

**Table S1. List of candidate related genetic control genes of DNA methylation in KBD**

KBD methylated CpG site			SNPs					Nearby
Loci name	P value	$\Delta\beta$	rs number	location	chrom	KBD GWAS	meQTL best	genes
						P value	P value	
cg18503031	3.1E-08	0.3	rs6782870	70228330	3	0.049	9.4E-13	MITF
cg01214458	9.8E-08	0.2	rs134133	28129239	22	0.033	2.8E-49	MN1
cg22659564	4.7E-07	-0.24	rs1792361	92443925	11	0.041	1.9E-62	FAT3
cg12175311	5.8E-07	-0.54	rs11247165	100732119	15	0.021	9.9E-09	ADAMTS17
cg13523819	6.4E-07	0.25	rs6782870	70228330	3	0.049	9.4E-13	MITF
cg14691388	7.1E-07	0.27	rs3780051	140658801	8	0.027	7.3E-06	KCNK9
cg21038418	1.1E-06	0.27	rs1861763	205528990	2	0.006	3.7E-16	PARD3B
cg21038418	1.1E-06	0.27	rs919936	205997457	2	0.008	4.9E-20	PARD3B
cg21038418	1.1E-06	0.27	rs2289025	205969220	2	0.010	2.2E-07	PARD3B
cg21038418	1.1E-06	0.27	rs13417480	206033781	2	0.017	6.6E-70	PARD3B
cg21038418	1.1E-06	0.27	rs6754606	205924277	2	0.045	2.2E-12	PARD3B
cg05519606	1.4E-06	-0.4	rs12194883	144030149	6	0.006	2.4E-05	HIVEP2
cg05519606	1.4E-06	-0.4	rs198683	143200547	6	0.015	3.5E-24	HIVEP2
cg13060970	1.4E-06	-0.21	rs7578047	68579931	2	0.025	2.5E-19	PLEK
cg13151171	1.4E-06	0.26	rs6782870	70228330	3	0.049	9.4E-13	MITF
cg00990740	1.5E-06	0.35	rs2836524	39945829	21	0.018	1.6E-08	ERG
cg17329287	1.6E-06	0.26	rs270740	45070342	1	0.001	3.0E-09	RNF220
cg19778647	1.6E-06	-0.38	rs10771123	24955175	12	0.018	5.2E-06	BCAT1
cg19778647	1.6E-06	-0.38	rs11047645	24955859	12	0.025	4.2E-06	BCAT1
cg19778647	1.6E-06	-0.38	rs7978563	24950684	12	0.025	1.8E-07	BCAT1
cg17329287	1.6E-06	0.26	rs270765	45023415	1	0.029	4.6E-59	RNF220
cg25711558	2.4E-06	-0.5	rs10267275	102499076	7	0.012	3.2E-05	CUX1
cg25711558	2.4E-06	-0.5	rs2529232	101454616	7	0.015	7.9E-17	CUX1
cg24021846	2.8E-06	-0.44	rs4727590	103879276	7	0.008	1.8E-05	RELN
cg24021846	2.8E-06	-0.44	rs7804665	103686538	7	0.021	1.9E-05	RELN
cg24021846	2.8E-06	-0.44	rs3823990	103133201	7	0.039	3.0E-05	RELN
cg27247382	2.9E-06	0.23	rs12472333	208720089	2	0.028	2.5E-14	PLEKHM3
cg03024478	0.000003	0.2	rs11097465	96204556	4	0.003	2.3E-05	UNC5C
cg21143428	0.000003	0.25	rs2905979	136466704	5	0.010	7.8E-24	SPOCK1
cg03024478	0.000003	0.2	rs3846452	96383256	4	0.035	2.4E-29	UNC5C
cg05249460	3.2E-06	-0.25	rs733622	4181122	17	0.019	2.4E-34	UBE2G1
cg23782866	3.3E-06	-0.27	rs41481747	108019280	13	0.002	2.2E-08	FAM155A
cg23782866	3.3E-06	-0.27	rs9301199	107874222	13	0.034	1.3E-10	FAM155A
cg00395486	3.4E-06	0.21	rs11155314	143968766	6	0.016	1.3E-63	PHACTR2
cg17228105	3.4E-06	0.21	rs2836524	39945829	21	0.018	1.6E-08	ERG
cg00395486	3.4E-06	0.21	rs1884172	144017778	6	0.038	4.5E-18	PHACTR2
cg05203809	4.2E-06	-0.25	rs9931578	12611773	16	0.018	3.3E-05	SNX29
cg05203809	4.2E-06	-0.25	rs16959258	12438517	16	0.021	1.0E-15	SNX29
