SANTA CRUZ BIOTECHNOLOGY, INC.

MRP1 (C-20): sc-7773

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The two members of the large family of ABC transporters known to confer multidrug resistance in human cancer cells are the MDR1 P-glycoprotein and the multidrug-resistance protein MRP1. MRP1 is an integral membrane protein that contains an MDR-like core, an N-terminal membrane-bound region and a cytoplasmic linker, and it is expressed in various cerebral cells, as well as in lung, testis and peripheral blood. The MRP gene family also includes MRP2, which is alternatively designated cMOAT (for canalicular multispecific organic anion transporter) and MRP3, which are both conjugate export pumps expressed predominantly in hepatocytes. MRP2 localizes exclusively to the apical membrane and is constitutively expressed at a high level in normal liver cells. Conversely, MRP3 localizes to the basolateral membrane where it also mediates the transport of the organic anion S-(2,4-dinitrophenyl-) glutathione toward the basolateral side of the membrane. MRP3 is normally expressed at comparatively lower levels than MRP2 and increases only when secretion across the apical membrane by MRP2 is impaired. MRP6 protein is highly expressed in liver and kidney, whereas MRP4 and MRP5 are detected in various tissues yet at much lower levels of expression.

REFERENCES

1. Versantvoort, C.H., et al. 1995. Regulation by glutathione of drug transport in multidrug-resistant human lung tumour cell lines overexpressing multidrug resistance-associated protein. Br. J. Cancer 72: 82-89.
2. Kool, M., et al. 1997. Analysis of expression of cMOAT (MRP2), MRP3, MRP4 and MRP5, homologs of the multidrug-resistance-associated protein gene MRP1, in human cancer cell lines. Cancer Res. 57: 3537-3547.
3. Keppler, D., et al. 1997. Hepatic canalicular membrane 5: expression and localization of the conjugate export pump encoded by the MRP2 (cMRP/cMOAT) gene in liver. FASEB J. 11: 509-516.
4. Bakos, E., et al. 1998. Functional multidrug resistance protein (MRP1) lacking the N-terminal transmembrane domain. J. Biol. Chem. 273: 32167-32175.

CHROMOSOMAL LOCATION

Genetic locus: ABCC1 (human) mapping to 16p13.11.

SOURCE

MRP1 (C-20) is available as either goat (sc-7773) or rabbit (sc-7773-R) polyclonal affinity purified antibody raised against a peptide mapping near the C-terminus of MRP1 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.

Blocking peptide available for competition studies, sc-7773 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

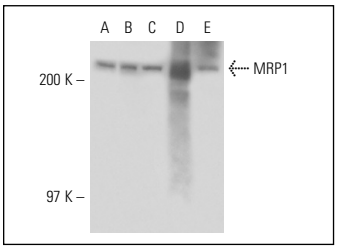
MRP1 (C-20) is recommended for detection of MRP1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (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).

MRP1 (C-20) is also recommended for detection of MRP1 in additional species, including canine and bovine.

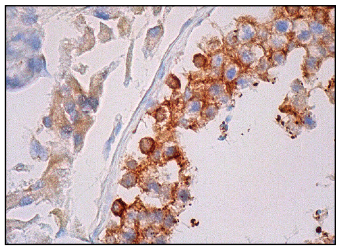
Suitable for use as control antibody for MRP1 siRNA (h): sc-35962, MRP1 shRNA Plasmid (h): sc-35962-SH and MRP1 shRNA (h) Lentiviral Particles: sc-35962-V.

Molecular Weight of MRP1: 190 kDa.

DATA



MRP1 (C-20): sc-7773. Western blot analysis of MRP1 expression in T98G (**A**), A549 (**B**), AML-193 (**C**), H69AR (**D**) and HeLa (**E**) whole cell lysates.



MRP1 (C-20): sc-7773. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing membrane and cytoplasmic staining of cells in seminiferous ducts.

SELECT PRODUCT CITATIONS

1. Worrad, D.M., et al. 1994. Reversing effect of sorcin in the drug resistance of human nasopharyngeal carcinoma. Development 120: 2347-2357.
2. Riganti, C., et al. 2005. Nitric oxide reverts the resistance to doxorubicin in human colon cancer cells by inhibiting the drug efflux. Cancer Res. 65: 516-525.
3. Riganti, C., et al. 2006. Statins revert doxorubicin resistance via nitric oxide in malignant mesothelioma. Int. J. Cancer. 119: 17-27.
4. Obata, H., et al. 2006. Association between single nucleotide polymorphisms of drug resistance-associated genes and response to chemotherapy in advanced ovarian cancer. Anticancer Res. 26: 2227-2232.
5. Wang, P., et al. 2012. Quercetin increased bioavailability and decreased methylation of green tea polyphenols *in vitro* and *in vivo*. Food Funct. 3: 635-642.
6. Gu, W., et al. 2014. Reversal effect of bufalin on multidrug resistance in human hepatocellular carcinoma BEL-7402/5-FU cells. Oncol. Rep. 31: 216-222.

RESEARCH USE

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