SANTA CRUZ BIOTECHNOLOGY, INC.

MRP1 (QCRL-1): sc-18835

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.

SOURCE

MRP1 (QCRL-1) is a mouse monoclonal antibody raised against a human small cell lung cancer cell line H69AR.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MRP1 (QCRL-1) is available conjugated to agarose (sc-18835 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-18835 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-18835 PE), fluorescein (sc-18835 FITC), Alexa Fluor® 488 (sc-18835 AF488), Alexa Fluor® 546 (sc-18835 AF546), Alexa Fluor® 594 (sc-18835 AF594) or Alexa Fluor® 647 (sc-18835 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-18835 AF680) or Alexa Fluor® 790 (sc-18835 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

MRP1 (QCRL-1) is recommended for detection of an epitope between amino acids 918-924 of MRP-1 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 flow cytometry (1 µg per 1 x 10^6 cells).

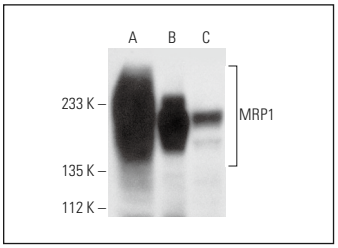
Suitable for use as control antibody for MRP1 siRNA (h): sc-35962, MRP1 shRNA Plasmid (h): sc-35962-SH and MRP1 shRNA (h) Lentiviral Particles: sc-35962-V.

Molecular Weight of MRP1: 190 kDa.

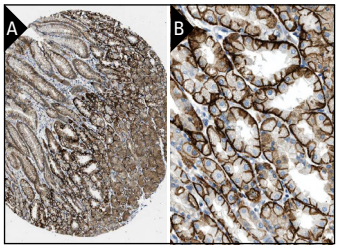
STORAGE

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

DATA



MRP1 (QCRL-1): sc-18835. Western blot analysis of MRP1 expression in T98G (**A**), A549 (**B**) and AML-193 (**C**) whole cell lysates.



MRP1 (QCRL-1): sc-18835. Immunoperoxidase staining of formalin fixed, paraffin-embedded human stomach tissue showing membrane staining of parietal cells at low (**A**) and high (**B**) magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

SELECT PRODUCT CITATIONS

1. Le Jeune, N., et al. 2004. Influence of glutathione depletion on plasma membrane cholesterol esterification and on Tc-99m-sestamibi and Tc-99m-tetrofosmin uptakes: a comparative study in sensitive U-87-MG and multidrug-resistant MRP1 human glioma cells. Cancer Biother. Radiopharm. 19: 411-421.
2. Holpuch, A.S., et al. 2010. Nanoparticles for local drug delivery to the oral mucosa: proof of principle studies. Pharm. Res. 27: 1224-1236.
3. Ren, D., et al. 2011. Brusatol enhances the efficacy of chemotherapy by inhibiting the Nrf2-mediated defense mechanism. Proc. Natl. Acad. Sci. USA 108: 1433-1438.
4. Han, H., et al. 2013. An endogenous inhibitor of angiogenesis inversely correlates with side population phenotype and function in human lung cancer cells. Oncogene 33: 1198-1206.
5. Zhang, H., et al. 2014. *In vitro, in vivo* and *ex vivo* characterization of ibrutinib: a potent inhibitor of the efflux function of the transporter MRP1. Br. J. Pharmacol. 171: 5845-5857.
6. Ziegler, K., et al. 2015. Cellular asymmetric catalysis by UDP-glucuronosyltransferase 1A8 shows functional localization to the basolateral plasma membrane. J. Biol. Chem. 290: 7622-7633.
7. Torres, A., et al. 2016. Adenosine A_3 receptor elicits chemoresistance mediated by multiple resistance-associated protein-1 in human glioblastoma stem-like cells. Oncotarget 7: 67373-67386.
8. Zhang, Y.K., et al. 2017. Establishment and characterization of arsenic trioxide resistant KB/ATO cells. Acta Pharm. Sin. 7: 564-570.

RESEARCH USE

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