cg05203809	4.2E-06	-0.25	rs12595990	12471112	16	0.024	2.4E-20	SNX29
cg26251680	4.9E-06	-0.21	rs12128446	7054607	1	0.006	3.9E-17	CAMTA1

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cg26251680	4.9E-06	-0.21	rs17030129	7059150	1	0.009	1.8E-05	CAMTA1
cg26251680	4.9E-06	-0.21	rs7514988	7271651	1	0.009	1.7E-18	CAMTA1
cg26251680	4.9E-06	-0.21	rs7512599	7316031	1	0.018	5.5E-06	CAMTA1
cg26251680	4.9E-06	-0.21	rs2796483	7541345	1	0.020	1.7E-16	CAMTA1
cg26251680	4.9E-06	-0.21	rs7543531	7072726	1	0.028	3.5E-05	CAMTA1
cg26251680	4.9E-06	-0.21	rs6577395	6991925	1	0.043	1.2E-06	CAMTA1
cg26251680	4.9E-06	-0.21	rs11120955	7567037	1	0.044	3.5E-15	CAMTA1
cg26251680	4.9E-06	-0.21	rs4908448	7269283	1	0.045	1.7E-73	CAMTA1
cg08804626	5.2E-06	-0.35	rs4461777	1688391	6	0.023	1.8E-31	GMDS
cg05423018	5.3E-06	0.24	rs4720198	36234882	7	0.011	4.7E-07	EEPDI
cg05423018	5.3E-06	0.24	rs13227410	36265033	7	0.028	3.5E-05	EEPDI
cg05423018	5.3E-06	0.24	rs10807878	36251781	7	0.041	4.2E-14	EEPDI
cg19773937	5.4E-06	-0.36	rs1415675	60451862	1	0.045	2.5E-05	FGGY
cg18439339	7.3E-06	0.27	rs4631369	151510359	7	0.004	6.1E-08	PRKAG2
cg25922279	7.6E-06	0.27	rs10111852	141937541	8	0.022	3.4E-05	EIF2C2
cg25922279	7.6E-06	0.27	rs11166992	141677470	8	0.029	1.5E-09	EIF2C2
cg25922279	7.6E-06	0.27	rs2292778	141568622	8	0.038	2.8E-07	EIF2C2
cg03254067	7.7E-06	-0.23	rs4309833	10666766	4	0.024	8.0E-26	CLNK
cg23340514	8.5E-06	0.25	rs2836524	39945829	21	0.018	1.6E-08	ERG
cg18965179	8.9E-06	-0.3	rs10267275	102499076	7	0.012	3.2E-05	CUX1
cg18965179	8.9E-06	-0.3	rs2529232	101454616	7	0.015	7.9E-17	CUX1
cg25679431	9.1E-06	0.3	rs1451524	32218795	3	0.019	1.2E-06	GPD1L
cg25679431	9.1E-06	0.3	rs13061945	32154422	3	0.022	1.5E-28	GPD1L
cg25679431	9.1E-06	0.3	rs12637969	32181403	3	0.039	2.7E-16	GPD1L
cg11662061	9.2E-06	-0.24	rs9300407	98035383	13	0.002	1.8E-05	MBNL2
cg11744075	9.5E-06	-0.24	rs270740	45070342	1	0.001	3.0E-09	RNF220
cg10812236	9.5E-06	-0.32	rs7578047	68579931	2	0.025	2.5E-19	PLEK
cg11744075	9.5E-06	-0.24	rs270765	45023415	1	0.029	4.6E-59	RNF220
cg19016652	0.00001	0.22	rs16912030	16714733	12	0.017	6.1E-16	LMO3
cg12596243	0.00001	-0.25	rs10932715	218259783	2	0.035	1.0E-16	DIRC3
cg01465102	0.000012	0.3	rs7684181	41080597	4	0.007	3.0E-05	APBB2
cg01465102	0.000012	0.3	rs10517554	41071428	4	0.024	1.3E-24	APBB2
cg01465102	0.000012	0.3	rs4861340	40963992	4	0.039	2.7E-06	APBB2
cg10191240	0.000014	-0.42	rs4736441	134224569	8	0.041	9.3E-11	WISP1
cg12264934	0.000015	0.29	rs4936173	132492426	11	0.001	1.7E-65	OPCML
cg12264934	0.000015	0.29	rs948039	131901805	11	0.005	2.9E-05	OPCML
cg12264934	0.000015	0.29	rs4937758	133111500	11	0.008	8.1E-11	OPCML
cg12264934	0.000015	0.29	rs11223335	132906064	11	0.013	1.0E-07	OPCML
cg12264934	0.000015	0.29	rs4245109	132697051	11	0.015	7.0E-09	OPCML
cg27596649	0.000015	-0.23	rs739337	17202871	8	0.026	3.1E-05	MTMR7
