

**PRMT1 (F339) Antibody**

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**For Research Use Only. Not for Use in Diagnostic Procedures.**

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R Mk	Endogenous	41	Rabbit	#Q99873	3276

**Product Usage Information****Application**

Western Blotting

**Dilution**

1:1000

**Storage**

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

**Specificity/Sensitivity**

PRMT1 (F339) Antibody detects endogenous levels of total PRMT1 protein (all three isoforms). The antibody does not cross-react with other PRMT proteins.

**Species predicted to react based on 100% sequence homology**

Bovine

**Source / Purification**

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to the carboxy terminus of human PRMT1. Antibodies are purified by protein A and peptide affinity chromatography.

**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- $\alpha$  and  $\beta$  receptors (10). These interactions suggest additional functions in transcriptional regulation, mRNA processing and signal transduction. Alternative mRNA splicing produces three enzymatically active PRMT1 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).

**Background References**

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**Species Reactivity**

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

<b>Western Blot Buffer</b>	IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween@ 20 at 4°C with gentle shaking, overnight.
<b>Applications Key</b>	<b>W:</b> Western Blotting
<b>Cross-Reactivity Key</b>	<b>H:</b> Human <b>M:</b> Mouse <b>R:</b> Rat <b>Mk:</b> Monkey
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