PRMT1 Antibody – Rabbit

PRODUCT OVERVIEW

Product Name	PRMT1, Antibody
Full Product Name	PRMT1 Antibody
Product Gene Name	anti-PRMT1 antibody
Product Synonym Names	PRMT1; ANM1; HCP1; HRMT1L2; IR1B4
Isotype	IgG
Host	Rabbit
Species Reactivity	Human, Mouse, Rat
Purity/Purification	Affinity purification
Preparation and Storage	Store at-20 degree C or-80 degree C. Avoid freeze/thaw cycles.
Molecular Weight	42kDa
OMIM	602950
3D Structure	ModBase 3D Structure for Q99873
Immunogen	Recombinant protein of human PRMT1
Storage Buffer	PBS with 0.02% sodium azide, 50% glycerol, pH7.3.
Product Categories/Family for anti-PRMT1 antibody	Autophagy antibody; Cancer; Cardiovascular; Cell Biology; Epigenetics & Nuclear Signaling; Developmental Biologys; Immunology; Drug Discovery Products; Metabolism; Neuroscience; Signal Transduction; Stem Cells
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Applications Tested/Suitable for anti-PRMT1 antibody	Western Blot (WB), Immunohistochemistry (IHC)
Application Notes for anti-PRMT1 antibody	WB: 1:500-1:2000 IHC: 1:50-1:200
Related Product Information for anti-PRMT1 antibody	Protein arginine N-methyltransferase 1 (PRMT1) is a member of the protein arginine N-methyltransferase (PRMT) family of proteins that catalyze the transfer of a methyl group from S-adenosylmethionine (AdoMet) to a guanidine nitrogen of arginine (1). Though all PRMT proteins catalyze the formation of mono-methyl arginine, Type I PRMTs (PRMT1, 3, 4, and 6) add an additional methyl group to produce an asymmetric di-methyl arginine while Type II PRMTs (PRMT 5 and 7) produce symmetric di-methyl arginine (1). Mono-methyl arginine, but not di-methyl arginine, can be converted to citrulline through deimination catalyzed by enzymes such as PADI4 (2). Most PRMTs, including PRMT1, methylate arginine residues found within glycine-arginine rich (GAR) protein domains, such as RGG, RG, and RXR repeats (1). However, PRMT4/CARM1 and PRMT5 methylate arginine residues within PGM (proline-, glycine-, methionine-rich) motifs (3). PRMT1 methylates Arg3 of histone H4 and cooperates synergistically with p300/CBP to enhance transcriptional activation by nuclear receptor proteins (4-6). In addition, PRMT1 methylates many non-histone proteins, including the orphan nuclear receptor HNF4 (6), components of the heterogeneous nuclear ribonucleoprotein (hnRNP) particle (7), the RNA binding protein Sam68 (8), interleukin enhancer-binding factor 3 (ILF3) (9) and interferon-alpha and beta receptors (10). These interactions suggest additional functions in transcriptional regulation, mRNA processing and signal transduction. Alternative mRNA splicing produces three enzymatically active PMRT1 isoforms that differ in their amino-terminal regions (11). PRMT1 is localized to the nucleus or cytoplasm, depending on cell type (12, 13) and appears in many distinct protein complexes. ILF3, TIS21 and the leukemia-associated BTG1 proteins bind PRMT1 to regulate its methyltransferase activity (9, 14).

Product References and Citations for anti-PRMT1 antibody	1. Bedford, M.T. and Richard, S. (2005) Mol. Cell 18, 263-272. 2. Wang, Y. et al. (2004) Science 306, 279-283. 3. Cheng, D. et al. (2007) Mol. Cell 25, 71-83. 4. Wang, H. et al. (2001) Science 293, 853-857. 5. Strahl, B.D. et al. (2001) Curr. Biol. 11, 996-1000. 6. Barrero, M.J. and Malik, S. (2006) Mol. Cell 24, 233-243. 7. Nichols, R.C. et al. (2000) Exp. Cell Res. 256, 522-532. 8. Côté, J. et al. (2003) Mol. Biol. Cell 14, 274-287. 9. Tang, J. et al. (2000) J. Biol. Chem. 275, 19866-19876. 10. Abramovich, C. et al. (1997) EMBO J. 16, 260-266. 11. Scorilas, A. et al. (2000) Biochem. Biophys. Res. Commun. 278, 349-359. 12. Frankel, A. et al. (2002) J. Biol. Chem. 277, 3537-3543. 13. Herrmann, F. et al. (2005) J. Biol. Chem. 280, 38005-38010. 14. Lin, W.J. et al. (1996) J. Biol. Chem. 271, 15034-15044.
Other Notes	Small volumes of anti-PRMT1 antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for PRMT1 purchase	MBS8501593 is an antibody targeting PRMT1. Also known as PRMT1 Antibody. Reactive in Human, Mouse, Rat. Host: Rabbit.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for PRMT1. It may not necessarily be applicable to this product.

NCBI GI #	333360913
NCBI GeneID	3276
NCBI Accession #	NP_001193971.1
UniProt Primary Accession #	Q99873
UniProt Secondary Accession #	Q15529; Q2VP93; Q6LEU5; Q8WUW5; Q99872; Q99874; A0A087X1W2; B4E3C3; G5E9B6; H7C2I1
UniProt Related Accession #	Q99873
GenBank Nucleotide #	NM_001207042.2
NCBI Official Full Name	protein arginine N-methyltransferase 1 isoform 4
NCBI Official Synonym Full Names	protein arginine methyltransferase 1
NCBI Official Symbol	PRMT1
NCBI Official Synonym Symbols	ANM1; HCP1; IR1B4; HRMT1L2
UniProt Protein Name	Protein arginine N-methyltransferase 1
UniProt Synonym Protein Names	Histone-arginine N-methyltransferase PRMT1; Interferon receptor 1-bound protein 4
Protein Family	Probable protein arginine N-methyltransferase
UniProt Gene Name	PRMT1
NCBI Protein Information	protein arginine N-methyltransferase 1
NCBI Summary for PRMT1	This gene encodes a member of the protein arginine N-methyltransferase (PRMT) family. Post-translational modification of target proteins by PRMTs plays an important regulatory role in many biological processes, whereby PRMTs methylate arginine residues by transferring methyl groups from S-adenosyl-L-methionine to terminal guanidino nitrogen atoms. The encoded protein is a type I PRMT and is responsible for the majority of cellular arginine methylation activity. Increased expression of this gene may play a role in many types of cancer. Alternatively spliced transcript variants encoding multiple isoforms have been observed for this gene, and a pseudogene of this gene is located on the long arm of chromosome 5. [provided by RefSeq, Dec 2011]

UniProt Comments for PRMT1	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, PIAS1, HNRNPA1, HNRNPD, NFATC2IP, SUPT5H, TAF15, EWS, HABP4 and SERBP1 (PubMed:16879614). 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. Together with dimethylated PIAS1, represses STAT1 transcriptional activity, in the late phase of interferon gamma (IFN-gamma) signaling. 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 FOXO1 and retains it in the nucleus increasing its transcriptional activity. Methylates CHTOP and this methylation is critical for its 5-hydroxymethylcytosine (5hmC)-binding activity (PubMed:25284789). Methylates H4R3 in genes involved in glioblastomagenesis in a CHTOP- and/or TET1-dependent manner (PubMed:25284789).
Research Articles on PRMT1	**1.** PRMT1 has a role in regulating MYCN in neuroblastoma
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