

Product Information

Anti-PRMT1 (NQ-15)

Developed in Rabbit
Affinity Isolated Antibody

Product Number **P 6871**

Product Description

Anti-PRMT1 (Protein Arginine Methyl Transferase 1) (NQ-15) is developed in rabbit using as immunogen a synthetic peptide corresponding to amino acids 326-341 of mouse PRMT1, conjugated to KLH via an N-terminal added cysteine residue. The sequence is conserved in human, and differs by one amino acid from the rat sequence. The antibody is affinity purified on the immunizing peptide immobilized on agarose.

Anti-PRMT1 (NQ-15) antibody reacts specifically with PRMT1 by immunoblotting (approx. 42 kDa) and indirect immunofluorescence. Specific staining of the PRMT1 band in immunoblotting is specifically inhibited by the PRMT1 immunizing peptide.

Postranslational modifications of proteins play an important role in the regulation of protein function, stability and localization. Such modifications occur on different amino acids and include phosphorylation, glycosylation, acetylation or methylation.¹ Methylation can occur at lysine or arginine.^{2,3} Methylation of arginine is mediated by the Protein Arginine Methyl Transferase (PRMT) family of enzymes. These enzymes transfer the methyl group from S-adenosyl-L-methionine to the guanidino nitrogen atoms of an arginine residue. Arginine methylation was found to be an important modification in signal transduction, transcription, RNA transport and splicing.^{4,5} PRMTs are divided in two major types, I and II. Both types catalyze the formation of monomethylarginine, but differs in that Type I (including PRMT1, 3, 4, and 6) catalyzes the formation of asymmetric dimethylarginine, whereas type II (PRMT5) catalyzes the formation of symmetric dimethylarginine.⁶⁻⁸

PRMT1, also known as HRMT1L2 and IR1B4, was isolated through its interaction with BTG1 and TIS2, proteins that are important in cell quiescence. PRMT1 is a 361 amino acids protein; its splicing variants differ at the N-terminus, giving rise to three isoforms of 343, 361, and 347 amino acids (variants 1, 2 and 3, respectively).^{9,10}

Proteins involved in the metabolism of RNA are substrates for PRMT1, among them Sam68. Their interaction has functional consequences, such as proper arginine methylation-dependent localization.

Antibodies specific for PRMT1 may be used for studying the biology of PRMTs.

Reagent

Anti-PRMT1 (NQ-15) is supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody Concentration: Approx. 1.0 mg/ml

Precautions and Disclaimer

Due to the sodium azide content, a material safety data sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. Storage in frost-free freezers is also not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

By immunoblotting, a working antibody concentration of 0.25-0.5 µg/ml is recommended using 293-T cell extracts.

By indirect immunofluorescence, a working antibody concentration of 2.5-5.0 µg/ml is recommended using paraformaldehyde-fixed 293-T cells.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working dilutions by titration.

References

1. Strahl, B.D., and Allis, C.D., *Nature*, **403**, 41-45 (2000).
2. Rea, S., et al., *Nature*, **406**, 593-599 (2000).
3. Chen, D., et al, *Science*, **284**, 2174-2177 (1999).
4. Davie, J.K., and Dent, Y.R., *Curr. Biol.*, **12**, R59-R61 (2002).
5. Li, H., et al., *J. Biol. Chem.*, **277**, 44623-44630 (2002).
6. Rho, J., et al., *J. Biol. Chem.*, **276**, 11393-11401 (2001).
7. Frankel, A., et al., *J. Biol. Chem.*, **277**, 3537-3543 (2002).
8. Frankel., A., et. al., *J. Biol. Chem.*, **275**, 32974-32982 (2000).
9. Lin, W.J., et al., *J. Biol. Chem.*, **271**, 15034-15044 (1996).
10. Scorilas, M., et al., *Biochem. Biophys. Res. Comm.*, **278**, 349-359 (2000).
11. Cote, J., et al., *Mol. Biol. Cell*, **14**, 274-287 (2003).

KAA/NV 07/04

Sigma brand products are sold through Sigma-Aldrich, Inc.

Sigma-Aldrich, Inc. warrants that its products conform to the information contained in this and other Sigma-Aldrich publications. Purchaser must determine the suitability of the product(s) for their particular use. Additional terms and conditions may apply. Please see reverse side of the invoice or packing slip.