

PRMT1

Reactivity:Human Mouse Rat

Tested applications:WB IHC

Recommended Dilution:WB 1:500 - 1:2000 IHC 1:50 - 1:200

Calculated MW:42kDa

Observed MW:Refer to Figures

Immunogen:

Recombinant protein of human PRMT1

Storage Buffer:

Store at -20. Avoid freeze / thaw cycles. Buffer: PBS with 0.02% sodium azide, 50% glycerol, pH7.3.

Concentration:

f

Synonym:

PRMT1;ANM1;HCP1;HRMT1L2;IR1B4 ;

Catalog #:A1055

Antibody Type:

Polyclonal Antibody

Species:Rabbit

Gene ID:3276

Isotype:IgG

Swiss Prot:Q99873

Purity:Affinity purification

For research use only.

Background:

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- and 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).

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