

PRMT1 Antibody (C-term K342)
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP1001b

Specification

PRMT1 Antibody (C-term K342) - Product Information

Application	WB, IHC-P,E
Primary Accession	O99873
Other Accession	O63009 , O9JIF0
Reactivity	Human, Mouse
Predicted	Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	42462
Antigen Region	317-346

PRMT1 Antibody (C-term K342) - Additional Information

Gene ID 3276

Other Names

Protein arginine N-methyltransferase 1, 211-, Histone-arginine N-methyltransferase PRMT1, Interferon receptor 1-bound protein 4, PRMT1, HMT2, HRMT1L2, IR1B4

Target/Specificity

This PRMT1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 317-346 amino acids from the C-terminal region of human PRMT1.

Dilution

WB~~1:1000
IHC-P~~1:10~50

Format

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.

Storage

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

PRMT1 Antibody (C-term K342) is for research use only and not for use in diagnostic or therapeutic procedures.

PRMT1 Antibody (C-term K342) - 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, MICU1 and NPRL2 (PubMed:[10749851](#), PubMed:[15741314](#), PubMed:[16879614](#), PubMed:[18951090](#), PubMed:[22095282](#), PubMed:[25284789](#), PubMed:[26575292](#), PubMed:[26876602](#), PubMed:[27642082](#), PubMed:[30765518](#), PubMed:[31257072](#), PubMed:[38006878](#)). 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 MRE11 and TP53BP1, promoting the DNA damage response (PubMed:[15741314](#), PubMed:[16294045](#), PubMed:[29651020](#)). 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](#))

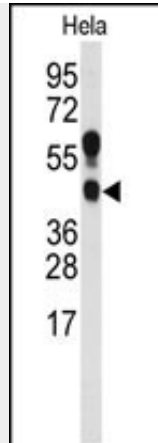
PRMT1 Antibody (C-term K342) - Protocols

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

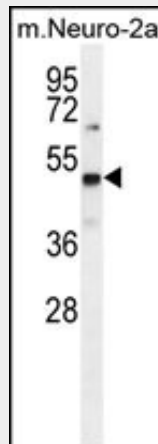
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

PRMT1 Antibody (C-term K342) - Images

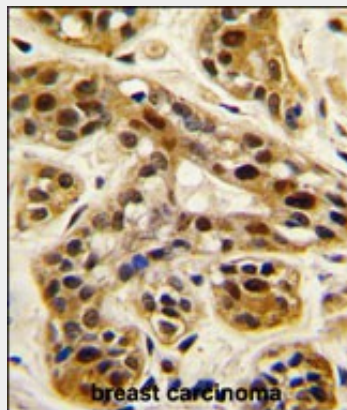




Western blot analysis of anti-PRMT1 Antibody (C-term K342) (Cat.#AP1001b) in HeLa cell line lysates (35ug/lane). PRMT1 (arrow) was detected using the purified Pab.



PRMT1 Antibody (C-term K342) (Cat.#AP1001b) western blot analysis in mouse Neuro-2a cell line lysates (35ug/lane). This demonstrates the PRMT1 antibody detected the PRMT1 protein (arrow).



Formalin-fixed and paraffin-embedded human breast carcinoma tissue reacted with PRMT1 antibody (C-term K342), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

PRMT1 Antibody (C-term K342) - Background

Arginine methylation is an irreversible post translational modification which has only recently been linked to protein activity. At least three types of PRMT enzymes have been identified in mammalian

cells. These enzymes have been shown to have essential regulatory functions by methylation of key proteins in several fundamental areas. These protein include nuclear proteins, IL enhancer binding factor, nuclear factors, cell cycle proteins, signal transduction proteins, apoptosis proteins, and viral proteins. The mammalian PRMT family currently consists of 7 members that share two large domains of homology.

PRMT1 Antibody (C-term K342) - References

- Zhang, X., et al., EMBO J. 19(14):3509-3519 (2000).
Scorilas, A., et al., Biochem. Biophys. Res. Commun. 278(2):349-359 (2000).
Scott, H.S., et al., Genomics 48(3):330-340 (1998).
Abramovich, C., et al., EMBO J. 16(2):260-266 (1997).
Nikawa, J., et al., Gene 171(1):107-111 (1996).