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PRMT6 (D5A2N) Rabbit mAb**Cell Signaling**
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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:
WB, IP	H M R	Endogenous	42	Rabbit IgG	#Q96LA8	55170

Product Usage Information**Application**Western Blotting
Immunoprecipitation**Dilution**1:1000
1:50**Storage**Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. *Do not aliquot the antibody.***Specificity / Sensitivity**

PRMT6 (D5A2N) Rabbit mAb recognizes endogenous levels of total PRMT6 protein.

Species predicted to react based on 100% sequence homology:Bovine, *S. cerevisiae***Source / Purification**

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ala62 of human PRMT6 protein.

Background

Protein arginine N-methyltransferase 6 (PRMT6) 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). The three types of PRMTs share the ability to mono-methylate arginine residues, but vary in their ability to generate differential methylation states (1-3). Mono-methylated arginine residues are further methylated by type I PRMTs to generate an asymmetric di-methyl arginine or by type II PRMTs to form a symmetric-dimethyl arginine. Type III methyltransferases are only able to mono-methylate arginine residues (1-3). PRMT6 is a type I PRMT that acts as both a transcriptional coactivator and a corepressor and catalyzes the asymmetric di-methylation of histone H3 (Arg 2, Arg42), histone H4 (Arg3), and histone H2A at Arg29 (2,4). PRMT6 acts as a coactivator for transcription factors, including estrogen receptor and NFκB, while asymmetric di-methylation of histone H3 (Arg2) by PRMT6 prevents MLL methylation of histone H3 at Lys4 and inhibits transcription activation (5-8). In addition to its role in regulating transcription, PRMT6 methylates DNA polymerase β, leading to enhanced DNA binding and processivity during base excision repair of damaged DNA (9).

Background References

1. Di Lorenzo, A. and Bedford, M.T. (2011) *FEBS Lett* 585, 2024-31.
2. Yang, Y. and Bedford, M.T. (2013) *Nat Rev Cancer* 13, 37-50.
3. Molina-Serrano, D. et al. (2013) *Biochem Soc Trans* 41, 751-9.
4. Casadio, F. et al. (2013) *Proc Natl Acad Sci U S A* 110, 14894-9.
5. Harrison, M.J. et al. (2010) *Nucleic Acids Res* 38, 2201-16.
6. Di Lorenzo, A. et al. (2014) *Nucleic Acids Res* 42, 8297-309.
7. Hyllus, D. et al. (2007) *Genes Dev* 21, 3369-80.
8. Smith, A.P. et al. (2009) *Oncogene* 28, 422-30.
9. El-Andaloussi, N. et al. (2006) *Mol Cell* 22, 51-62.

Species Reactivity

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

Western Blot Buffer

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.

Applications Key**WB:** Western Blotting **IP:** Immunoprecipitation**Cross-Reactivity Key**

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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