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Monoclonal Antibody to CD243 / MDR1 - Supernatant

Alternate names: ABCB1, ATP-binding cassette sub-family B member 1, Multidrug resistance protein 1, P-glycoprotein 1, PGY1

Catalog No.: AM32057SU-N

Quantity: 1 ml

Concentration: approx. 0.25 mg/ml

Background: P Glycoprotein, the product of the MDR1 gene, is expressed in distinct non-malignant cells, typically cells with secretory and excretory functions. It is assumed to function as an ATP-dependent drug efflux pump with broad substrate specificity. The highest expression of P Glycoprotein has been observed in kidney (proximal tubules), liver (bile canaliculi), adrenal gland and intestine, suggesting that the primary role of P Glycoprotein is in the normal secretion of physiological metabolites and ingested chemicals into bile, urine and the lumen of the intestinal tract. Elevated levels of P Glycoprotein have also been reported in multidrug-resistant cell lines and in colon, endometrial, ovarian, and breast tumors, as well as in sarcomas and leukemias / lymphomas.

Uniprot ID: P08183

NCBI: NP_000918.2

GeneID: 5243

Host / Isotype: Mouse / IgG1

Clone: JSB-1

Format:
State: Liquid Tissue Cell Culture Supernatant
Preservatives: 0.09% Sodium Azide
Stabilizers: 1% BSA

Applications:
Western blot: Use an anti-Mouse-HRP.
Immunocytochemistry on Aceton Fixed Cell Preparation: at least 1/20.
Flow Cytometry: 1/10. Cell permeabilization in 10% (v/v) Lysing solution followed by primairy antibody and anti-Mouse-FITC required.
Immunohistochemistry on Acetone-Fixed Frozen Sections: 1/20
Immunohistochemistry on Formalin-Fixed Paraffin Embedded Sections: 1/20.
Optimal staining results are obtained with routine 2-step ABC or APAAP methods using acetone fixed cytocentrifuge preparations or cryostat sections.
In case the B-5 fixative is used (See **Protocols**) also paraffin embedded tissue can be stained with the antibody.
Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Specificity: The antibody *JSB-1* recognizes a strongly a conserved cytoplasmic epitope of the plasma membrane-associated 170-180 kD glycoprotein, the expression of which is strongly

correlated with the degree of multi-drug-resistance (MDR) derived MDR cell lines and human MDR cell lines, including cell lines derived from lung, ovaries and B cell lymphomas.

Species Reactivity: **Tested:** Human, Chinese Hamster. Neagative with Mouse and Rat

Storage: Store the antibody undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer. Avoid repeated freezing and thawing.
Shelf life: One year from despatch.

General Readings:

1. Scheper, R.J., et al., 1986, Int. J. Cancer 42, 389.
2. Dalton WS, Grogan TM, Meltzer PS, Scheper RJ, Durie BG, Taylor CW, et al. Drug-resistance in multiple myeloma and non-Hodgkin's lymphoma: detection of P-glycoprotein and potential circumvention by addition of verapamil to chemotherapy. J Clin Oncol. 1989 Apr;7(4):415-24. PubMed PMID: 2564428.
3. Tiirikainen MI, Syrjälä MT, Jansson SE, Krusius T. Flow cytometric analysis of P-glycoprotein in normal and leukemic cells. Ann Hematol. 1992 Sep;65(3):124-30. PubMed PMID: 1356449.
4. Grogan TM, Spier CM, Salmon SE, Matzner M, Rybski J, Weinstein RS, et al. P-glycoprotein expression in human plasma cell myeloma: correlation with prior chemotherapy. Blood. 1993 Jan 15;81(2):490-5. PubMed PMID: 8093668.
5. Itsubo M, Ishikawa T, Toda G, Tanaka M. Immunohistochemical study of expression and cellular localization of the multidrug resistance gene product P-glycoprotein in primary liver carcinoma. Cancer. 1994 Jan 15;73(2):298-303. PubMed PMID: 7904895.
6. Toth, K., et al., 1994, Am. J. Pathol. 144 227.
7. Gala, et al., 1994, J. Clin. Pathol. 47 619.

Protocols:

B-5 Fixative:
Fix tissue in freshly prepared B-5 fixative: add 2 ml of 40% formalin to 20 ml of B-5 Stock Solution. Sections must be dezenkerized to remove mercuric pigment before immunostaining. Dezenkerize by placing slides with sections in Gram's Iodine solution for 5 min. at room temperature. Wash well in distilled water. Place slides in Sodium Thiosulphate solution for 5 min. at room temperature. Wash in running tap water for 3 min. Place in PBS for further immunochemical procedures.

B-5 Stock Solution
12 g Mercuric Chloride
2.5 g Sodium Acetate
dissolve in 200 ml distilled water.

Gram's Iodine
1 g I_2
2 g KI
dissolve in 300 ml distilled water.

Sodium Thiosulphate solution
15 g $Na_2S_2O_3*5H_2O$
dissolve in 300 ml distilled water.

Pictures:

Formalin-Fixed, Paraffin-Embedded Human kidney stained with anti-MDR1 antibody using peroxidase-conjugate and DAB chromogen. Note the cytoplasmic staining of renal tubular epithelial cells