SANTA CRUZ BIOTECHNOLOGY, INC.

MDR1 (3H2833): sc-71557

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. MDR1 is an apical transmembrane protein that is an integral part of the blood-brain barrier and functions as a drug-transport pump transporting a variety of drugs from the brain back into the blood. The MDR1 gene is also known as ABCB1 and is located on human chromosome 7. The mouse homolog of MDR1 is known as Mdr-3. Interestingly, a murine protein by the name of Mdr-1 exists and is encoded by the murine Abcb1b gene, but it is not homologous with human Mdr-1.

CHROMOSOMAL LOCATION

Genetic locus: ABCB1 (human) mapping to 7q21.12; Abcb1b (mouse) mapping to 5 A1.

SOURCE

MDR1 (3H2833) is a mouse monoclonal antibody raised against MDR of hamster origin.

PRODUCT

Each vial contains 500 µl culture supernatant containing IgG_1 with < 0.1% sodium azide and 0.7% stabilizer protein.

APPLICATIONS

MDR1 (3H2833) is recommended for detection of MDR1 of mouse, rat, human and hamster 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution to be determined by researcher, dilution range 1:10-1:200); may cross-react with Pyruvate Carboxylaseon; non cross-reactive with Mdr3.

Suitable for use as control antibody for MDR1 siRNA (h): sc-29395, MDR1 siRNA (m): sc-35891, MDR1 shRNA Plasmid (h): sc-29395-SH, MDR1 shRNA Plasmid (m): sc-35891-SH, MDR1 shRNA (h) Lentiviral Particles: sc-29395-V and MDR1 shRNA (m) Lentiviral Particles: sc-35891-V.

Molecular Weight of MDR1: 170 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

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.

RESEARCH USE

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

SELECT PRODUCT CITATIONS

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4. Liu, Y., et al. 2016. Impact of quercetin-induced changes in drug-metabolizing enzyme and transporter expression on the pharmacokinetics of cyclosporine in rats. Mol. Med. Rep. 14: 3073-3085.
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6. Lian, W., et al. 2017. AP-2α reverses vincristine-induced multidrug resistance of SGC7901 gastric cancer cells by inhibiting the Notch pathway. Apoptosis 22: 933-941.
7. Wang, F., et al. 2017. Reversal of doxorubicin-resistance by *Salvia miltiorrhiza* ligustrazine in the SHG44/doxorubicin glioma drug-resistant cell line. Oncol. Lett. 14: 4708-4714.
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10. Liu, C., et al. 2018. Treatment with 20(S)-ginsenoside Rg3 reverses multidrug resistance in A549/DDP xenograft tumors. Oncol. Lett. 15: 4376-4382.
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13. Zavala-Tecuapetla, C., et al. 2019. Activation of adenosine receptors modulates the efflux transporters in brain capillaries and restores the anticonvulsant effect of carbamazepine in carbamazepine resistant rats developed by window-pentylenetetrazole kindling. Brain Res. 18: 146516.