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PRMT4 Antibody (C-term) Blocking Peptide
Synthetic peptide
Catalog # BP1006a

Specification

PRMT4 Antibody (C-term) Blocking Peptide - Product Information

Primary Accession Q86X55

PRMT4 Antibody (C-term) 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

Target/Specificity
The synthetic peptide sequence is selected from aa 341~357 of human 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 (C-term) 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, 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 (C-term) Blocking Peptide - Protocols

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

- Blocking Peptides

PRMT4 Antibody (C-term) Blocking Peptide - Images

PRMT4 Antibody (C-term) Blocking Peptide - 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) Blocking Peptide - 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

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