

MRP1 (QCRL-4): sc-18874

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, homologues 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; Abcc1 (mouse) mapping to 16 A1.

SOURCE

MRP1 (QCRL-4) 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 IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MRP1 (QCRL-4) is available conjugated to either phycoerythrin (sc-18874 PE) or fluorescein (sc-18874 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

STORAGE

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

APPLICATIONS

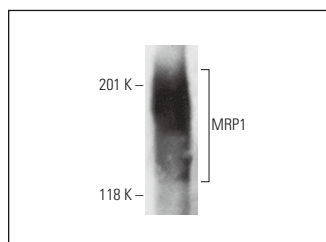
MRP1 (QCRL-4) is recommended for detection of a conformational-dependent internal epitope of MRP1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10⁶ cells).

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.

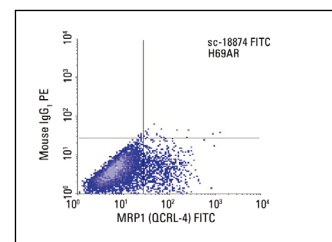
Molecular Weight of MRP1: 190 kDa.

Positive Controls: H69AR whole cell lysate: sc-364382, T98G cell lysate: sc-2294 or A549 cell lysate: sc-2413.

DATA



Western blot analysis of MRP1 expression in H69AR whole cell lysate immunoprecipitated with MRP1 (QCRL-4): sc-18874 and detected with MRP1 (QCRL-1): sc-18835.



MRP1 (QCRL-4) FITC: sc-18874 FITC. FCM analysis of H69AR cells. Quadrant markers were set based on the isotype control, normal mouse IgG₁-FITC: sc-2855.

SELECT PRODUCT CITATIONS

1. Fijlstra, M., et al. 2011. Lactose maldigestion during methotrexate-induced gastrointestinal mucositis in a rat model. *Am. J. Physiol. Gastrointest. Liver Physiol.* 300: G283-G291.
2. Koley, D. and Bard, A.J. 2012. Inhibition of the MRP1-mediated transport of the menadione-glutathione conjugate (thiodione) in HeLa cells as studied by SECM. *Proc. Natl. Acad. Sci. USA* 109: 11522-11527.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.



See **MRP1 (QCRL-1): sc-18835** for MRP1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.