49
XLOC_005227	B3GNT4	2.17	2.44	4.01	-0.89	-0.72
XLOC_005007	HSD17B6	1.30	1.25	2.41	-0.89	-0.94
XLOC_021750	SLC7A2	0.12	0.15	0.22	-0.88	-0.55
XLOC_006556	RIN3	5.92	7.22	10.86	-0.88	-0.59
XLOC_012045	ZNF160	1.34	1.76	2.45	-0.87	-0.48
XLOC_013703	LOC643406	1.08	1.42	1.96	-0.86	-0.46
XLOC_017401	IQGAP2	8.72	8.90	15.86	-0.86	-0.83
XLOC_003126	MIR1287,PYROXD2	2.81	2.75	5.09	-0.86	-0.89
XLOC_011780	FBXO27	13.29	15.21	24.03	-0.86	-0.66
XLOC_007356	LOC145837	0.92	1.07	1.67	-0.85	-0.64
XLOC_017955	EFNA5	1.07	0.98	1.92	-0.85	-0.98
XLOC_008191	IRX6	7.00	8.92	12.58	-0.85	-0.50
XLOC_015065	TTLL1	5.35	5.44	9.61	-0.85	-0.82
XLOC_001805	THEM4	1.74	2.09	3.12	-0.84	-0.58
XLOC_012250	KRTCAP3	92.78	109.71	165.06	-0.83	-0.59
XLOC_004764	DSTNP2	3.63	4.29	6.44	-0.83	-0.59
XLOC_016486	RHOH	0.63	0.27	1.12	-0.82	-2.06
XLOC_010136	TMEM105	0.89	0.37	1.57	-0.81	-2.08
XLOC_008429	HS3ST6	5.61	3.99	9.87	-0.81	-1.31
XLOC_008636	MYLK3	0.22	0.17	0.39	-0.81	-1.23
XLOC_002830	IDI2	2.97	3.68	5.22	-0.81	-0.50
XLOC_011373	ZSCAN22	1.37	1.65	2.39	-0.81	-0.54
XLOC_018446	HLA-DRA	18.24	18.54	31.85	-0.80	-0.78
XLOC_001883	MEX3A	1.18	1.48	2.04	-0.79	-0.46
XLOC_001105	EDARADD	0.79	0.89	1.36	-0.79	-0.61
XLOC_004879	LRRK2	3.06	3.23	5.28	-0.79	-0.71
XLOC_022446	SLC45A4	3.02	2.78	5.21	-0.79	-0.91
XLOC_004727	CACNA1C	0.29	0.35	0.50	-0.78	-0.52
XLOC_023173	C9orf64	3.57	3.54	6.12	-0.78	-0.79
XLOC_017322	GHR	0.38	0.40	0.65	-0.78	-0.71
XLOC_022907	C9orf9	5.18	5.54	8.87	-0.78	-0.68
XLOC_015760	LOC100129480	1.75	2.17	3.00	-0.77	-0.47
XLOC_012918	ODC1	6.31	7.75	10.79	-0.77	-0.48

XLOC_022040	GSDMD	30.17	36.34	51.29	-0.77	-0.50
XLOC_002055	FAM129A	2.33	2.56	3.96	-0.76	-0.63
XLOC_006054	CLYBL	0.53	0.56	0.90	-0.76	-0.67
XLOC_012205	FAM84A	0.44	0.38	0.74	-0.76	-0.98
XLOC_003724	KDM2A	24.98	30.70	42.13	-0.75	-0.46
XLOC_015913	ZMYND10	3.01	3.35	5.06	-0.75	-0.59
XLOC_008396	RGS11	3.12	3.51	5.26	-0.75	-0.58
XLOC_009369	MAP2K6	0.70	0.50	1.18	-0.75	-1.23
XLOC_005108	ELK3	0.75	0.88	1.26	-0.75	-0.52
XLOC_021132	RADIL	2.64	2.59	4.43	-0.75	-0.77
XLOC_003995	GLB1L2	1.41	1.73	2.36	-0.74	-0.45
