SANTA CRUZ BIOTECHNOLOGY, INC.

MRP1 (N-19): sc-7774

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.

CHROMOSOMAL LOCATION

Genetic locus: ABCC1 (human) mapping to 16p13.11; Abcc1 (mouse) mapping to 16 A1.

SOURCE

MRP1 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-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-7774 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 (N-19) is recommended for detection of MRP1 of mouse, rat and 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000). MRP1 (N-19) is also recommended for detection of MRP1 in additional species, including equine and bovine.

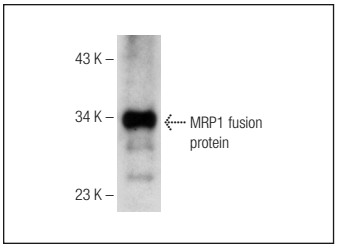
Suitable for use as control antibody for MRP1 siRNA (h): sc-35962, MRP1 siRNA (m): sc-35961, MRP1 shRNA Plasmid (h): sc-35962-SH, MRP1 shRNA Plasmid (m): sc-35961-SH, MRP1 shRNA (h) Lentiviral Particles: sc-35962-V and MRP1 shRNA (m) Lentiviral Particles: sc-35961-V.

Molecular Weight of MRP1: 190 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



MRP1 (N-19): sc-7774. Western blot analysis of human recombinant MRP1 fusion protein.

SELECT PRODUCT CITATIONS

1. 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.
2. Ros, J.E., et al. 2003. ATP binding cassette transporter gene expression in rat liver progenitor cells. Gut 52: 1060-1067.
3. Ros, J.E., et al. 2003. High expression of MDR1, MRP1, and MRP3 in the hepatic progenitor cell compartment and hepatocytes in severe human liver disease. J. Pathol. 200: 553-560.
4. Majumder, S., et al. 2006. The role of a novel copper complex in over-coming doxorubicin resistance in Ehrlich ascites carcinoma cells *in vivo*. Chem. Biol. Interact. 159: 90-103.
5. Kubo, K., et al. 2006. Induction of multidrug resistance-associated protein MRP3 in the liver of rats fed with docosahexaenoic acid. Biosci. Biotechnol. Biochem. 70: 1672-1680.
6. Chuu, J.J., et al. 2007. Effects of paclitaxel and doxorubicin in histocultures of hepatocelular carcinomas. J. Biomed. Sci. 14: 233-244.
7. Singhal, S.S., et al. 2008. Diminished drug transport and augmented radiation sensitivity caused by loss of RLIP76. FEBS Lett. 582: 3408-3414.
8. Thiebaud, N., et al. 2011. Expression and differential localization of xenobiotic transporters in the rat olfactory neuro-epithelium. Neurosci. Lett. 505: 180-185.

RESEARCH USE

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