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PRMT5 Antibody (N-term) Blocking peptide
Synthetic peptide
Catalog # BP13773a

Specification

PRMT5 Antibody (N-term) Blocking peptide - Product Information

Primary Accession O14744

PRMT5 Antibody (N-term) Blocking peptide - Additional Information

Gene ID 10419

Other Names
Protein arginine N-methyltransferase 5, 211-, 72 kDa ICln-binding protein, Histone-arginine N-methyltransferase PRMT5, Jak-binding protein 1, Shk1 kinase-binding protein 1 homolog, SKB1 homolog, SKB1Hs, Protein arginine N-methyltransferase 5, N-terminally processed, PRMT5, HRMT1L5, IBP72, JBP1, SKB1

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP13773a was selected from the N-term region of PRMT5. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

PRMT5 Antibody (N-term) Blocking peptide - 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:21258366, PubMed:21917714, PubMed:22269951, PubMed:21081503). 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:12411503, PubMed:11747828, 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. 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:21917714, PubMed:21258366). 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).

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..

PRMT5 Antibody (N-term) Blocking peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

PRMT5 Antibody (N-term) Blocking peptide - Images

PRMT5 Antibody (N-term) Blocking peptide - Background

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. 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. Methylates SUPT5H. Mono-and dimethylates arginine residues of myelin basic protein (MBP) in vitro. Plays a role in the assembly of snRNP core particles. May play a role in cytokine-activated transduction pathways. Negatively regulates cyclin E1 promoter activity and cellular proliferation. May regulate the SUPT5H transcriptional elongation properties. May be part of a pathway that is connected to a chloride current, possibly through cytoskeletal rearrangement. Methylates histone H2A and H4 'Arg-3' during germ cell development. Methylates histone H3 'Arg-8', which may repress transcription. 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. Methylates RPS10.

PRMT5 Antibody (N-term) Blocking peptide - References

Aggarwal, P., et al. Cancer Cell 18(4):329-340(2010)Rank, G., et al. Blood 116(9):1585-1592(2010)Cesaro, E., et al. J. Biol. Chem. 284(47):32321-32330(2009)Zhao, Q., et al. Nat. Struct. Mol. Biol. 16(3):304-311(2009)Bruns, A.F., et al. Biol. Chem. 390(1):59-65(2009)