SANTA CRUZ BIOTECHNOLOGY, INC.

Mdr-3 (P3II-26): sc-58221

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Cells selected for resistance to a single cytotoxic drug may become cross-resistant to a broad range of drugs with different structures and cellular targets. This phenomenon is called multiple drug resistance (MDR). MDR proteins (Mdrs) are members of a highly conserved superfamily of ATP-binding cassette transport proteins. Mdr-3, also known as ABCB4, is a member of the Mdr family that may be associated with a more malignant phenotype in B cell lymphocytic leukemias. The human Mdr-3 gene, which is known as ABCB4 maps to chromosome 7. The mouse homolog of Mdr-3 is designated Mdr-2.

REFERENCES

1. Banerjee, S., et al. 1992. Downregulation of Ras and Myc expression associated with Mdr-1 overexpression in adriamycin-resistant tumor cells. Cell. Mol. Biol. 38: 561-570.
2. Gupta, S., et al. 1993. P-glycoprotein (Mdr-1 gene product) in cells of the immune system: its possible physiologic role and alteration in aging and human immunodeficiency virus-1 (HIV-1) infection. J. Clin. Immunol. 13: 289-301.

CHROMOSOMAL LOCATION

Genetic locus: ABCB4 (human) mapping to 7q21.12; Abcb4 (mouse) mapping to 5 A1.

SOURCE

Mdr-3 (P3II-26) is a mouse monoclonal antibody raised against amino acids 629-692 of Mdr-3 of human origin.

PRODUCT

Each vial contains 500 µl culture supernatant containing IgG_{2b} with < 0.1% sodium azide and 0.7% stabilizer protein.

APPLICATIONS

Mdr-3 (P3II-26) is recommended for detection of Mdr-3 of human origin and Mdr-2 of mouse and rat origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:10-1:200), immunoprecipitation [10-20 µl per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution to be determined by researcher, dilution range 1:10-1:200) and flow cytometry (10-20 µl per 1 x 10^6 cells); non cross-reactive with human Mdr-1.

Suitable for use as control antibody for Mdr-3 siRNA (h): sc-37015, Mdr-2 siRNA (m): sc-37016, Mdr-3 shRNA Plasmid (h): sc-37015-SH, Mdr-2 shRNA Plasmid (m): sc-37016-SH, Mdr-3 shRNA (h) Lentiviral Particles: sc-37015-V and Mdr-2 shRNA (m) Lentiviral Particles: sc-37016-V.

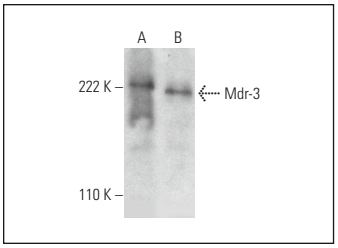
Molecular Weight of Mdr-3: 141 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227 or c4 whole cell lysate: sc-364186.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

DATA



Mdr-3 (P3II-26): sc-58221. Western blot analysis of Mdr-3 expression in Hep G2 (**A**) and c4 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Spencer, E.S., et al. 2010. Canine ABCB4: tissue expression and cDNA structure. Res. Vet. Sci. 89: 65-71.
2. Stremmel, W., et al. 2016. Phosphatidylcholine passes through lateral tight junctions for paracellular transport to the apical side of the polarized intestinal tumor cell-line CaCo2. Biochim. Biophys. Acta 1861: 1161-1169.
3. Cheshenko, N., et al. 2018. Herpes simplex viruses activate phospholipid scramblase to redistribute phosphatidylserines and Akt to the outer leaflet of the plasma membrane and promote viral entry. PLoS Pathog. 14: e1006766.
4. Lee, E.J., et al. 2018. Proteasome inhibition protects against diet-induced gallstone formation through modulation of cholesterol and bile acid homeostasis. Int. J. Mol. Med. 41: 1715-1723.
5. Gericke, B., et al. 2022. Is P-glycoprotein functionally expressed in the limiting membrane of endolysosomes? A biochemical and ultrastructural study in the rat liver. Cells 11: 1556.
6. Temesszentandrási-Ambrus, C., et al. 2023. A unique in vitro assay to investigate ABCB4 transport function. Int. J. Mol. Sci. 24: 4459.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.