10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

PRMT4 Antibody(Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP11313c

Specification

PRMT4 Antibody(Center) - Product Information

Application	**FC, IHC-P, WB,E**
Primary Accession	Q86X55
Other Accession	Q4AE70, Q9WVG6, NP_954592.1
Reactivity	**Human**
Predicted	**Mouse, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**65854**
Antigen Region	**346-377**

PRMT4 Antibody(Center) - 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 between 346-377 amino acids from the Central region of human PRMT4.

Dilution
FC~~1:10~50
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 purified through a protein A column, followed by peptide affinity purification.

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

PRMT4 Antibody(Center) - 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 activation of 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

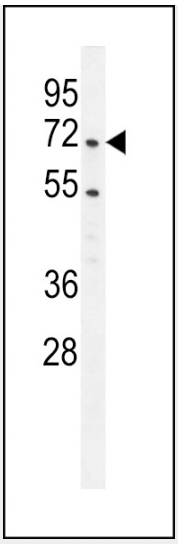
PRMT4 Antibody(Center) - Protocols

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

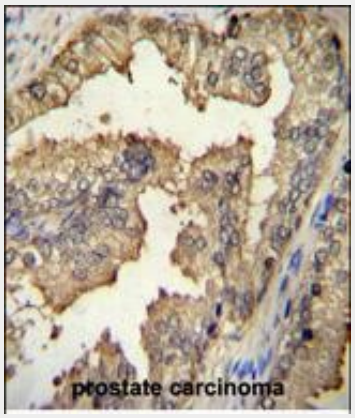
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

PRMT4 Antibody(Center) - Images

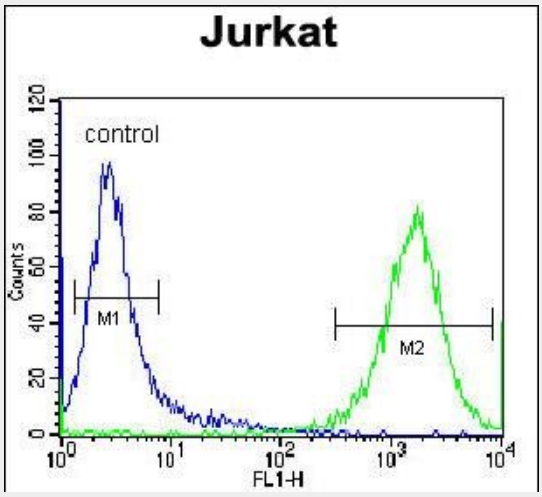
10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999



PRMT4 Antibody(Center) (Cat. #AP11313c) western blot analysis in Jurkat cell line lysates (35ug/lane).This demonstrates the PRMT4 antibody detected the PRMT4 protein (arrow).



PRMT4 Antibody (Center) (Cat. #AP11313c)immunohistochemistry analysis in formalin fixed and paraffin embedded human prostate carcinoma followed by peroxidase conjugation of the secondary antibody and DAB staining.This data demonstrates the use of PRMT4 Antibody (Center) for immunohistochemistry. Clinical relevance has not been evaluated.



PRMT4 Antibody(Center) (Cat. #AP11313c) flow cytometric analysis of Jurkat cells (right histogram) compared to a negative control cell (left histogram).FITC-conjugated

donkey-anti-rabbit secondary antibodies were used for the analysis.

PRMT4 Antibody(Center) - Background

Protein arginine N-methyltransferases, such as CARM1, catalyze the transfer of a methyl group from S-adenosyl-L-methionine to the side chain nitrogens of arginine residues within proteins to form methylated arginine derivatives and S-adenosyl-L-homocysteine. Protein arginine methylation has been implicated in signal transduction, metabolism of nascent pre-RNA, and transcriptional activation (Frankel et al., 2002 [PubMed 11724789]).

PRMT4 Antibody(Center) - References

Gao, X., et al. J. Cell. Biochem. 110(1):162-170(2010)
Carascossa, S., et al. Genes Dev. 24(7):708-719(2010)
Kim, Y.R., et al. BMC Cancer 10, 197 (2010) :
Ito, T., et al. BMC Dev. Biol. 9, 47 (2009) :
Haiman, C.A., et al. BMC Cancer 9, 43 (2009) :