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DNMT3B Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO2113a

Product Information

Application	WB, IHC, FC, E
Primary Accession	Q9UBC3
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	7E5E9C1
Isotype	IgG1
Calculated MW	95751
Description	CpG methylation is an epigenetic modification that is important for embryonic development, imprinting, and X-chromosome inactivation. Studies in mice have demonstrated that DNA methylation is required for mammalian development. This gene encodes a DNA methyltransferase which is thought to function in de novo methylation, rather than maintenance methylation. The protein localizes primarily to the nucleus and its expression is developmentally regulated. Mutations in this gene cause the immunodeficiency-centromeric instability-facial anomalies (ICF) syndrome. Eight alternatively spliced transcript variants have been described. The full length sequences of variants 4 and 5 have not been determined.
Immunogen	Purified recombinant fragment of human DNMT3B (AA: 1-150) expressed in E. Coli.
Formulation	Purified antibody in PBS with 0.05% sodium azide

Additional Information

Gene ID	1789
Other Names	DNA (cytosine-5)-methyltransferase 3B, Dnmt3b, 2.1.1.37, DNA methyltransferase HsaIIIB, DNA MTase HsaIIIB, M.HsaIIIB, DNMT3B
Dilution	WB~~1/500 - 1/2000 IHC~~1/200 - 1/1000 FC~~1/200 - 1/400 E~~1/10000
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	DNMT3B Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	DNMT3B
Function	Required for genome-wide de novo methylation and is essential for the establishment of DNA methylation patterns during development. DNA methylation is coordinated with methylation of histones. May preferentially methylates nucleosomal DNA within the nucleosome core region. May function as transcriptional co-repressor by associating with CBX4 and independently of DNA methylation. Seems to be involved in gene silencing (By similarity). In association with DNMT1 and via the recruitment of CTCFL/BORIS, involved in activation of BAG1 gene expression by modulating dimethylation of promoter histone H3 at H3K4 and H3K9. Isoforms 4 and 5 are probably not functional due to the deletion of two conserved methyltransferase motifs. Functions as a transcriptional corepressor by associating with ZHX1. Required for DUX4 silencing in somatic cells (PubMed:27153398).
Cellular Location	Nucleus
Tissue Location	Ubiquitous; highly expressed in fetal liver, heart, kidney, placenta, and at lower levels in spleen, colon, brain, liver, small intestine, lung, peripheral blood mononuclear cells, and skeletal muscle. Isoform 1 is expressed in all tissues except brain, skeletal muscle and PBMC, 3 is ubiquitous, 4 is expressed in all tissues except brain, skeletal muscle, lung and prostate and 5 is detectable only in testis and at very low level in brain and prostate

References

1.PLoS One. 2013 Jul 19;8(7):e69486.2.Blood Coagul Fibrinolysis. 2012 Oct;23(7):636-9.

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