XLOC_015953	WNT5A	1.17	1.34	1.95	-0.74	-0.54
XLOC_001894	NES	0.74	0.65	1.24	-0.74	-0.93
XLOC_022659	LOC100132352	3.97	4.66	6.63	-0.74	-0.51
XLOC_005075	SYT1	0.65	0.42	1.08	-0.73	-1.35
XLOC_007603	TTBK2	0.78	0.85	1.30	-0.73	-0.61
XLOC_012982	LOC100302650,RBKS	1.50	1.64	2.49	-0.73	-0.60
XLOC_003501	GYLTL1B	10.54	10.02	17.45	-0.73	-0.80
XLOC_018598	CD109	0.40	0.46	0.66	-0.73	-0.51
XLOC_008704	ZDHC1	13.75	16.45	22.73	-0.72	-0.47
XLOC_011573	ZNF44	1.49	1.57	2.45	-0.72	-0.64
XLOC_001785	CTSK	1.84	2.17	3.03	-0.72	-0.48
XLOC_023389	FIBCD1	14.43	15.56	23.72	-0.72	-0.61
XLOC_001357	UBXN11	13.30	12.25	21.83	-0.71	-0.83
XLOC_016110	KIAA1257	4.57	4.22	7.50	-0.71	-0.83
XLOC_012970	SLC30A3	1.89	1.40	3.10	-0.71	-1.14
XLOC_011175	ATF5,MIR4751	298.72	142.26	488.76	-0.71	-1.78
XLOC_021195	HOXA3	0.68	0.80	1.11	-0.71	-0.46
XLOC_017757	SDHAP3	3.36	2.90	5.47	-0.71	-0.92
XLOC_023451	CLIC3	24.48	27.91	39.89	-0.70	-0.52
XLOC_015050	CENPM	35.98	37.66	58.45	-0.70	-0.63
XLOC_021801	HMBOX1	1.12	1.07	1.82	-0.70	-0.77
XLOC_022981	WASH1	3.70	3.42	6.01	-0.70	-0.81
XLOC_002749	C10orf81	6.63	6.06	10.76	-0.70	-0.83
XLOC_004660	ESAM	3.32	3.71	5.38	-0.70	-0.54
XLOC_003254	SPRN	2.22	2.61	3.59	-0.70	-0.46
XLOC_001272	C1orf126	0.18	0.21	0.30	-0.69	-0.50
XLOC_005353	CLEC7A	3.44	2.10	5.56	-0.69	-1.41
XLOC_011755	LOC284412	0.52	0.43	0.84	-0.69	-0.97
XLOC_015240	ZNF620	1.26	1.26	2.02	-0.69	-0.68
XLOC_021091	LOC100505483	2.57	2.52	4.13	-0.68	-0.71
XLOC_005303	LOC678655	3.22	3.62	5.16	-0.68	-0.51
XLOC_009101	TMEM98	1.11	0.61	1.78	-0.68	-1.56
XLOC_024255	TSPAN6	4.02	4.51	6.44	-0.68	-0.51
XLOC_006880	WDHD1	1.65	1.91	2.63	-0.67	-0.46
XLOC_007300	FLJ27352	3.79	4.32	6.04	-0.67	-0.48
XLOC_019360	CNKSR3	1.30	1.41	2.07	-0.67	-0.56
XLOC_009692	RAB34	35.17	38.29	56.00	-0.67	-0.55
XLOC_000416	FGGY	0.88	0.56	1.41	-0.67	-1.32
XLOC_005284	RAD52	3.02	2.87	4.79	-0.67	-0.74
XLOC_018987	LSM2	25.36	28.69	40.17	-0.66	-0.49
XLOC_024187	FAM123B	0.61	0.55	0.96	-0.66	-0.80
XLOC_017178	DDX60L	0.15	0.16	0.24	-0.66	-0.62
XLOC_002930	ZNF248	0.51	0.58	0.80	-0.66	-0.46
XLOC_014540	WDR4	6.99	5.75	10.98	-0.65	-0.93
