

**PRMT4 Antibody (C-term)**  
**Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP1006a**

## Specification

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### PRMT4 Antibody (C-term) - Product Information

Application	<b>WB, IHC-P,E</b>
Primary Accession	<a href="#">Q86X55</a>
Reactivity	<b>Human</b>
Host	<b>Rabbit</b>
Clonality	<b>Polyclonal</b>
Isotype	<b>Rabbit IgG</b>

### PRMT4 Antibody (C-term) - Additional Information

**Gene ID** 10498

#### Other Names

Histone-arginine methyltransferase CARM1, 211-, Coactivator-associated arginine methyltransferase 1, Protein arginine N-methyltransferase 4, CARM1, PRMT4

#### Target/Specificity

This PRMT4 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide selected from the C-terminal region of human PRMT4.

#### 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

PRMT4 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

### PRMT4 Antibody (C-term) - Protein Information

**Name** CARM1

**Synonyms** PRMT4

**Function** Methylates (mono- and asymmetric dimethylation) the guanidino nitrogens of arginyl

residues in several proteins involved in DNA packaging, transcription regulation, pre-mRNA splicing, and mRNA stability (PubMed:[12237300](#), PubMed:[16497732](#), PubMed:[19405910](#)). Recruited to promoters upon gene activation together with histone acetyltransferases from EP300/P300 and p160 families, methylates histone H3 at 'Arg-17' (H3R17me), forming mainly asymmetric dimethylarginine (H3R17me2a), leading to activates transcription via chromatin remodeling (PubMed:[12237300](#), PubMed:[16497732](#), PubMed:[19405910](#)). During nuclear hormone receptor activation and TCF7L2/TCF4 activation, acts synergically with EP300/P300 and either one of the p160 histone acetyltransferases NCOA1/SRC1, NCOA2/GRIP1 and NCOA3/ACTR or CTNNB1/beta-catenin to activate transcription (By similarity). During myogenic transcriptional activation, acts together with NCOA3/ACTR as a coactivator for MEF2C (By similarity). During monocyte inflammatory stimulation, acts together with EP300/P300 as a coactivator for NF-kappa-B (By similarity). Acts as a coactivator for PPARG, promotes adipocyte differentiation and the accumulation of brown fat tissue (By similarity). Plays a role in the regulation of pre-mRNA alternative splicing by methylation of splicing factors (By similarity). Also seems to be involved in p53/TP53 transcriptional activation (By similarity). Methylates EP300/P300, both at 'Arg-2142', which may loosen its interaction with NCOA2/GRIP1, and at 'Arg-580' and 'Arg-604' in the KIX domain, which impairs its interaction with CREB and inhibits CREB-dependent transcriptional activation (PubMed:[15731352](#)). Also methylates arginine residues in RNA-binding proteins PABPC1, ELAVL1 and ELAV4, which may affect their mRNA- stabilizing properties and the half-life of their target mRNAs (By similarity). Acts as a transcriptional coactivator of ACACA/acetyl-CoA carboxylase by enriching H3R17 methylation at its promoter, thereby positively regulating fatty acid synthesis (By similarity). Independently of its methyltransferase activity, involved in replication fork progression: promotes PARP1 recruitment to replication forks, leading to poly-ADP-ribosylation of chromatin at replication forks and reduced fork speed (PubMed:[33412112](#)).

#### Cellular Location

Nucleus. Cytoplasm. Chromosome. Note=Mainly nuclear during the G1, S and G2 phases of the cell cycle (PubMed:[19843527](#)). Cytoplasmic during mitosis, after breakup of the nuclear membrane (PubMed:[19843527](#)) Localizes to replication forks (PubMed:[33412112](#))

#### Tissue Location

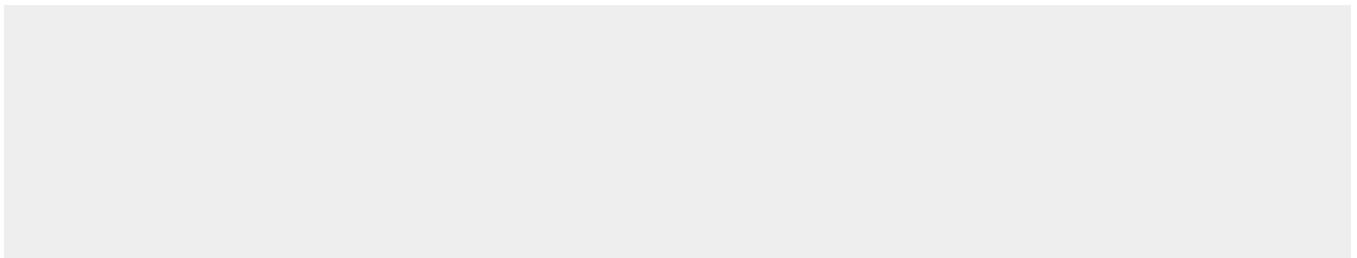
Overexpressed in prostate adenocarcinomas and high- grade prostatic intraepithelial neoplasia

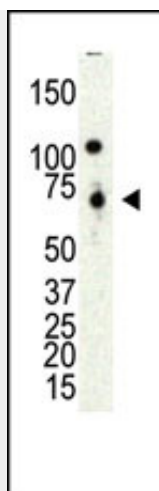
#### PRMT4 Antibody (C-term) - Protocols

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

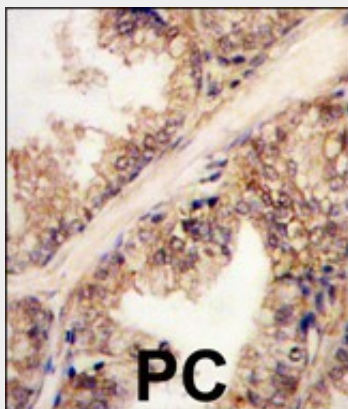
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### PRMT4 Antibody (C-term) - Images





Western blot analysis of PRMT4 polyclonal antibody (Cat. #AP1006a) in whole HL60 cell lysate: PRMT4 (Arrow) was detected using purified Pab. Secondary HRP-anti-rabbit was used for signal visualization with chemiluminescence.



Formalin-fixed and paraffin-embedded human prostate carcinoma tissue reacted with PRMT4 antibody (C-term)(Cat.#AP1006a), 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.

#### **PRMT4 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.

#### **PRMT4 Antibody (C-term) - References**

- Wada K, et al. Biochim Biophys Acta. 2002. 1591:1.
- Cimato TR, et al. J Neurosci Res. 2002. 67:435.
- Frankel A, et al. J Biol Chem. 2002. 277:3537.
- Brahms H, et al. RNA. 2001. 7:1531.
- Pelletier M, et al. Mol Biochem Parasitol. 2001. 118:49.
- Belyanskaya LL, et al. J Biol Chem. 2001. 276:18681.

Rho J, et al. J Biol Chem. 2001. 276:11393.  
Scorilas A, et al. Biochem Biophys Res Commun. 2000. 278:349.  
Frankel A, et al. J Biol Chem. 2000. 275:32974.  
Zhang X, et al. EMBO J. 19:3509.  
Tang J, et al. J Biol Chem. 1998. 273:16935.