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Product Information

Anti-PRMT1 antibody, Mouse monoclonal clone PRMT1-17, purified from hybridoma cell culture

Product Number **P1620**

Product Description

Anti-PRMT1 antibody, Mouse monoclonal (mouse IgG1 isotype) is derived from the PRMT1-171 hybridoma produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mice immunized with full length PRMT1. The isotype is determined using Sigma ImmunoType™ Kit (Product Code ISO-1) and by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Product Code ISO-2).

Anti-PRMT1 antibody, Mouse monoclonal (Protein-Arginine Methyl Transferase 1) recognizes human, monkey, bovine, dog, rat, mouse, hamster, and chicken PRMT1 and does not cross-react with PRMT2, 3, 4, and 5. The product may be used in various techniques such as immunoblotting (approx. 42 kDa), immunoprecipitation, and ELISA.

Posttranslational 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. Arginine methylation is mediated by the Protein-Arginine Methyl Transferase (PRMT) family of enzymes, which are important in signal transduction, transcription, RNA transport, and splicing. This modification was found to be important in signal transduction, transcription, RNA transport, and splicing.

PRMTs are divided into two types defined by their activity. Type I PRMTs (including PRMT1, 3, 4, and 6) are characterized by the formation of asymmetric dimethylated arginine residues. Type II PRMTs include only PRMT5 and are defined by the formation of symmetric dimethylated arginine residues.[1-3] Myelin basic protein (MBP) and the spliceosomal D1 and D3 proteins are substrates for PRMT5.

Type I PRMTs contain methylate arginine in different motifs such as the Arg-Gly-Gly-rich region (RGG motif) in many RNA-binding proteins, or the Arg-Xaa-Arg motif in poly(A)-binding protein II. PRMT1, a nuclear protein, was isolated through its interaction with BTG1 and TIS21 (proteins that are important in cell quiescence).[1-3] Proteins that are involved in the metabolism of RNA are substrates for PRMT1. Among them is the protein Sam68, which resides in the cytoplasm of cells deficient in PRMT1. Thus, methylation by PRMT1 has an important role in the localization of Sam68.[4] Antibodies specific for PRMT1 are an important tool for studying the biology of PRMTs.

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody Concentration: ~ 2 mg/ml.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For prolonged storage, freeze in working aliquots at −20 °C. Repeated freezing and thawing, or storage in frost-free freezers, is 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

Immunoblotting: a minimum working antibody concentration of approximately 2 μg/ml is recommended using a whole cell extract of the human kidney cell line 293T.

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

References

1. Rho, J., et al., *J. Biol. Chem*., **276**, 11393-11401 (2001).
2. Frankel, A., et al., *J. Biol. Chem*., **277**, 3537-3543 (2002).
3. Frankel, A., et al., *J. Biol. Chem*., **275**, 32974-32982 (2000).
4. Cote, J., et al., *Mol. Biol. Cell*, **14**, 274-287 (2003).

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