XLOC_013089	NFU1	4.21	4.18	6.61	-0.65	-0.66
XLOC_003091	LOC100188947	3.58	3.60	5.63	-0.65	-0.64
XLOC_008282	HAS3	5.69	4.73	8.92	-0.65	-0.91
XLOC_005423	LOC100506451	1.58	1.75	2.47	-0.65	-0.50
XLOC_011225	ZNF845	0.72	0.76	1.13	-0.64	-0.56
XLOC_013121	C2orf81	4.15	4.39	6.47	-0.64	-0.56
XLOC_005167	C12orf24	7.20	7.92	11.22	-0.64	-0.50
XLOC_002630	FAS	1.81	1.86	2.83	-0.64	-0.60

XLOC_024068	MAP3K15	0.31	0.36	0.49	-0.64	-0.46
XLOC_015338	PHF7	1.75	1.14	2.72	-0.64	-1.25
XLOC_006820	C14orf128	2.16	2.31	3.34	-0.63	-0.53
XLOC_010398	C18orf56	6.47	4.88	10.00	-0.63	-1.04
XLOC_018125	C5orf54	1.16	1.24	1.78	-0.63	-0.52
XLOC_023825	TCEAL1	7.47	8.41	11.54	-0.63	-0.46
XLOC_004359	RCOR2	1.50	0.75	2.31	-0.62	-1.62
XLOC_012396	WDR54	8.82	9.33	13.54	-0.62	-0.54
XLOC_018912	ZNF204P	1.01	0.96	1.55	-0.62	-0.68
XLOC_009931	HOXB7	4.27	4.21	6.54	-0.62	-0.64
XLOC_013534	SP110	7.81	8.51	11.97	-0.62	-0.49
XLOC_021934	FAM92A1	2.90	1.80	4.44	-0.61	-1.30
XLOC_023379	CRAT	93.00	101.69	142.27	-0.61	-0.48
XLOC_010139	ACTG1	670.27	731.07	1,022.42	-0.61	-0.48
XLOC_010558	C19orf20	13.46	14.63	20.50	-0.61	-0.49
XLOC_018466	ZBTB9	4.69	4.30	7.13	-0.60	-0.73
XLOC_016366	MYL5	11.74	12.24	17.81	-0.60	-0.54
XLOC_013676	MIR1292,NOP56,SNORD86	1,720.45	1,334.45	2,600.36	-0.60	-0.96
XLOC_015199	ZNF860	0.87	0.76	1.32	-0.59	-0.80
XLOC_015013	PLA2G6	4.16	3.81	6.27	-0.59	-0.72
XLOC_002635	IFIT1	1.00	1.03	1.51	-0.59	-0.55
XLOC_004969	MUCL1	159.67	163.60	239.56	-0.59	-0.55
XLOC_010800	C19orf44	2.92	2.82	4.39	-0.58	-0.64
XLOC_005293	EFCAB4B	5.64	4.36	8.40	-0.58	-0.95
XLOC_010088	FBF1	7.80	7.35	11.61	-0.57	-0.66
XLOC_006987	C14orf102	2.65	2.70	3.95	-0.57	-0.55
XLOC_004988	DGKA	3.41	3.63	5.07	-0.57	-0.48
XLOC_000725	SLC27A3	7.26	7.78	10.77	-0.57	-0.47
XLOC_004871	METTL20	1.04	1.10	1.55	-0.57	-0.49
XLOC_007043	CKB	379.74	343.94	561.96	-0.57	-0.71
XLOC_023898	BCORL1	6.09	5.84	9.01	-0.56	-0.63
XLOC_010009	LIMD2	2.44	1.95	3.60	-0.56	-0.89
XLOC_003722	SYT12	31.54	34.03	46.50	-0.56	-0.45
XLOC_011487	TUBB4	3.04	2.20	4.48	-0.56	-1.03
XLOC_010770	CD97	3.16	2.27	4.63	-0.55	-1.03