cg12264934	0.000015	0.29	rs10750522	132886314	11	0.031	2.0E-09	OPCML
cg12264934	0.000015	0.29	rs4936180	132891723	11	0.033	5.2E-47	OPCML
cg12264934	0.000015	0.29	rs2437830	132465127	11	0.041	8.5E-06	OPCML
cg12264934	0.000015	0.29	rs12278673	132423281	11	0.042	3.4E-09	OPCML

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cg12264934	0.000015	0.29	rs2575893	132483491	11	0.048	1.0E-05	OPCML
cg25943661	0.000016	-0.53	rs11218792	122615921	11	0.008	1.7E-14	UBASH3B
cg06128123	0.000017	0.22	rs9366415	21863899	6	0.049	5.5E-38	FLJ22536
cg04743106	0.000018	-0.22	rs2710846	169541965	4	0.019	5.5E-31	PALLD
cg16574154	0.000021	0.2	rs2480782	10593296	1	0.040	5.5E-06	PEX14
cg17876641	0.000022	0.22	rs6700264	200984022	1	0.031	1.3E-07	KIF21B
cg15442737	0.000023	-0.21	rs7017431	141260967	8	0.001	6.7E-06	TRAPPC9
cg15442737	0.000023	-0.21	rs7387053	141226160	8	0.007	7.8E-08	TRAPPC9
cg15442737	0.000023	-0.21	rs11166947	141065732	8	0.027	5.7E-06	TRAPPC9
cg15442737	0.000023	-0.21	rs2261721	140566830	8	0.041	3.5E-05	TRAPPC9
cg15442737	0.000023	-0.21	rs7843613	141059415	8	0.048	1.5E-06	TRAPPC9
cg02861056	0.000025	-0.26	rs7578047	68579931	2	0.025	2.5E-19	PLEK
cg14418802	0.000026	-0.28	rs9435168	9331952	1	0.007	1.3E-14	H6PD
cg24251448	0.000026	0.24	rs10111852	141937541	8	0.022	3.4E-05	EIF2C2
cg24251448	0.000026	0.24	rs11166992	141677470	8	0.029	1.5E-09	EIF2C2
cg24251448	0.000026	0.24	rs2292778	141568622	8	0.038	2.8E-07	EIF2C2
cg19107291	0.000028	-0.27	rs11247165	100732119	15	0.021	9.9E-09	ADAMTS17
cg03891302	0.000029	0.26	rs576893	12729265	6	0.041	8.0E-07	PHACTR1
cg15936861	0.000031	-0.32	rs11060151	129615327	12	0.022	1.4E-06	TMEM132D
cg15936861	0.000031	-0.32	rs875729	129562037	12	0.037	1.7E-12	TMEM132D
cg15936861	0.000031	-0.32	rs11060446	130063808	12	0.041	7.7E-39	TMEM132D
cg25357666	0.000033	-0.27	rs11247165	100732119	15	0.021	9.9E-09	ADAMTS17
cg22539670	0.000033	0.22	rs2290532	31789582	3	0.043	5.5E-22	OSBPL10
cg22539670	0.000033	0.22	rs4444747	31960866	3	0.046	1.0E-21	OSBPL10
cg17077845	0.000035	0.3	rs10903516	1680786	10	0.040	1.9E-05	ADARB2
cg21818891	0.000036	-0.44	rs10768132	35413047	11	0.043	7.6E-22	SLC1A2
cg21254135	0.000037	0.2	rs10252204	76820800	7	0.008	1.3E-13	CCDC146
cg00174992	0.000037	-0.2	rs17808106	169366003	2	0.033	1.6E-05	NOSTRIN
cg22618337	0.000037	-0.38	rs3981351	115515120	10	0.049	2.5E-06	C10orf81
cg15360181	0.00004	-0.23	rs10513209	143269658	3	0.009	5.8E-11	SLC9A9
cg15360181	0.00004	-0.23	rs17582102	143311453	3	0.023	6.6E-28	SLC9A9
cg24714561	0.000044	0.3	rs8012881	89857046	14	0.013	6.0E-16	FOXN3
cg24714561	0.000044	0.3	rs8013657	89857336	14	0.020	1.6E-17	FOXN3
cg24714561	0.000044	0.3	rs17125811	89856203	14	0.023	4.0E-08	FOXN3
cg08767637	0.000045	0.23	rs13332945	65277884	16	0.007	1.6E-05	LOC283867
