

PRMT1 Antibody
Rabbit Polyclonal Antibody
Catalog # ABV10610**Specification**

PRMT1 Antibody - Product Information

Application	WB
Primary Accession	O99873
Other Accession	NP_001527.2
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	42462

PRMT1 Antibody - Additional Information**Gene ID** 3276

Application & Usage	Western blotting (1:500 - 1:2500). However, the optimal concentrations should be determined individually. HeLa cell lysate can be used as a positive control. The antibody recognizes the PRMT1 of human and mouse origins. Reactivity to other species has not been tested.
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Other Names

PRMT1, PRMT-1, Protein Arginine N-Methyltransferase 1, HRMT1L2, HMT1 hnRNP Methyltransferase-like 2, ANM1, Arginine N-Methyltransferase 1, IR1B4, Interferon Receptor 1-Bound Protein 4, HCP

Target/Specificity

PRMT1

Antibody Form

Liquid

Appearance

Colorless liquid

Formulation

100 µl affinity purified rabbit polyclonal antibody in phosphate-buffered saline (PBS) containing 30% glycerol, 1% BSA and 0.02% thimerosal.

Handling

The antibody solution should be gently mixed before use.

Reconstitution & Storage

-20 °C

Background Descriptions

Precautions

PRMT1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

PRMT1 Antibody - Protein Information

Name PRMT1 ([HGNC:5187](#))

Function

Arginine methyltransferase that methylates (mono and asymmetric dimethylation) the guanidino nitrogens of arginyl residues present in proteins such as ESR1, histone H2, H3 and H4, FMR1, ILF3, HNRNPA1, HNRNPD, NFATC2IP, SUPT5H, TAF15, EWS, HABP4, SERBP1, RBM15, FOXO1, CHTOP, MAP3K5/ASK1 and NPRL2 (PubMed:10749851, PubMed:16879614, PubMed:26876602, PubMed:22095282, PubMed:26575292, PubMed:18951090, PubMed:25284789, PubMed:30765518, PubMed:38006878, PubMed:31257072). Constitutes the main enzyme that mediates monomethylation and asymmetric dimethylation of histone H4 'Arg-4' (H4R3me1 and H4R3me2a, respectively), a specific tag for epigenetic transcriptional activation. May be involved in the regulation of TAF15 transcriptional activity, act as an activator of estrogen receptor (ER)-mediated transactivation, play a key role in neurite outgrowth and act as a negative regulator of megakaryocytic differentiation, by modulating p38 MAPK pathway. Methylates RBM15, promoting ubiquitination and degradation of RBM15 (PubMed:26575292). Methylates FOXO1 and retains it in the nucleus increasing its transcriptional activity (PubMed:18951090). Methylates CHTOP and this methylation is critical for its 5-hydroxymethylcytosine (5hmC)-binding activity (PubMed:25284789). Methylates MAP3K5/ASK1 at 'Arg-78' and 'Arg-80' which promotes association of MAP3K5 with thioredoxin and negatively regulates MAP3K5 association with TRAF2, inhibiting MAP3K5 stimulation and MAP3K5-induced activation of JNK (PubMed:22095282). Methylates H4R3 in genes involved in glioblastomagenesis in a CHTOP- and/or TET1- dependent manner (PubMed:25284789). Plays a role in regulating alternative splicing in the heart (By similarity). Methylates NPRL2 at 'Arg-78' leading to inhibition of its GTPase activator activity and then the GATOR1 complex and consequently inducing timely mTORC1 activation under methionine-sufficient conditions (PubMed:38006878).

Cellular Location

Nucleus. Nucleus, nucleoplasm {ECO:0000250|UniProtKB:Q9JIF0}. Cytoplasm. Cytoplasm, cytosol {ECO:0000250|UniProtKB:Q9JIF0}. Lysosome membrane. Note=Mostly found in the cytoplasm Colocalizes with CHTOP within the nucleus. Low levels detected also in the chromatin fraction (By similarity). Upon methionine stimulation, localizes to the lysosome membrane in an NPRL2-dependent manner (PubMed:38006878). {ECO:0000250|UniProtKB:Q9JIF0, ECO:0000269|PubMed:38006878}

Tissue Location

Widely expressed (PubMed:11097842). Expressed strongly in colorectal cancer cells (at protein level) (PubMed:28040436). Expressed strongly in colorectal cancer tissues compared to wild-type colon samples (at protein level) (PubMed:28040436). Expressed strongly in colorectal cancer tissues compared to wild-type colon samples (PubMed:28040436)

PRMT1 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 Cytometry](#)
- [Cell Culture](#)

PRMT1 Antibody - Images**PRMT1 Antibody - Background**

PRMT1 methylates (mono & asymmetric dimethylation) the guanidino nitrogens of arginyl residues present in a glycine and arginine-rich domain (may methylate HNRNPA1 and histones) methylates SUPT5H. The PRMT1 protein functions as a histone methyltransferase specific for H4. PRMT1 is an essential factor in oncogenesis and is a potential novel therapeutic target in cancer. PRMT1-mediated methylation serves as a positive modulator of IR/IRS-1/PI3K pathway and glucose uptake in skeletal muscle cells. CAF1 is a new regulator of PRMT1-dependent arginine methylation. PRMT1 arginine-methylates MRE11 therefore it regulates the activity of MRE11-RAD50-NBS1 complex during the intra-S-phase DNA damage checkpoint response. PRMT1 plays a post-translationally part in regulating the transcriptional activity. PRMT1 is found predominantly in the cytoplasm, though a fraction of PRMT1 is located in the nucleus.