

Product Information

Monoclonal Anti-PML

Clone PML-97

Purified Mouse Immunoglobulin

Product Number **P 6746**

Product Description

Monoclonal Anti-PML (mouse IgG1 isotype) is derived from the PML-97 hybridoma produced by the fusion of mouse myeloma cells (NS1 cells) and splenocytes from BALB/c mice immunized with recombinant full-length human PML (promyelocytic leukemia) protein. The isotype is determined using Sigma ImmunoType[™] Kit (Sigma ISO-1) and by a double diffusion immunoassay using Mouse Monoclonal Antibody Isotyping Reagents (Sigma ISO-2).

Monoclonal Anti-PML recognizes human, mouse, and hamster PML (approx. 90 kDa). The antibody can be used in ELISA, immunoblotting, immunoprecipitation, and immunocytochemistry

In acute promyelocytic leukemia (APL), myeloid cells are blocked in their development at the promyelocyte stage. APL comprises for 10 percent of the myelogenous leukemias. In 98 percent of APL patients, the PML (promyelocytic leukemia) protein is fused with RAR α (Retinoic Acid Receptor α) protein due to a chromosome translocation. In normal cells, the PML protein is found in nuclear bodies (PML NBs) while in APL patients, the PML NBs are disrupted, thus forming micro particulate pattern in the nucleus and cytoplasm. Treatment of the APL patients with ATRA (all *trans*-retinoic acid) causes the degradation of the PML-RAR α by the proteasome and is correlated with reappearance of nuclear bodies (PML NBs) in the cells, and remission in the patients.^{1,2} In normal cells, the PML protein and the PML nuclear bodies play a role in different physiological processes such as: growth control, transcription, DNA repair, DNA replication, and RNA transport.¹ PML protein contains cysteine-rich zinc-binding domains (RING), two B-boxes, an adjacent leucine coiled coil forming the RBCC or TRIM motif, and a nuclear localization signal (NLS).

The RING and B-box are important for the interaction of the PML protein with different proteins. For example, interaction of PML with p53 in PML nuclear bodies protects p53 from degradation and from interaction with mdm2.^{3,4} A monoclonal antibody to promyelocytic leukemia (PML) is an important tool for studying PML function in normal and cancerous cells.

Reagent

Monoclonal Anti-PML 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 extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. 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

By immunoblotting, a working antibody concentration of 1-2 μ g/ml is recommended using 293T cells expressing recombinant PML3.

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

References

1. Borden, K.L.B., Mol. Cell. Biol., **22**, 5259-5269 (2002).
2. Barbardi, R., et al., Oncogene, **22**, 9048-9057 (2003).
3. Haupt, S., et al., J. Cell Biochem., **88**, 76-82 (2003).
4. Louriya-Hayon, I., et al., J. Biol. Chem., **278**, 33134-33141 (2003).

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