XLOC_021301	ERV3-1,ZNF117	0.58	0.50	0.85	-0.55	-0.76
XLOC_001672	PSRC1	15.49	16.25	22.64	-0.55	-0.48
XLOC_008611	FBXL19-AS1	0.72	0.66	1.05	-0.54	-0.67
XLOC_023592	POLA1	3.37	3.42	4.88	-0.53	-0.51
XLOC_011855	KCNN4	8.36	7.14	12.10	-0.53	-0.76
XLOC_021566	BRAF	1.22	1.28	1.77	-0.53	-0.47
XLOC_001213	TP73-AS1	1.50	1.17	2.16	-0.52	-0.88
XLOC_011030	TMEM145	4.97	5.06	7.13	-0.52	-0.50
XLOC_014508	LOC100506428	7.25	6.99	10.40	-0.52	-0.57
XLOC_023069	KIF24	3.25	3.19	4.65	-0.52	-0.55
XLOC_002617	LOC439994	2.50	1.55	3.57	-0.51	-1.20
XLOC_011965	FUZ	13.51	13.05	19.26	-0.51	-0.56
XLOC_009436	C1QTNF1	4.17	3.59	5.94	-0.51	-0.73
XLOC_000434	AK4	3.38	3.31	4.82	-0.51	-0.54
XLOC_011813	EXOSC5	24.92	21.07	35.50	-0.51	-0.75
XLOC_007012	SERPINA1	28.91	28.30	41.15	-0.51	-0.54
XLOC_021328	WBSCR27	6.21	5.62	8.83	-0.51	-0.65
XLOC_011675	NR2C2AP	29.20	25.62	41.41	-0.50	-0.69
XLOC_009195	TUBG2	3.73	3.50	5.27	-0.50	-0.59
XLOC_009545	ZNF594	0.38	0.38	0.54	-0.50	-0.51
XLOC_009621	LOC100289255	6.94	5.12	9.80	-0.50	-0.94
XLOC_019015	PSMB8	6.90	6.74	9.73	-0.50	-0.53
XLOC_008588	TBX6	6.25	4.42	8.81	-0.50	-0.99
XLOC_014940	CHEK2	11.13	10.54	15.67	-0.49	-0.57
XLOC_015490	PDIA5	19.15	17.11	26.97	-0.49	-0.66
XLOC_011549	S1PR5	5.51	5.09	7.75	-0.49	-0.61
XLOC_024256	SYTL4	1.45	1.46	2.03	-0.49	-0.48
XLOC_014356	CBR3	8.47	7.83	11.90	-0.49	-0.60

XLOC_010820	B3GNT3	5.14	5.24	7.21	-0.49	-0.46
XLOC_006002	RNASEH2B	5.83	5.93	8.17	-0.49	-0.46
XLOC_023376	CCBL1	2.57	2.45	3.61	-0.49	-0.56
XLOC_011959	PIH1D1	55.58	53.37	77.75	-0.48	-0.54
XLOC_023299	AKNA	1.35	1.37	1.87	-0.47	-0.45
XLOC_022462	C8orf51	5.67	5.15	7.88	-0.47	-0.61
XLOC_012177	LOC100506054	5.20	5.28	7.22	-0.47	-0.45
XLOC_004852	LYRM5	9.17	9.21	12.67	-0.47	-0.46
XLOC_001216	C1orf174	7.27	7.10	10.05	-0.47	-0.50
XLOC_022637	POLR1E	11.52	10.48	15.85	-0.46	-0.60
XLOC_000641	PDIA3P	0.86	0.74	1.19	-0.46	-0.68
XLOC_001701	SLC16A1	0.73	0.54	1.00	-0.46	-0.89
XLOC_008211	MT1F	42.43	36.92	58.23	-0.46	-0.66
XLOC_008708	C16orf48	45.53	45.26	62.47	-0.46	-0.46
XLOC_009902	ARHGAP27	3.83	3.26	5.24	-0.45	-0.68
XLOC_001277	ZBTB17	9.70	9.02	13.27	-0.45	-0.56
