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ProductInformation

Monoclonal Anti-MDR3 P-Glycoprotein
Clone P3II-26
Mouse Culture Supernatant

Product Number **M 7317**

Product Description

Monoclonal Anti-MDR3 P-Glycoprotein (mouse IgG2b isotype) is derived from the P3II-26 hybridoma produced by the fusion SP2/O mouse myeloma cells and lymph nodes cells from a BALB/c mouse immunized with MDR3 P-gp (amino acids 629-692) GST fusion protein. The antibody is concentrated from culture supernatant of hybridoma cells grown in a bioreactor.

Monoclonal Anti-MDR3 P-Glycoprotein reacts with an internal epitope of human MDR3. The antibody does not cross-react with human MDR1 P-gp gene products. The antibody may be used in immunocytochemistry, immunohistochemistry, and immunoblotting. The antibody does not work very well on formalin-fixed, paraffin-embedded human tissues.

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-glycoproteins (Pgp/P-170/MDR1 and MDR3 Pgp, efflux pumps), lung resistance related protein (LRP) (a major vault protein), topoisomerase II, glutathione S-transferase, and the multidrug resistance associated protein (MRP, an efflux pump). MDR is commonly associated with an overexpression of the human multidrug resistance gene *mdr*, which encodes an energy-dependent transmembrane protein, also known as P-glycoprotein (170-180 kDa). P-glycoprotein is encoded by a small family of genes. Two human genes (*mdr1, mdr3*), three mouse genes (*mdr1, mdr2, mdr3*), and three hamster genes (*pgp1, pgp2, pgp3)* have been identified and cloned. The human *mdr* genes show 80% nucleotide homology. Human *mdr3* and mouse *mdr3* are similar.

P-glycoprotein is absent from most normal tissues, but is present in the proximal tubule of kidney, the adrenal medulla, the pancreas, the colon and the biliary ducts. One biological function of P-glycoprotein is to transport some chemotherapeutic agents out of cells, thereby conferring a drug resistant phenotype to cancer cells expressing P-glycoprotein. The protein appears to cause multidrug resistance via an ATP-dependent drug-efflux mechanism, which prevents the intracellular accumulation of drugs to an effective cytotoxic concentration.

Reagent

Monoclonal Anti-MDR3 P-Glycoprotein is supplied as a solution in serum-free culture medium, containing 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 rabbit anti-mouse IgG and an APAAP complex.

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

References

1. 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).

2. Hooiveld, G.J., et al, 3-Hydroxy-3-methylglutaryl-coenzyme A reductase inhibitors (statins) induce hepatic expression of the phospholipid translocase *mdr2* in rats. Gastroenterology, **117**, 678-687 (1999).

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