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PRMT6 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP1009a

Product Information

Application	WB, E
Primary Accession	Q96LA8
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB7367
Calculated MW	41938
Antigen Region	19-48

Additional Information

Gene ID	55170
Other Names	Protein arginine N-methyltransferase 6, 211-, Heterogeneous nuclear ribonucleoprotein methyltransferase-like protein 6, Histone-arginine N-methyltransferase PRMT6, PRMT6, HRMT1L6
Target/Specificity	This PRMT6 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 19-48 amino acids from the N-terminal region of human PRMT6.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	PRMT6 Antibody (N-term) 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

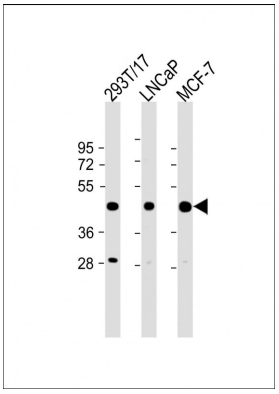
Arginine methylation is an irreversible post translational modification which has only recently been linked to protein activity. At least three types of PRMT enzymes have been identified in mammalian cells. These enzymes have been shown to have essential regulatory functions by methylation of key proteins in several fundamental areas. These protein include nuclear proteins, IL enhancer binding factor, nuclear factors, cell cycle proteins, signal transduction proteins, apoptosis proteins, and viral proteins. The mammalian PRMT family currently consists of 7 members that share two large domains of homology. Outside of these domains, epitopes were identified and antibodies against all 7 PRMT members have been developed.

References

Frankel A., et al. J. Biol. Chem. 277:3537-3543(2002). Pal, S., et al., Mol. Cell. Biol. 23(21):7475-7487 (2003). Rho, J., et al., J. Biol. Chem. 276(14):11393-11401 (2001). Pollack, B.P., et al., J. Biol. Chem. 274(44):31531-31542 (1999). Gilbreth, M., et al., Proc. Natl. Acad. Sci. U.S.A. 95(25):14781-14786 (1998).

Images

All lanes : Anti-PRMT6 (N-term) at 1:2000 dilution Lane 1: 293T/17 whole cell lysate Lane 2: LNCaP whole cell lysate Lane 3: MCF-7 whole cell lysate Lysates/proteins at 20 µg



per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 42 kDa Blocking/Dilution buffer: 5% NFDM/TBST.