



Monoclonal Anti-PRMT5

Clone PRMT5-21

Purified Mouse Immunoglobulin

Product Number **P 0493**

Product Description

Monoclonal Anti-PRMT5 (mouse IgG2a isotype) is derived from the PRMT5-21 hybridoma produced by the fusion of mouse myeloma cells and splenocytes from mice immunized with GST-PRMT5 containing the C-terminal region of the human PRMT5 (amino acids 315-637). 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).

Monoclonal Anti-PRMT5 (protein-arginine methyl transferase 5) recognizes an epitope within the C-terminal region of PRMT5 and may be used in various techniques such as ELISA and immunoblotting (approx. 70 kDa). Reactivity has been observed with human, monkey, bovine, dog, rat, mouse, hamster, and chicken PRMT5.

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.

PRMTs are divided into two types defined by their activity. Type I PRMTs (including PRMT 1, 3, 4, and 6) are characterized by the formation of asymmetric dimethylated arginine residues. In type I PRMTs, the methylate arginine is found 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. Type II PRMTs, which include only PRMT5, are defined by the formation of symmetric dimethylated arginine residues. Substrates for PRMT5 include myelin basic protein (MBP) and the spliceosomal D1 and D3 proteins. PRMT5 (also known as Skb1Hs/JBP1) exists as homooligomeric complexes, which includes a dimer and tetramer. Homooligomerization of PRMT5 has an important role in its ability to methylate the MBP protein.

Product Information

In contrast to PRMT1, PRMT5 is found mainly in the cytoplasm. Furthermore, several of its substrates are cytosolic proteins, like the pICln that correlates to the appearance of a nucleotide-sensitive chloride current. PRMT5 also binds the Janus kinases, which are localized in the cytoplasm and are involved in an interferon-signaling pathway.

Reagent

Monoclonal Anti-PRMT5 is supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody Concentration: Approx. 2 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 prolonged storage, freeze in working aliquots at -20 °C. 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

A minimum working concentration of 2 µg/ml is determined by immunoblotting using a whole cell extract of human melanoma cell line G361.

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

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