cg08767637	0.000045	0.23	rs12447283	65595639	16	0.012	3.9E-40	LOC283867
cg09918751	0.000045	-0.34	rs11247165	100732119	15	0.021	9.9E-09	ADAMTS17
cg16773768	0.000047	-0.46	rs17693451	10087393	8	0.007	8.3E-10	MSRA
cg23677311	0.000047	-0.29	rs7837477	25240100	8	0.015	3.9E-11	DOCK5
cg16773768	0.000047	-0.46	rs814424	9942924	8	0.035	5.9E-16	MSRA
cg19244312	0.000048	0.28	rs9859151	172040228	3	0.024	4.3E-14	FNDC3B
cg19244312	0.000048	0.28	rs12494991	172011774	3	0.025	1.6E-62	FNDC3B
cg19244312	0.000048	0.28	rs6788698	172093535	3	0.033	9.0E-19	FNDC3B
cg11830694	0.000052	-0.23	rs758116	2523256	12	0.038	7.5E-06	CACNA1C

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cg11830694	0.000052	-0.23	rs11062351	2881763	12	0.040	1.4E-05	CACNA1C
cg11830694	0.000052	-0.23	rs11062098	2174904	12	0.043	4.9E-10	CACNA1C
cg24553184	0.000054	0.27	rs11187371	95052209	10	0.006	1.9E-05	PLCE1
cg09252301	0.000055	0.2	rs17324410	133380923	2	0.010	3.6E-09	GPR39
cg16314254	0.000056	-0.36	rs4846845	230360634	1	0.011	9.2E-32	GALNT2
cg16314254	0.000056	-0.36	rs10779833	230293037	1	0.015	5.0E-07	GALNT2
cg23913941	0.000058	0.24	rs9650572	141831989	8	0.006	6.7E-23	PTK2
cg23913941	0.000058	0.24	rs11167021	142025644	8	0.026	1.8E-10	PTK2
cg26361041	0.000059	0.2	rs10903516	1680786	10	0.040	1.9E-05	ADARB2
cg02671826	0.000064	0.22	rs12214873	157320902	6	0.035	3.3E-05	ARID1B
cg18259253	0.000069	-0.22	rs16892408	60848185	5	0.007	1.2E-13	ZSWIM6
cg10566012	0.000069	0.2	rs1752056	39970475	13	0.036	1.5E-08	LHFP
cg04865319	0.00007	0.25	rs2710846	169541965	4	0.019	5.5E-31	PALLD
cg14838600	0.000071	0.28	rs4631369	151510359	7	0.004	6.1E-08	PRKAG2
cg01620164	0.000072	0.36	rs10177481	164506159	2	0.025	1.5E-06	FIGN
cg19321696	0.000075	-0.26	rs11018200	129357315	10	0.007	2.7E-37	NPS
cg19321696	0.000075	-0.26	rs4751452	129359425	10	0.013	3.3E-06	NPS
cg13932501	0.000076	-0.39	rs16907201	93927913	9	0.015	1.3E-38	AUH
cg16767221	0.000077	0.37	rs1441828	58187513	15	0.026	3.3E-05	CGNL1
cg00028336	0.000081	0.22	rs6812943	186604905	4	0.006	2.3E-87	SORBS2
cg00028336	0.000081	0.22	rs7677363	186631388	4	0.024	3.4E-22	SORBS2
cg19245498	0.000082	0.28	rs1415675	60451862	1	0.045	2.5E-05	FGGY
cg03068346	0.000085	-0.21	rs10508244	3153203	10	0.008	5.0E-06	PFKP
cg03289833	0.000085	-0.29	rs7179347	68630870	15	0.008	1.7E-22	ITGA11
cg03289833	0.000085	-0.29	rs12442156	68628636	15	0.035	6.7E-06	ITGA11
cg11073381	0.000092	-0.23	rs6505045	54258358	17	0.000	1.0E-56	ANKFN1
cg11073381	0.000092	-0.23	rs3922293	54223232	17	0.001	3.5E-06	ANKFN1
cg11073381	0.000092	-0.23	rs10515127	54559297	17	0.010	3.3E-08	ANKFN1
cg06758827	0.000094	-0.27	rs4702023	14244357	5	0.002	1.0E-17	TRIO
cg15676916	0.000094	0.42	rs1538788	128845647	10	0.007	6.6E-06	DOCK1
cg06758827	0.000094	-0.27	rs835067	14985797	5	0.012	8.9E-06	TRIO
cg01697477	0.000094	-0.21	rs1299018	25570554	3	0.018	3.1E-06	RARB
