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PRMT1 Antibody (C-term) Blocking Peptide
Synthetic peptide
Catalog # BP1001a

Specification

PRMT1 Antibody (C-term) Blocking Peptide - Product Information

Primary Accession Q99873

PRMT1 Antibody (C-term) Blocking Peptide - 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
The synthetic peptide sequence is selected from aa 331~347 of human PRMT1.

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.

PRMT1 Antibody (C-term) Blocking Peptide - 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 and MAP3K5/ASK1 (PubMed:10749851, PubMed:16879614, PubMed:26876602, PubMed:22095282, PubMed:26575292, PubMed:18951090, PubMed:25284789, PubMed:30765518). Constitutes the main enzyme that mediates monomethylation and asymmetric dimethylation of histone H4 'Arg-4' (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 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).

Cellular Location
Nucleus. Nucleus, nucleoplasm {ECO:0000250|UniProtKB:Q9JIF0}. Cytoplasm. Cytoplasm, cytosol {ECO:0000250|UniProtKB:Q9JIF0}. Note=Mostly found in the cytoplasm Colocalizes with CHTOP within the nucleus. Low levels detected also in the chromatin fraction (By similarity). {ECO:0000250|UniProtKB:Q9JIF0}

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) Blocking Peptide - Protocols

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

- Blocking Peptides

PRMT1 Antibody (C-term) Blocking Peptide - Images

PRMT1 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.

PRMT1 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 al. J Biol Chem. 1998. 273:16935.