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PRMT1 Antibody
Rabbit Polyclonal Antibody
Catalog # ABV10610

Specification

PRMT1 Antibody - Product Information

Application	**WB**
Primary Accession	Q99873
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.**

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 and MAP3K5/ASK1 (PubMed:10749851, PubMed:16879614, PubMed:26876602, PubMed:22095282, PubMed:26575292, PubMed:18951090, PubMed:25284789, PubMed:30765518). 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).

Cellular Location
Nucleus. Nucleus, nucleoplasm {ECO:0000250|UniProtKB:Q9JIF0}. Cytoplasm. Cytoplasm, cytosol {ECO:0000250|UniProtKB:Q9JIF0}. Note=Mostly found in the cytoplasm Colocalizes with CHTOP within the nucleus. Low levels detected also in the chromatin fraction (By similarity). {ECO:0000250|UniProtKB:Q9JIF0}

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)

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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 Cytomety
- Cell Culture

PRMT1 Antibody - Images

PRMT1 Antibody - Background

PRMT1 methylate's (mono & asymmetric dimethylation) the guanidino nitrogens of arginyl residues present in a glycine and arginine-rich domain (may methylate HNRNPA1 and histones) methylate's 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-methylate's 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.