cg01697477	0.000094	-0.21	rs1286648	25537503	3	0.019	1.5E-06	RARB
cg01697477	0.000094	-0.21	rs2116703	25542571	3	0.030	6.0E-13	RARB
cg06758827	0.000094	-0.27	rs30635	14300652	5	0.031	4.2E-30	TRIO
cg06758827	0.000094	-0.27	rs544588	14227482	5	0.036	6.9E-29	TRIO
cg01697477	0.000094	-0.21	rs9820756	26393305	3	0.037	1.5E-05	RARB
cg06758827	0.000094	-0.27	rs30625	14311915	5	0.042	7.4E-20	TRIO
cg26118821	0.000095	0.21	rs747555	18691956	8	0.005	2.4E-15	PSD3
cg01425762	0.000095	-0.24	rs12596548	81503877	16	0.009	2.3E-05	CMIP
cg26118821	0.000095	0.21	rs11782622	18693453	8	0.014	7.9E-14	PSD3
cg01425762	0.000095	-0.24	rs2317240	81497707	16	0.017	1.8E-13	CMIP
cg01425762	0.000095	-0.24	rs17820141	82554153	16	0.039	2.3E-05	CMIP
cg27202075	0.000095	0.22	rs9866965	73624645	3	0.042	2.5E-07	PDZRN3

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cg08081780	0.000097	0.21	rs9300407	98035383	13	0.002	1.8E-05	MBNL2
cg01446731	0.000097	-0.37	rs7172094	80834644	15	0.027	4.5E-32	ARNT2
cg01446731	0.000097	-0.37	rs3848170	80724489	15	0.031	2.3E-05	ARNT2
cg18920088	0.000099	0.32	rs6902664	151252917	6	0.020	5.3E-12	MTHFD1L
cg03381237	0.000099	-0.22	rs6961346	155544740	7	0.027	4.0E-22	RBM33
cg03381237	0.000099	-0.22	rs6972521	155517634	7	0.030	1.2E-10	RBM33
cg18920088	0.000099	0.32	rs1474787	151253382	6	0.040	3.6E-06	MTHFD1L
cg18920088	0.000099	0.32	rs17080803	151425673	6	0.047	1.0E-08	MTHFD1L
cg04872689	0.0001	-0.28	rs7578047	68579931	2	0.025	2.5E-19	PLEK
cg00551146	0.0001	0.24	rs11258686	13917699	10	0.028	2.7E-10	FRMD4A
cg00551146	0.0001	0.24	rs7095401	14258278	10	0.037	3.6E-20	FRMD4A
cg11204562	0.0001	-0.4	rs3981351	115515120	10	0.049	2.5E-06	C10orf81
cg24777101	0.00011	-0.24	rs2027516	136131888	6	0.001	7.8E-11	PDE7B
cg25722041	0.00011	0.24	rs10779725	9509782	1	0.009	3.6E-05	RERE
cg00187692	0.00011	-0.24	rs9526786	52209422	13	0.021	4.0E-06	WDFY2
cg25722041	0.00011	0.24	rs7553298	8770883	1	0.033	2.3E-15	RERE
cg21204870	0.00011	0.2	rs4978847	112519714	9	0.037	5.3E-23	PALM2
cg19755714	0.00012	0.26	rs17374883	140960502	4	0.001	2.8E-14	MAML3
cg22327175	0.00012	0.31	rs668387	121367921	11	0.003	1.0E-48	SORL1
cg19755714	0.00012	0.26	rs6851301	140959594	4	0.003	1.5E-33	MAML3
cg08265392	0.00012	-0.29	rs4631369	151510359	7	0.004	6.1E-08	PRKAG2
cg04004363	0.00012	0.26	rs763537	70268109	17	0.004	1.9E-05	SLC39A11
cg19755714	0.00012	0.26	rs1402672	140946341	4	0.011	1.4E-05	MAML3
cg19755714	0.00012	0.26	rs17005264	140861318	4	0.022	1.1E-05	MAML3
cg22327175	0.00012	0.31	rs1790213	121442189	11	0.022	3.5E-15	SORL1
cg22390040	0.00012	-0.44	rs739337	17202871	8	0.026	3.1E-05	MTMR7
cg22327175	0.00012	0.31	rs1784931	121482938	11	0.028	2.7E-32	SORL1
cg04004363	0.00012	0.26	rs2567512	70690774	17	0.035	3.2E-05	SLC39A11
cg19755714	0.00012	0.26	rs7698089	140910848	4	0.040	1.3E-05	MAML3
