

**PRMT1 Antibody (C-term)**  
**Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP1001a****Specification**

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**PRMT1 Antibody (C-term) - Product Information**

Application	IHC-P, WB,E
Primary Accession	<a href="#">Q99873</a>
Other Accession	<a href="#">Q63009</a> , <a href="#">Q9JIF0</a>
Reactivity	Human
Predicted	Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Antigen Region	326-357

**PRMT1 Antibody (C-term) - 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 316-347 amino acids from the C-terminal region of human PRMT1.

**Dilution**

IHC-P~~1:50~100

WB~~1:1000

E~~Use at an assay dependent concentration.

**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) is for research use only and not for use in diagnostic or therapeutic procedures.

**PRMT1 Antibody (C-term) - 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-3' (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

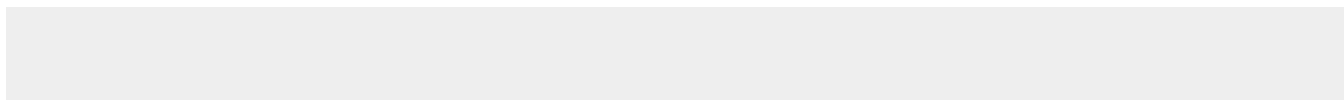
Widely expressed (PubMed:11097842). Expressed strongly in colorectal cancer cells (at protein level) (PubMed:28040436). Expressed strongly in colorectal cancer tissues compared to wild-type colon samples (at protein level) (PubMed:28040436). Expressed strongly in colorectal cancer tissues compared to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

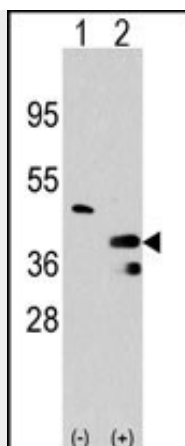
#### PRMT1 Antibody (C-term) - Protocols

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

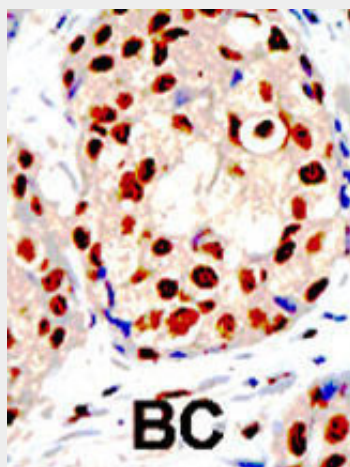
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### PRMT1 Antibody (C-term) - Images





Western blot analysis of PRMT1 (arrow) using rabbit polyclonal PRMT1 Antibody (C-term) (RB000005). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the PRMT1 gene (Lane 2) (Origene Technologies).



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, 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. BC = breast carcinoma; HC = hepatocarcinoma.

#### **PRMT1 Antibody (C-term) - 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. Outside of these domains, epitopes were identified and antibodies against all 7 PRMT members have been developed.

#### **PRMT1 Antibody (C-term) - 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).