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ProductInformation

Monoclonal Anti-MRP3
Clone M_3II-21
Mouse Culture Supernatant

Product Number **M 6567**

Product Description

Monoclonal Anti-MRP3 (mouse IgG1 isotype) is derived from the M_3II-21 hybridoma produced by the fusion SP2/O mouse myeloma cells and lymph nodes cells from a Balb/c mouse immunized with a human MPR5 bacterial fusion protein containing amino acids 830-949 of the protein. The antibody is concentrated from culture supernatant of hybridoma cells grown in a bioreactor.

Monoclonal Anti-MRP3 recognizes human MRP3 (190-200 kDa). The antibody does not cross-react with the human MDR1, MRP1, MRP2, or MRP5 gene products. The antibody may be used in immunocytochemistry, immunohistochemistry and immunoblotting.

Many cancer cells treated with chemotherapy agents develop multidrug resistance (MDR). As a result, several different proteins are upregulated in the resistant cells. These proteins include P-glycoprotein (PgP/P-170/MDR1, an efflux pump), lung resistance related protein (LRP) (a major vault protein), topoisomerase II, glutathione S-transferase, and the multidrug resistance associated protein (MRP, an efflux pump).[6]

The MRP protein belongs to the ABC (ATP-binding cassette) superfamily of transporter proteins that share a common molecular architecture. These transporters are able to transport a wide range of different drugs out of the cells.[7, 8] The MRP subfamily of ABC transporters consists of seven different members of which six are able to transport amphipathic anions. MRP1, 2, and 3 have a similar structure with the ability to transport glutathione and glucuronate conjugates. MRP4 and MRP5 share more structure similarity with each other than with MRP1, 2, and 3. MRP4 and MRP5 also have the ability to transport cyclic nucleotides.[9] Heredity deficiency of some of the MRP members may lead to severe disorders. For example, heredity deficiency of MRP2 results in Dubin-Johnson syndrome, while heredity deficiency of MRP6 results in pseudoxanthoma elasticum, a multisystem disorder affecting skin, eyes, and blood vessels.[9]

Reagent

Monoclonal Anti-MRP5 is supplied as a solution in serum-free culture medium, contining 0.7% bovine serum albumin and 0.1% sodium azide.

Antibody concentration: Approx. 250 µg/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 working dilution of 1:20 to 1:50 is determined using immunocytochemistry on acetone-fixed, frozen cytospin preparations.

A working dilution of 1:20 is determined using immunohistochemistry on acetone-fixed, frozen sections using biotinylated anti-rat IgG and streptavidin-peroxidase.

A working dilution of 1:20 to 1:50 is determined using immunoblotting.

Optimal conditions for flow cytometry have not been defined.

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

References

1. Kool, M., et al., Analysis of expression of cMOAT (MRP2), MRP3, MRP4 and MRP5, homologues of the multidrug resistance-associated protein gene (MRP1) in human cancer cell lines. Cancer Res., **57**, 3537-3547 (1997).
2. Kool, M., et al., MRP3, an organic anion transporter able to transport anti-cancer drugs. Proc. Natl. Acad. Sci., USA, **96**, 6914-6919 (1999).
3. Scheffer, G.L., et al., Specific detection of multidrug resistance proteins MRP1, MRP2, MRP3, MRP5, and MDR3 P-glycoprotein with a panel of monoclonal antibodies. Cancer Res., **60**, 5269-5277 (2000).

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