cg25475999	0.00013	-0.41	rs10768132	35413047	11	0.043	7.6E-22	SLC1A2
cg26717066	0.00013	-0.28	rs11949035	132620500	5	0.048	1.3E-07	FSTL4
cg13205617	0.00014	0.33	rs10199604	2327906	2	0.009	1.1E-07	MYT1L
cg17593384	0.00014	-0.24	rs17012512	88067504	4	0.020	6.7E-11	AFF1
cg19708986	0.00014	-0.2	rs7172094	80834644	15	0.027	4.5E-32	ARNT2
cg19708986	0.00014	-0.2	rs3848170	80724489	15	0.031	2.3E-05	ARNT2
cg13205617	0.00014	0.33	rs10495485	2284083	2	0.036	1.4E-31	MYT1L
cg10773526	0.00015	0.25	rs1425518	143462437	4	0.047	3.3E-06	INPP4B
cg04256834	0.00016	-0.3	rs4936173	132492426	11	0.001	1.7E-65	OPCML
cg04256834	0.00016	-0.3	rs948039	131901805	11	0.005	2.9E-05	OPCML
cg04256834	0.00016	-0.3	rs4937758	133111500	11	0.008	8.1E-11	OPCML
cg23445003	0.00016	-0.45	rs10267275	102499076	7	0.012	3.2E-05	CUX1
cg04256834	0.00016	-0.3	rs11223335	132906064	11	0.013	1.0E-07	OPCML
cg04256834	0.00016	-0.3	rs4245109	132697051	11	0.015	7.0E-09	OPCML
cg23445003	0.00016	-0.45	rs2529232	101454616	7	0.015	7.9E-17	CUX1

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cg03031839	0.00016	0.36	rs16868250	102740499	8	0.023	2.1E-21	NCALD
cg08640361	0.00016	-0.28	rs9389154	134614761	6	0.028	1.0E-19	SGK1
cg04256834	0.00016	-0.3	rs10750522	132886314	11	0.031	2.0E-09	OPCML
cg03031839	0.00016	0.36	rs6468791	102745927	8	0.032	1.9E-36	NCALD
cg04256834	0.00016	-0.3	rs4936180	132891723	11	0.033	5.2E-47	OPCML
cg03031839	0.00016	0.36	rs12545512	102746223	8	0.036	1.3E-07	NCALD
cg04256834	0.00016	-0.3	rs2437830	132465127	11	0.041	8.5E-06	OPCML
cg04256834	0.00016	-0.3	rs12278673	132423281	11	0.042	3.4E-09	OPCML
cg17238009	0.00016	0.3	rs2208948	77687528	10	0.044	4.8E-07	C10orf11
cg17238009	0.00016	0.3	rs846642	78522318	10	0.045	2.9E-05	C10orf11
cg04256834	0.00016	-0.3	rs2575893	132483491	11	0.048	1.0E-05	OPCML
cg18593374	0.00017	0.24	rs3891517	126259339	10	0.009	8.5E-06	LHPP
cg06160606	0.00017	-0.51	rs7534143	66470379	1	0.010	7.3E-18	PDE4B
cg18593374	0.00017	0.24	rs12264692	126260246	10	0.015	5.7E-07	LHPP
cg06160606	0.00017	-0.51	rs12058296	66402424	1	0.019	2.0E-05	PDE4B
cg06160606	0.00017	-0.51	rs2253745	66457244	1	0.024	5.7E-22	PDE4B
cg19731541	0.00017	-0.31	rs16837637	206631254	2	0.030	1.5E-05	NRP2
cg20724032	0.00017	-0.31	rs9842536	41397041	3	0.035	3.4E-06	ULK4
cg19731541	0.00017	-0.31	rs849525	206593241	2	0.036	5.7E-06	NRP2
cg09309085	0.00018	-0.31	rs16986834	41022015	20	0.008	1.1E-67	PTPRT
cg09309085	0.00018	-0.31	rs6030453	41369963	20	0.018	1.1E-08	PTPRT
cg09309085	0.00018	-0.31	rs6093729	41378103	20	0.025	2.5E-18	PTPRT
cg09309085	0.00018	-0.31	rs1076666	40738472	20	0.031	2.8E-06	PTPRT
cg16728539	0.00018	-0.5	rs758116	2523256	12	0.038	7.5E-06	CACNA1C
cg24115019	0.00018	-0.28	rs1477307	167763698	5	0.040	1.6E-51	WWC1
cg16728539	0.00018	-0.5	rs11062351	2881763	12	0.040	1.4E-05	CACNA1C
