

PRMT4 Antibody(Center) Blocking peptide
Synthetic peptide
Catalog # BP11313c**Specification**

PRMT4 Antibody(Center) Blocking peptide - Product InformationPrimary Accession [Q86X55](#)**PRMT4 Antibody(Center) Blocking peptide - Additional Information****Gene ID** 10498**Other Names**

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

Format

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

PRMT4 Antibody(Center) Blocking peptide - 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](http://www.uniprot.org/citations/12237300), PubMed: [16497732](http://www.uniprot.org/citations/16497732), PubMed: [19405910](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/12237300), PubMed: [16497732](http://www.uniprot.org/citations/16497732), PubMed: [19405910](http://www.uniprot.org/citations/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) Blocking peptide - Protocols

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

- [Blocking Peptides](#)

PRMT4 Antibody(Center) Blocking peptide - Images

PRMT4 Antibody(Center) Blocking peptide - 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) Blocking peptide - 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) :