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Anti-PRMT6 Antibody (2C3-F1-G1)

Human Monoclonal Antibody
Catalog # ABV12041

Product Information

Application	WB, IHC, IF
Primary Accession	Q96LA8
Reactivity	Human
Host	Human
Clonality	Monoclonal
Isotype	Mouse IgG1
Clone Names	2C3-F1-G1
Calculated MW	41938

Additional Information

Gene ID	55170
Application & Usage	WB: HeLa and 293T cell lysate; IF: Hela cells; IHC: human breast cancer tissue
Other Names	HRMT1L6
Target/Specificity	PRMT6
Antibody Form	Liquid
Appearance	Colorless liquid
Formulation	In buffer containing 0.1M Tris-Glycine (pH 7.4, 150 mM NaCl) with 0.2% sodium azide, 50%,glycerol
Handling	The antibody solution should be gently mixed before use.
Reconstitution & Storage	-20 °C
Background Descriptions	
Precautions	Anti-PRMT6 Antibody (2C3-F1-G1) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	PRMT6
Synonyms	HRMT1L6
Function	Arginine methyltransferase that can catalyze the formation of both omega-N monomethylarginine (MMA) and asymmetrical dimethylarginine (aDMA), with

a strong preference for the formation of aDMA (PubMed:17898714, PubMed:18077460, PubMed:18079182, PubMed:19405910, PubMed:30420520). Preferentially methylates arginyl residues present in a glycine and arginine-rich domain and displays preference for monomethylated substrates (PubMed:17898714, PubMed:18077460, PubMed:18079182, PubMed:19405910). Specifically mediates the asymmetric dimethylation of histone H3 'Arg-2' to form H3R2me2a (PubMed:17898714, PubMed:18077460, PubMed:18079182). H3R2me2a represents a specific tag for epigenetic transcriptional repression and is mutually exclusive with methylation on histone H3 'Lys-4' (H3K4me2 and H3K4me3) (PubMed:17898714, PubMed:18077460). Acts as a transcriptional repressor of various genes such as HOXA2, THBS1 and TP53 (PubMed:19509293). Repression of TP53 blocks cellular senescence (By similarity). Also methylates histone H2A and H4 'Arg-3' (H2AR3me and H4R3me, respectively). Acts as a regulator of DNA base excision during DNA repair by mediating the methylation of DNA polymerase beta (POLB), leading to the stimulation of its polymerase activity by enhancing DNA binding and processivity (PubMed:16600869). Methylates HMGA1 (PubMed:16157300, PubMed:16159886). Regulates alternative splicing events. Acts as a transcriptional coactivator of a number of steroid hormone receptors including ESR1, ESR2, PGR and NR3C1. Promotes fasting-induced transcriptional activation of the gluconeogenic program through methylation of the CRTC2 transcription coactivator (By similarity). May play a role in innate immunity against HIV-1 in case of infection by methylating and impairing the function of various HIV-1 proteins such as Tat, Rev and Nucleocapsid protein p7 (NC) (PubMed:17267505). Methylates GPS2, protecting GPS2 from ubiquitination and degradation (By similarity). Methylates SIRT7, inhibiting SIRT7 histone deacetylase activity and promoting mitochondria biogenesis (PubMed:30420520).

Cellular Location Nucleus.

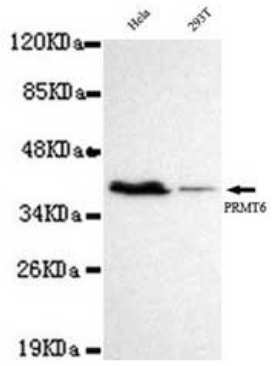
Tissue Location Highly expressed in kidney and testis.

Background

PRMT6 is a protein arginine N-methyltransferase, and catalyzes the sequential transfer of a methyl group from S-adenosyl-L-methionine to the side chain nitrogens of arginine residues within proteins to form methylated arginine derivatives and S-adenosyl-L-homocysteine. Protein arginine methylation is a prevalent post-translational modification in eukaryotic cells that has been implicated in signal transduction, the metabolism of nascent pre-RNA, and the transcriptional activation processes. IPRMT6 is functionally distinct from two previously characterized type I enzymes, PRMT1 and PRMT4. In addition, PRMT6 displays automethylation activity; it is the first PRMT to do so. PRMT6 has been shown to act as a restriction factor for HIV replication.

Images

Western blot detection of PRMT6 in Hela and 293T cell lysates using PRMT6 mouse mAb (1:1000 diluted)



Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.