cg20112984	0.00018	0.28	rs10903516	1680786	10	0.040	1.9E-05	ADARB2
cg24115019	0.00018	-0.28	rs2085449	167885750	5	0.042	1.1E-17	WWC1
cg16728539	0.00018	-0.5	rs11062098	2174904	12	0.043	4.9E-10	CACNA1C
cg09309085	0.00018	-0.31	rs12481078	41423380	20	0.044	4.7E-06	PTPRT
cg09309085	0.00018	-0.31	rs6093615	40947646	20	0.050	5.1E-47	PTPRT
cg26751588	0.00021	0.21	rs8079640	14037308	17	0.028	1.2E-05	COX10
cg24572400	0.00021	0.21	rs10951005	3071115	7	0.028	8.2E-09	CARD11
cg13002506	0.00021	-0.48	rs10899365	76957833	11	0.033	5.1E-86	GDPD4
cg13002506	0.00021	-0.48	rs10793246	76968883	11	0.033	1.9E-12	GDPD4
cg17221083	0.00022	-0.3	rs2905979	136466704	5	0.010	7.8E-24	SPOCK1
cg26446832	0.00023	-0.31	rs16910359	12039219	11	0.005	3.6E-08	DKK3
cg02630677	0.00024	0.22	rs1438198	4285608	8	0.001	6.1E-14	CSMD1
cg02630677	0.00024	0.22	rs7817129	3998888	8	0.004	9.3E-65	CSMD1
cg02630677	0.00024	0.22	rs662589	2832494	8	0.009	6.6E-16	CSMD1
cg14283647	0.00024	0.39	rs13431179	227610241	2	0.011	3.0E-05	IRS1
cg02630677	0.00024	0.22	rs10110717	3680182	8	0.011	1.1E-05	CSMD1
cg02630677	0.00024	0.22	rs6992819	1968004	8	0.014	3.5E-05	CSMD1
cg02630677	0.00024	0.22	rs10091045	3959424	8	0.021	2.8E-05	CSMD1

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cg02630677	0.00024	0.22	rs2688353	3829247	8	0.022	1.0E-07	CSMD1
cg02630677	0.00024	0.22	rs2680599	4114456	8	0.025	2.5E-35	CSMD1
cg02630677	0.00024	0.22	rs17413882	4204310	8	0.028	1.0E-12	CSMD1
cg02630677	0.00024	0.22	rs17072138	4896217	8	0.033	2.8E-05	CSMD1
cg02630677	0.00024	0.22	rs7002661	4171740	8	0.037	1.7E-06	CSMD1
cg02630677	0.00024	0.22	rs4875303	4041575	8	0.038	1.7E-06	CSMD1
cg17574877	0.00024	-0.33	rs758116	2523256	12	0.038	7.5E-06	CACNA1C
cg02630677	0.00024	0.22	rs2670063	2804926	8	0.038	7.8E-07	CSMD1
cg17574877	0.00024	-0.33	rs11062351	2881763	12	0.040	1.4E-05	CACNA1C
cg17574877	0.00024	-0.33	rs11062098	2174904	12	0.043	4.9E-10	CACNA1C
cg02630677	0.00024	0.22	rs4875712	3325727	8	0.045	6.8E-07	CSMD1
cg02630677	0.00024	0.22	rs7844359	3393402	8	0.049	6.9E-06	CSMD1
cg00981146	0.00025	-0.28	rs1720278	79956642	10	0.004	3.5E-06	KCNMA1
cg00981146	0.00025	-0.28	rs860990	79315707	10	0.028	6.7E-07	KCNMA1
cg00981146	0.00025	-0.28	rs547163	78995938	10	0.040	3.6E-64	KCNMA1
cg00981146	0.00025	-0.28	rs3851040	79318685	10	0.043	4.2E-17	KCNMA1
cg03282105	0.00026	0.21	rs7017431	141260967	8	0.001	6.7E-06	TRAPPC9
cg03282105	0.00026	0.21	rs7387053	141226160	8	0.007	7.8E-08	TRAPPC9
cg03282105	0.00026	0.21	rs11166947	141065732	8	0.027	5.7E-06	TRAPPC9
cg14377594	0.00026	-0.23	rs2279988	1042166	9	0.033	1.9E-06	DMRT2
cg03282105	0.00026	0.21	rs2261721	140566830	8	0.041	3.5E-05	TRAPPC9
cg03282105	0.00026	0.21	rs7843613	141059415	8	0.048	1.5E-06	TRAPPC9
cg01818776	0.00027	-0.31	rs7837477	25240100	8	0.015	3.9E-11	DOCK5
