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Anti-PRMT5 Antibody (N-Terminus)

Rabbit Anti Human Polyclonal Antibody
Catalog # ALS17985

Product Information

Application	WB, IHC-P
Primary Accession	O14744
Predicted	Human
Host	Rabbit
Clonality	Polyclonal
Calculated MW	72684

Additional Information

Gene ID	10419
Alias Symbol	PRMT5
Other Names	PRMT5, 72 kDa ICln-binding protein, HRMT1L5, JBP1, Jak-binding protein 1, IBP72, SKB1Hs, SKB1, SKB1 homolog, Skb1 (S. pombe) homolog, SKB1 homolog (S. pombe)
Reconstitution & Storage	Protein G purified
Precautions	Anti-PRMT5 Antibody (N-Terminus) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	PRMT5
Synonyms	HRMT1L5, IBP72, JBP1, SKB1
Function	Arginine methyltransferase that can both catalyze the formation of omega-N monomethylarginine (MMA) and symmetrical dimethylarginine (sDMA), with a preference for the formation of MMA (PubMed:10531356, PubMed:11152681, PubMed:11747828, PubMed:12411503, PubMed:15737618, PubMed:17709427, PubMed:20159986, PubMed:20810653, PubMed:21081503, PubMed:21258366, PubMed:21917714, PubMed:22269951, PubMed:33762328). Specifically mediates the symmetrical dimethylation of arginine residues in the small nuclear ribonucleoproteins Sm D1 (SNRPD1) and Sm D3 (SNRPD3); such methylation being required for the assembly and biogenesis of snRNP core particles (PubMed:11747828, PubMed:12411503, PubMed:17709427). Methylates SUPT5H and may regulate its transcriptional elongation properties (PubMed:12718890). May methylate the N-terminal region of MBD2 (PubMed:16428440). Mono- and dimethylates arginine residues of myelin basic protein (MBP) in vitro. May play a role in cytokine-activated transduction pathways. Negatively regulates cyclin E1

promoter activity and cellular proliferation. Methylates histone H2A and H4 'Arg-3' during germ cell development (By similarity). Methylates histone H3 'Arg-8', which may repress transcription (By similarity). Methylates the Piwi proteins (PIWIL1, PIWIL2 and PIWIL4), methylation of Piwi proteins being required for the interaction with Tudor domain-containing proteins and subsequent localization to the meiotic nuage (By similarity). Methylates RPS10 (PubMed:20159986). Attenuates EGF signaling through the MAPK1/MAPK3 pathway acting at 2 levels. First, monomethylates EGFR; this enhances EGFR 'Tyr-1197' phosphorylation and PTPN6 recruitment, eventually leading to reduced SOS1 phosphorylation (PubMed:21258366, PubMed:21917714). Second, methylates RAF1 and probably BRAF, hence destabilizing these 2 signaling proteins and reducing their catalytic activity (PubMed:21917714). Required for induction of E-selectin and VCAM-1, on the endothelial cells surface at sites of inflammation. Methylates HOXA9 (PubMed:22269951). Methylates and regulates SRGAP2 which is involved in cell migration and differentiation (PubMed:20810653). Acts as a transcriptional corepressor in CRY1- mediated repression of the core circadian component PER1 by regulating the H4R3 dimethylation at the PER1 promoter (By similarity). Methylates GM130/GOLGA2, regulating Golgi ribbon formation (PubMed:20421892). Methylates H4R3 in genes involved in glioblastomagenesis in a CHTOP- and/or TET1-dependent manner (PubMed:25284789). Symmetrically methylates POLR2A, a modification that allows the recruitment to POLR2A of proteins including SMN1/SMN2 and SETX. This is required for resolving RNA-DNA hybrids created by RNA polymerase II, that form R- loop in transcription terminal regions, an important step in proper transcription termination (PubMed:26700805). Along with LYAR, binds the promoter of gamma-globin HBG1/HBG2 and represses its expression (PubMed:25092918). Symmetrically methylates NCL (PubMed:21081503). Methylates p53/TP53; methylation might possibly affect p53/TP53 target gene specificity (PubMed:19011621). Involved in spliceosome maturation and mRNA splicing in prophase I spermatocytes through the catalysis of the symmetrical arginine dimethylation of SNRPB (small nuclear ribonucleoprotein-associated protein) and the interaction with tudor domain-containing protein TDRD6 (By similarity). Acts as a negative regulator of cGAS-STING signaling by mediating methylation of CGAS, preventing DNA-binding ability of CGAS (PubMed:33762328).

Cellular Location

Cytoplasm. Nucleus. Chromosome. Golgi apparatus. Note=Localizes to promoter regions of target genes on chromosomes (PubMed:33376131). Localizes to methylated chromatin (PubMed:16428440).

Tissue Location

Ubiquitous..

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