

Mdr (H-241): sc-8313

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-1 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. Mdr-3 is associated with a malignant phenotype in B cell lymphocytic leukemias. The Mdr-1 gene is known as ABCB1 and is located on human chromosome 7. The mouse homolog of Mdr-1 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. Similarly, the human Mdr-3 gene, which is known as ABCB4, also maps to chromosome 7q21.12. The mouse homolog of Mdr-3 is designated Mdr-2.

CHROMOSOMAL LOCATION

Genetic locus: ABCB1/ABCB4 (human) mapping to 7q21.12; *Abcb1b/Abcb1a/Abcb4* (mouse) mapping to 5 A1.

SOURCE

Mdr (H-241) is a rabbit polyclonal antibody raised against amino acids 1040-1280 of Mdr-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Mdr (H-241) is available conjugated to agarose (sc-8313 AC), 500 µg/0.25 ml agarose in 1 ml, for IP.

APPLICATIONS

Mdr (H-241) is recommended for detection of Mdr-1 and Mdr-3 of mouse, rat and human origin, and Mdr-2 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Mdr (H-241) is also recommended for detection of Mdr-1 and Mdr-3 in additional species, including equine, canine, bovine and porcine.

Molecular Weight of Mdr: 170 kDa.

Positive Controls: ZR-75-1 cell lysate: sc-2241, HeLa whole cell lysate: sc-2200 or MES-SA/Dx5 cell lysate: sc-2284.

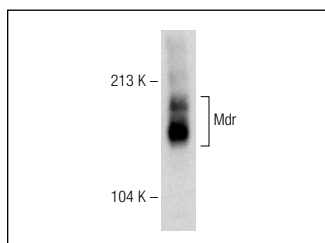
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

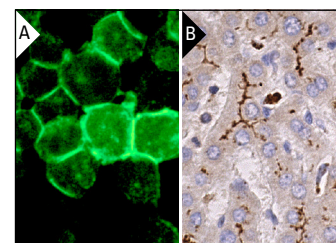
RESEARCH USE

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

DATA



Mdr (H-241): sc-8313. Western blot analysis of Mdr expression in MES-SA/Dx5 whole cell lysate.



Mdr (H-241): sc-8313. Immunofluorescence staining of methanol-fixed MES-SA/Dx5 cells showing membrane localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing membrane staining of hepatocytes (B).

SELECT PRODUCT CITATIONS

- Weisberg, E., et al. 2000. Mechanism of resistance to the ABL tyrosine kinase inhibitor STI571 in Bcr/Abl-transformed hematopoietic cell lines. *Blood* 95: 3498-3505.
- Iijima, M., et al. 2010. Increased ABCB1 expression in TP-110-resistant RPMI-8226 cells. *Biosci. Biotechnol. Biochem.* 74: 1913-1919.
- Morais, C., et al. 2010. Inhibition of nuclear factor κ B transcription activity drives a synergistic effect of pyrrolidine dithiocarbamate and cisplatin for treatment of renal cell carcinoma. *Apoptosis* 15: 412-425.
- Kirschbaum, K.M., et al. 2010. Pharmacokinetics of acute and sub-chronic aripiprazole in P-glycoprotein deficient mice. *Neuropharmacology* 59: 474-479.
- Elali, A., et al. 2011. Liver X receptor activation enhances blood-brain barrier integrity in the ischemic brain and increases the abundance of ATP-binding cassette transporters ABCB1 and ABCC1 on brain capillary cells. *Brain Pathol.* 22: 175-187.
- Motyl, T., et al. 2011. Identification, quantification and transcriptional profile of potential stem cells in bovine mammary gland. *Livestock Sci.* 136: 136-149.
- Peroni, R.N., et al. 2011. Efavirenz is a substrate and in turn modulates the expression of the efflux transporter ABCG2/BCRP in the gastrointestinal tract of the rat. *Biochem. Pharmacol.* 82: 1227-1233.
- Mattaloni, S.M., et al. 2012. AKAP350 is involved in the development of apical "canalicular" structures in hepatic cells HepG2. *J. Cell. Physiol.* 227: 160-171.



Try **Mdr-1 (D-11): sc-55510**, our highly recommended monoclonal alternatives to Mdr (H-241). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **Mdr-1 (D-11): sc-55510**.