Supplemental Table 1: Epigenetic genes associated with ASDs, continued. For these genes, no direct experimental evidence implicates DNA methylation as impacting their function or regulation. This list includes transcription factors and DNA binding proteins for which no methylated DNA binding data exists, as well as histone modifiers and remodelers. SFARI score refers to the score designated by Simons Foundation Autism Reference Initiative based on clinical data: 1-2, strong evidence; 3-4, suggestive/minimal evidence; 5, hypothesized but untested

Gene	Description	SFARI score	Comorbidities	References
ANKRD11	Interacts with histone deacetylases and p160 coactivators	2	KBG syndrome	(1-12)
ARID1B	Chromatin remodeling, SWI/SNF complexes	1	Coffin-Siris syndrome 1	(2; 6; 8; 9; 12-24)
ASH1L	H3K36 methyltransferase, associates with HOX genes	1	Intellectual disability	(1; 2; 9; 12; 21; 25-27)
ASXL3	Putative polycomb protein	1	Bainbridge-Ropers syndrome	(2; 11; 12; 26; 28-30)
CHD1	Chromatin remodeling	4	Pilarowski-Bjornsson syndrome	(1; 31)
CHD2	Chromatin remodeling	1	Epileptic encephalopathy (childhood-onset)	(1; 2; 9; 11; 12; 21; 23; 26; 31-34)
CHD5	Chromatin remodeling	5		(10; 26; 35)
CHD8	Chromatin remodeling	1		(1; 2; 6; 9; 12; 16; 19; 21; 23; 26; 29; 36-42)
CUX1	DNA binding transcription factor	3		(8; 26)
EHMT1	H3K9 methyltransferase, E2F6 transcriptional repression complex component	3	Kleefstra syndrome	(20; 37; 43-46)
ELP4	HAT component; RNA PolII elongator complex member	3	Aniridia 2, Rolandic epilepsy	(8; 12; 47-49)
EMSY	Interacts with chromatin remodeling complex, interacts with BRCA2	3	Breast and ovarian cancers	(2; 26; 50)
EP400	Exchanges histones for variants, may alter nucleosome/DNA interactions	3		(1; 2; 26; 51; 52)

FOXP1	DNA binding domain, TF, noted as to likely bind CpG sequences	2	Intellectual disability	(2; 5; 8; 9; 12; 21; 23; 42; 53-59)
FOXP2	DNA binding domain, TF	3	Speech-language disorder-1	(60-68)
HDAC3	Histone deacetylase, interacts with DAXX	5		(2)
HIST1H1E	Histone linker protein	N/A	Rahman syndrome	(69)
HMGN1	Binds nucleosome core particles, alters interaction between DNA and histone octamer, associated with active chromatin	3		(70)
HNRNPU	Binds DNA and RNA, involved in several cellular processes such as nuclear chromatin organization, telomere-length regulation, transcription, mRNA alternative splicing and stability, Xist-mediated transcriptional silencing and mitotic cell progression	4	Epileptic encephalopathy (early infantile, 54)	(9; 11; 23)
KAT2B	Histone acetyltransferase for lysine, associates with p300/CBP	2		(1; 2; 9; 33)
KAT6A	H3K9 histone acetyltransferase	3	Intellectual disability	(1; 2)
KDM5B (JARID1B)	H3K4 demethylase	2		(1; 12; 18; 26; 42; 71)
KDM5C (JARID1C)	H3K4 histone demethylase	3	X linked mental retardation	(20; 65; 72)
KDM6B (JMJD3)	H3K27 histone demethylase; may link T-box factors to SWI/SWF remodeling complex	3		(1; 2; 12; 26; 44; 73)
KMT2A	H3K4 methyltransferase, binds to unmethylated promoter CpGs to maintain unmethylated state	1	MLL, Wiedemann-Steiner syndrome	(1; 2; 6; 12; 26)
KMT2C	H3K4 methyltransferase, contains a DNA binding domain	2	Kleefstra syndrome 2	(1; 2; 9; 12; 16; 18; 23; 26; 52; 74)
KMT2E	H3K4me1 and H3K4me2 methyltransferase	3		(9; 73; 75)
KMT5B	H4K20 methyltransferase	1	Intellectual disability	(2; 12; 21; 26; 73; 76)
PHF2	Lysine demethylase for H3K9me2, complex with ARID5B	3		(1; 2; 9; 12; 73)
RFX3	TF with winged helix DNA binding domain, roles in immune response, viral/cellular transcriptional regulation, can work in complex with MDBP	4		(18; 26; 29; 77)

SATB2	DNA binding, specifically binds nuclear matrix attachment regions, no evidence that methylation affects this binding	4	Intellectual disability, craniofacial abnormalities, Glass syndrome	(6; 37; 41; 44; 78; 79)
SETD2	H3K36 methyltransferase	3	Luscan-Lumish syndrome	(6; 7; 15; 16; 19; 20; 80; 81)
SETDB1	H3K9 methyltransferase	4		(82; 83)
SETDB2	Histone methyltransferase	4		(84)
SIN3A	MECP2 and histone interacting protein	4	Witteveen-Kolk syndrome	(1; 26; 85)
SMAD4	DNA binding, binds SMAD-binding element, tumor suppressor	3	Juvenile polyposis/hereditary hemorrhagic telangiectasia syndrome, Myhre syndrome, Pancreatic cancer (somatic), Polyposis (juvenile intestinal)	(1; 79)
SMARCC2	Regulates transcription via SWI/SNF chromatin remodeling	2		(2; 31; 73)
SRCAP	Chromatin remodeling complex, Transcriptional activator, incorporates H2AZ	2	Floating-Harbor syndrome	(1; 9; 12; 21; 26)
TBX1	DNA binding protein (t box gene family), needed for proper development	4	Conotruncal anomaly face syndrome, Digeorge syndrome, Tetralogy of Fallot, Velocardiofacial syndrome	(86)
TSN	Binds DNA at breaks for recombination	5		(87; 88)
USP7	Hydrolase that deubiquitinates DNMT1 and DAXX too	2	neurodevelopmental disorder	(1; 2; 26; 89)
WAC	Regulates H2BK120ub1	2	Desanto-shinawi syndrome	(1; 2; 9; 12; 27)
ZMYND11	Transcriptional corepressor by modulating RNA pol2 and H3K36me3	3	Intellectual disability	(2; 73; 90)

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