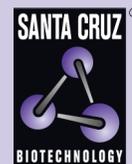


# MDR1 (UIC2): sc-73354



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.

## SOURCE

MDR1 (UIC2) is a mouse monoclonal antibody raised against MDR1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available azide-free for inhibition of P-glycoprotein efflux activity in functional experiments, sc-73354 L, 200 µg/0.1 ml.

MDR1 (UIC2) is available conjugated to either phycoerythrin (sc-73354 PE) or fluorescein (sc-73354 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

## APPLICATIONS

MDR1 (UIC2) is recommended for detection of MDR1 P-glycoprotein of human origin by 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 flow cytometry (1 µg per 1 x 10<sup>6</sup> cells); non cross-reactive with mouse and rat tissues.

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

Molecular Weight of MDR1: 170 kDa.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 3) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## STORAGE

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

## SELECT PRODUCT CITATIONS

1. Reed, K., et al. 2010. The temporal relationship between ABCB1 promoter hypomethylation, ABCB1 expression and acquisition of drug resistance. *Pharmacogenomics J.* 10: 489-504.
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3. Armstrong, S.R., et al. 2012. Distinct genetic alterations occur in ovarian tumor cells selected for combined resistance to carboplatin and docetaxel. *J. Ovarian Res.* 5: 40.
4. Kim, B., et al. 2013. Neoadjuvant chemotherapy induces expression levels of breast cancer resistance protein that predict disease-free survival in breast cancer. *PLoS ONE* 8: e62766.
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6. Xi, G., et al. 2016. CD133 and DNA-PK regulate MDR1 via the PI3K- or Akt-NFκB pathway in multidrug-resistant glioblastoma cells *in vitro*. *Oncogene* 35: 241-250.
7. Liu, T., et al. 2017. A novel delocalized lipophilic cation-chlorambucil conjugate inhibits P-glycoprotein in HepG2/ADM cells. *Bioorg. Med. Chem.* 25: 5461-5467.
8. Thorne, J.L., et al. 2018. MiR-19b non-canonical binding is directed by HuR and confers chemosensitivity through regulation of P-glycoprotein in breast cancer. *Biochim. Biophys. Acta Gene Regul. Mech.* 1861: 996-1006.
9. Liu, B., et al. 2019. Med19 is involved in chemoresistance by mediating autophagy through HMGB1 in breast cancer. *J. Cell. Biochem.* 120: 507-518.
10. Lee, W.K. and Thévenod, F. 2019. Oncogenic PITX2 facilitates tumor cell drug resistance by inverse regulation of hOCT3/SLC22A3 and ABC drug transporters in colon and kidney cancers. *Cancer Lett.* 449: 237-251.
11. Xu, H.B., et al. 2020. Z-guggulsterone regulates MDR1 expression mainly through the pregnane X receptor-dependent manner in human brain microvessel endothelial cells. *Eur. J. Pharmacol.* 874: 173023.

## RESEARCH USE

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



See **MDR1 (D-11): sc-55510** for MDR1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.