

Table SI. Primer sequences used for PCR.

Gene	Forward primer (5'-3')	Reverse primer (5'-3')
β -actin	CCAGGAATTGCTGATCGTATGCAGAA	TGGAGAGGAAGCGAGGATAGA
JMJD-3.1	GTGACAATGAAACGACGTTG	TTCGCTTGAAGTAGAAGCAG
CBP-1	CTGGGCTACACAATGGCTCA	GACGCTTCGGCTTTGGAATC
HSP90	TCAGTTCGGAGTCGGATTCT	CGACCTCTCCCTCCTTCTTC

JMJD-3.1, lysine-specific demethylase jmjd-3.1; CBP-1, protein cbp-1; HSP90, heat shock protein 90.

Table SII. Potential targets associated with AD and GEB.

No.	Gene name	Protein name
1	MAP3K9	Mitogen-activated protein kinase kinase kinase 9
2	EP300	E1A binding protein P300
3	ATP1A1	ATPase Na ⁺ /K ⁺ transporting subunit α 1
4	KDM5A	Lysine demethylase 5A
5	PHLPP2	PH domain and leucine rich repeat protein phosphatase 2
6	GLO1	Glyoxalase I
7	LDHB	Lactate dehydrogenase B
8	KDM1A	Lysine demethylase 1A
9	PARP1	Poly(ADP-ribose) polymerase 1
10	EHMT1	Euchromatic histone lysine methyltransferase 1
11	PYGB	Glycogen phosphorylase B
12	CREBBP	CREB binding protein
13	LTA4H	Leukotriene A4 hydrolase
14	MIF	Macrophage migration inhibitory factor
15	PPIA	Peptidylprolyl isomerase A
16	PDE4C	Phosphodiesterase 4C
17	IMPDH2	Inosine monophosphate dehydrogenase 2
18	ADAMTS4	ADAM metalloproteinase with thrombospondin type 1 motif 4
19	HSP90AB1	Heat shock protein 90 α family class B member 1
20	GAPDH	Glyceraldehyde-3-phosphate dehydrogenase
21	FABP3	Fatty acid binding protein 3
22	PPARD	Peroxisome proliferator activated receptor δ
23	JAK1	Janus kinase 1
24	FABP5	Fatty acid binding protein 5
25	KDM4B	Lysine demethylase 4B
26	PSMB5	Proteasome 20S subunit β 5
27	TRPA1	Transient receptor potential cation channel subfamily A member 1
28	FDPS	Farnesyl diphosphate synthase
29	NFKBIA	NFKB inhibitor α
30	LAP3	Leucine aminopeptidase 3
31	KDM6B	Lysine demethylase 6B
32	RORA	RAR related orphan receptor A
33	TLR9	Toll like receptor 9
34	HCRT2	Hypocretin receptor 2
35	PLA2G7	Phospholipase A2 group VII
36	CDK7	Cyclin dependent kinase 7
37	SLC22A3	Solute carrier family 22 member 3
38	KDR	Kinase insert domain receptor
39	DOT1L	DOT1 like histone lysine methyltransferase
40	AMY1A	Amylase α 1A
41	AMY2A	Amylase α 2A
42	CA4	Carbonic anhydrase 4
43	LDHA	Lactate dehydrogenase A
44	S100B	S100 calcium binding protein B
45	MAP2K1	Mitogen-activated protein kinase kinase 1
46	CCR4	C-C motif chemokine receptor 4
47	SLC27A4	Solute carrier family 27 member 4
48	MET	MET proto-oncogene, receptor tyrosine kinase
49	PRF1	Perforin 1
50	DNTT	DNA nucleotidylexotransferase
51	HDAC7	Histone deacetylase 7
52	BACE2	β -Secretase 2
53	GRIA1	Glutamate ionotropic receptor AMPA type subunit 1
54	EPHA2	EPH receptor A2
55	CASP6	Caspase 6

56	PIM2	Pim-2 proto-oncogene, serine/threonine kinase
57	FGR	FGR proto-oncogene, Src family tyrosine kinase
58	MMP15	Matrix metalloproteinase 15
59	DYRK1B	Dual specificity tyrosine phosphorylation regulated kinase 1B

Table SIII. Results of KEGG analysis (top 20).

Term	Pathway	P-value	Count	Symbols
hsa04066	HIF-1 signaling pathway	6.43E-05	6	EP300, LDHB, CREBBP, GAPDH, LDHA, MAP2K1
hsa05215	Prostate cancer	0.000373	5	EP300, CREBBP, HSP90AB1, NFKBIA, MAP2K1
hsa04024	cAMP signaling pathway	0.000461	7	EP300, ATP1A1, CREBBP, PDE4C, NFKBIA, MAP2K1, GRIA1
hsa04922	Glucagon signaling pathway	0.000586	5	EP300, LDHB, PYGB, CREBBP, LDHA
hsa05164	Influenza A	0.000769	6	EP300, CREBBP, JAK1, FDPS, NFKBIA, MAP2K1
hsa04720	Long-term potentiation	0.000865	4	EP300, CREBBP, MAP2K1, GRIA1
hsa05211	Renal cell carcinoma	0.000966	4	EP300, CREBBP, MAP2K1, MET
hsa05230	Central carbon metabolism in cancer	0.00102	4	LDHB, LDHA, MAP2K1, MET
hsa03320	PPAR signaling pathway	0.001387	4	FABP3, PPARG, FABP5, SLC27A4
hsa05167	Kaposi sarcoma-associated herpesvirus infection	0.001436	6	EP300, CREBBP, JAK1, NFKBIA, MAP2K1, CCR4
hsa00500	Starch and sucrose metabolism	0.001543	3	PYGB, AMY1A, AMY2A
hsa01521	EGFR tyrosine kinase inhibitor resistance	0.001602	4	JAK1, KDR, MAP2K1, MET
hsa04210	Apoptosis	0.001724	5	PARP1, NFKBIA, MAP2K1, PRF1, CASP6
hsa05203	Viral carcinogenesis	0.001855	6	EP300, CREBBP, JAK1, NFKBIA, CCR4, HDAC7
hsa05235	PD-L1 expression and PD-1 checkpoint pathway in cancer	0.002483	4	JAK1, NFKBIA, TLR9, MAP2K1
hsa05166	Human T-cell leukemia virus 1 infection	0.002653	6	EP300, CREBBP, JAK1, FDPS, NFKBIA, MAP2K1
hsa00620	Pyruvate metabolism	0.003333	3	GLO1, LDHB, LDHA
hsa04973	Carbohydrate digestion and absorption	0.003333	3	ATP1A1, AMY1A, AMY2A
hsa04217	Necroptosis	0.003408	5	PARP1, PYGB, PPIA, HSP90AB1, JAK1
hsa05161	Hepatitis B	0.003692	5	EP300, CREBBP, JAK1, NFKBIA, MAP2K1

KEGG, Kyoto Encyclopedia of Genes and Genomes.