cg24716152	0.00027	0.21	rs4536908	23897809	4	0.033	3.8E-36	PPARGC1A
cg24716152	0.00027	0.21	rs10938963	23813752	4	0.049	2.0E-19	PPARGC1A
cg03469655	0.00028	-0.23	rs9375212	123315508	6	0.014	8.6E-15	CLVS2
cg09999348	0.00028	-0.21	rs7573407	46259855	2	0.019	1.8E-34	PRKCE
cg09999348	0.00028	-0.21	rs935670	46109835	2	0.025	3.5E-14	PRKCE
cg09999348	0.00028	-0.21	rs6705717	46207966	2	0.034	1.3E-71	PRKCE
cg21853707	0.00028	-0.22	rs1617366	164660037	1	0.044	5.3E-17	PBX1
cg09999348	0.00028	-0.21	rs2255094	46232042	2	0.044	2.3E-05	PRKCE
cg20034372	0.00029	0.23	rs8025854	37165249	15	0.016	5.8E-11	LOC145845
cg12548824	0.00029	-0.24	rs6586642	17611074	8	0.039	6.2E-16	MTUS1
cg08971562	0.00029	-0.22	rs10903516	1680786	10	0.040	1.9E-05	ADARB2
cg07866001	0.0003	-0.33	rs4702023	14244357	5	0.002	1.0E-17	TRIO
cg07866001	0.0003	-0.33	rs835067	14985797	5	0.012	8.9E-06	TRIO
cg07866001	0.0003	-0.33	rs30635	14300652	5	0.031	4.2E-30	TRIO
cg07866001	0.0003	-0.33	rs544588	14227482	5	0.036	6.9E-29	TRIO
cg07866001	0.0003	-0.33	rs30625	14311915	5	0.042	7.4E-20	TRIO
cg26658897	0.00031	-0.23	rs730781	77890217	5	0.012	6.3E-19	LHFPL2
cg14818546	0.00031	0.25	rs10486876	69840168	7	0.013	2.0E-14	AUTS2
cg14818546	0.00031	0.25	rs2006810	69902152	7	0.040	2.8E-06	AUTS2
cg14818546	0.00031	0.25	rs7793984	69210523	7	0.049	4.7E-06	AUTS2
cg14818546	0.00031	0.25	rs521259	69198745	7	0.050	7.4E-09	AUTS2

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cg26908505	0.00032	-0.33	rs1944632	126853910	11	0.028	1.2E-06	KIRREL3
cg26908505	0.00032	-0.33	rs7946318	126767799	11	0.029	2.2E-05	KIRREL3
cg06221087	0.00032	0.36	rs1617366	164660037	1	0.044	5.3E-17	PBX1
cg26908505	0.00032	-0.33	rs10750352	126702154	11	0.047	1.1E-13	KIRREL3
cg02584610	0.00033	-0.42	rs1551306	68855483	11	0.022	1.6E-16	TPCN2
cg02584610	0.00033	-0.42	rs4930265	68855954	11	0.047	1.1E-07	TPCN2
cg23261443	0.00035	-0.31	rs10267275	102499076	7	0.012	3.2E-05	CUX1
cg23261443	0.00035	-0.31	rs2529232	101454616	7	0.015	7.9E-17	CUX1
cg00086429	0.00035	-0.2	rs16837637	206631254	2	0.030	1.5E-05	NRP2
cg00086429	0.00035	-0.2	rs849525	206593241	2	0.036	5.7E-06	NRP2
cg10627429	0.00035	-0.22	rs3981351	115515120	10	0.049	2.5E-06	C10orf81
cg14326305	0.00036	0.24	rs2472433	107623326	9	0.003	3.5E-20	ABCA1
cg14326305	0.00036	0.24	rs2249891	107624242	9	0.004	3.2E-16	ABCA1
cg12197399	0.00036	0.25	rs6812943	186604905	4	0.006	2.3E-87	SORBS2
cg04129548	0.00036	0.33	rs13431179	227610241	2	0.011	3.0E-05	IRS1
cg05425936	0.00036	0.24	rs10870312	134290544	10	0.011	3.5E-06	STK32C
cg12197399	0.00036	0.25	rs7677363	186631388	4	0.024	3.4E-22	SORBS2
cg00483640	0.00037	-0.25	rs3813487	3270064	6	0.015	4.0E-05	C6orf195

$\Delta\beta$ :  $\beta_{\text{KBD}} - \beta_{\text{N}}$ , genes with  $\Delta\beta > 0$  are hyper-methylated, while genes with  $\Delta\beta < 0$  are hypo-methylated in KBD.