SANTA CRUZ BIOTECHNOLOGY, INC.

MRP1 (QCRL-2): sc-18836

BACKGROUND

The two members of the large family of ABC transporters known to confer multidrug resistance in human cancer cells are the Mdr-1 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-2) is a mouse monoclonal antibody raised against non-denatured membranes prepared from H69AR small cell lung cancer cell line of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MRP1 (QCRL-2) is available conjugated to either phycoerythrin (sc-18836 PE) or fluorescein (sc-18836 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

RESEARCH USE

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

APPLICATIONS

MRP1 (QCRL-2) is recommended for detection of a conformational-dependent internal epitope 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 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.

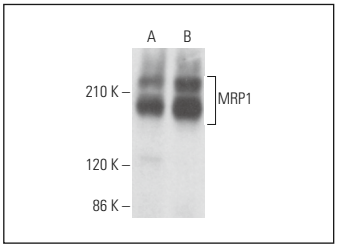
Molecular Weight of MRP1: 190 kDa.

Positive Controls: T98G cell lysate: sc-2294, MES-SA/Dx5 cell lysate: sc-2284 or NCI-H292 whole cell lysate: sc-364179.

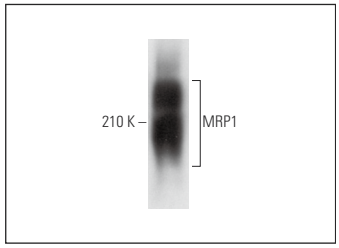
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



MRP1 (QCRL-2): sc-18836. Western blot analysis of MRP1 expression in NCI-H292 (**A**) and MES-SA/Dx5 (**B**) whole cell lysates.



MRP1 (QCRL-2): sc-18836. Western blot analysis of MRP1 expression in T98G whole cell lysate.

SELECT PRODUCT CITATIONS

1. Valente, R.C., et al. 2007. Modulation of multidrug resistance protein (MRP1/ABCC1) expression: a novel physiological role for ouabain. Cell Biol. Toxicol. 23: 421-427.
2. Lúcio, K.A., et al. 2011. Oleanolic acid initiates apoptosis in non-small cell lung cancer cell lines and reduces metastasis of a B16F10 melanoma model *in vivo*. PLoS ONE 6: e28596.
3. Rocha Gda, G., et al. 2014. 3β-acetyl tormentic acid reverts MRP1/ABCC1 mediated cancer resistance through modulation of intracellular levels of GSH and inhibition of GST activity. Eur. J. Pharmacol. 741: 140-149.
4. Torres, A., et al. 2016. Adenosine A3 receptor elicits chemoresistance mediated by multiple resistance-associated protein-1 in human glioblastoma stem-like cells. Oncotarget 7: 67373-67386.
5. Torres, Á., et al. 2018. FK506 attenuates the MRP1-mediated chemoresistant phenotype in glioblastoma stem-like cells. Int. J. Mol. Sci. 19: 2697.
6. Martins, C.A., et al. 2019. Pomolic acid exhibits anticancer potential against a docetaxel-resistant PC3 prostate cell line. Oncol. Rep. 42: 328-338.
7. Urueña, C., et al. 2020. Evaluation of chemotherapy and P2Et extract combination in *ex-vivo* derived tumor mammospheres from breast cancer patients. Sci. Rep. 10: 19639.

STORAGE

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