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KD-Validated Anti-PRMT5 Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI1630

Specification

KD-Validated Anti-PRMT5 Rabbit Monoclonal Antibody - Product Information

Application	**WB, FC, ICC**
Primary Accession	O14744
Reactivity	**Rat, Human, Mouse**
Clonality	**Monoclonal**
Isotype	**Rabbit IgG**
Calculated MW	**Predicted, 73 kDa , observed , 73 kDa KDa**
Gene Name	**PRMT5**
Aliases	**Protein Arginine Methyltransferase 5; SKB1Hs; HRMT1L5; SKB1; Histone-Arginine N-Methyltransferase PRMT5; Protein Arginine N-Methyltransferase 5; Shk1 Kinase-Binding Protein 1 Homolog; 72 KDa ICln-Binding Protein; Jak-Binding Protein 1; SKB1 Homolog; IBP72; JBP1; HMT1 HnRNP Methyltransferase-Like 5; Skb1 (S. Pombe) Homolog; SKB1 Homolog (S. Pombe); EC 2.1.1.320; HSL7**
Immunogen	**A synthesized peptide derived from human PRMT5**

KD-Validated Anti-PRMT5 Rabbit Monoclonal Antibody - Additional Information

Gene ID	**10419**

Other Names
Protein arginine N-methyltransferase 5, PRMT5, 2.1.1.320, 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

KD-Validated Anti-PRMT5 Rabbit Monoclonal Antibody - 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). 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. 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).

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).

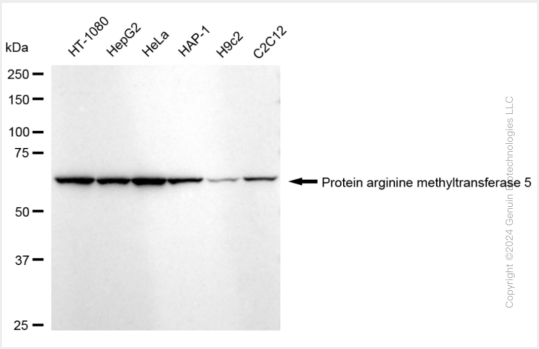
Tissue Location
Ubiquitous..

KD-Validated Anti-PRMT5 Rabbit Monoclonal Antibody - Protocols

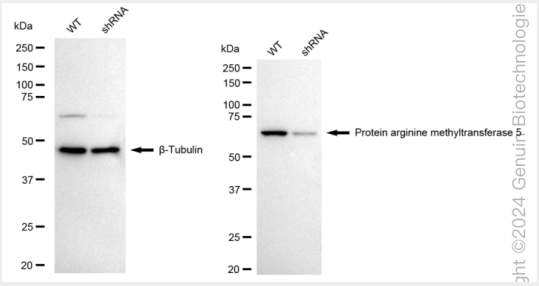
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

KD-Validated Anti-PRMT5 Rabbit Monoclonal Antibody - Images



Western blotting analysis using anti-Protein arginine methyltransferase 5 antibody (Cat#AGI1630). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-Protein arginine methyltransferase 5 antibody (Cat#AGI1630, 1:10,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Western blotting analysis using anti-protein arginine methyltransferase 5 antibody (Cat#AGI1630). Protein arginine methyltransferase 5 expression in wild-type (WT) and protein arginine methyltransferase 5 (PRMT5) shRNA knockdown (KD) HeLa cells with 20 µg of total cell lysates. β-Tubulin serves as a loading control. The blot was incubated with anti-protein arginine methyltransferase 5 antibody (Cat#AGI1630, 1:10,000) and HRP-conjugated goat anti-rabbit

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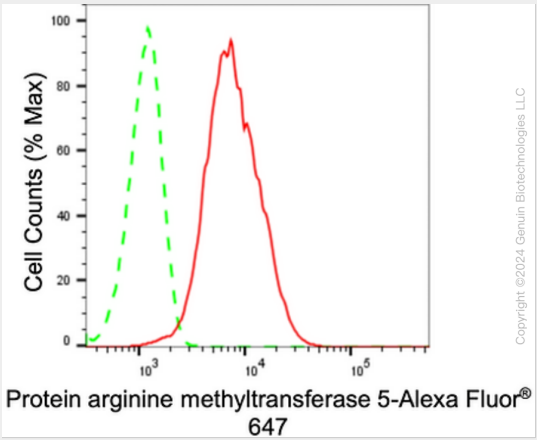
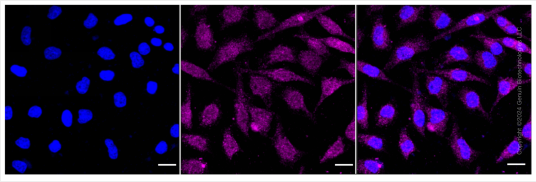
secondary antibody respectively.



Flow cytometric analysis of Protein arginine methyltransferase 5 expression in HeLa cells using Protein arginine methyltransferase 5 antibody (Cat#AGI1630, 1:2,000). Green, isotype control; red, Protein arginine methyltransferase 5.



Immunocytochemical staining of Hela cells with anti-Protein arginine methyltransferase 5 antibody (Cat#AGI1630, 1:1,000). Nuclei were stained blue with DAPI; Protein arginine methyltransferase 5 was stained magenta with Alexa Fluor® 647. Images were taken using Leica stellaris 5. Protein abundance based on laser Intensity and smart gain: Medium. Scale bar: 20 µm.