

MRP1 (E-5): sc-365635

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 (E-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1497-1531 near the C-terminus of MRP1 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 (E-5) is available conjugated to agarose (sc-365635 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365635 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365635 PE), fluorescein (sc-365635 FITC), Alexa Fluor® 488 (sc-365635 AF488), Alexa Fluor® 546 (sc-365635 AF546), Alexa Fluor® 594 (sc-365635 AF594) or Alexa Fluor® 647 (sc-365635 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365635 AF680) or Alexa Fluor® 790 (sc-365635 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-365635 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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STORAGE

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

PROTOCOLS

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

APPLICATIONS

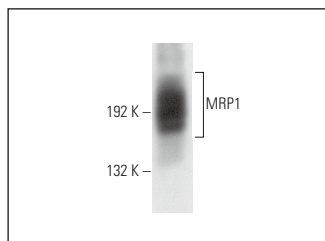
MRP1 (E-5) is recommended for detection of MRP1 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

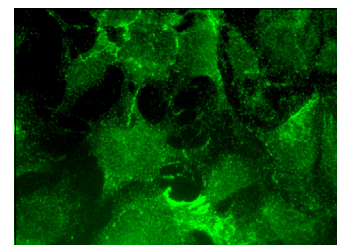
Molecular Weight of MRP1: 190 kDa.

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

DATA



MRP1 (E-5): sc-365635. Western blot analysis of MRP1 expression in H69AR whole cell lysate.



MRP1 (E-5): sc-365635. Immunofluorescence staining of formalin-fixed Hep G2 cells showing membrane localization.

SELECT PRODUCT CITATIONS

- Cui, Y., et al. 2015. Cytokine-induced killer cells induce apoptosis and inhibit the Akt/nuclear factor-κB signaling pathway in cisplatin-resistant human glioma U87MG cells. *Mol. Med. Rep.* 12: 7027-7032.
- Lan, W.G., et al. 2016. Silencing of long non-coding RNA ANRIL inhibits the development of multidrug resistance in gastric cancer cells. *Oncol. Rep.* 36: 263-270.
- Wang, H., et al. 2017. The role of long noncoding RNA HOTAIR in the acquired multidrug resistance to imatinib in chronic myeloid leukemia cells. *Hematology* 22: 208-216.
- Wang, H., et al. 2017. miR-218-5p restores sensitivity to gemcitabine through PRKCE/MDR1 axis in gallbladder cancer. *Cell Death Dis.* 8: e2770.
- Jin, C., et al. 2019. The CK2 inhibitor CX4945 reverses cisplatin resistance in the A549/DDP human lung adenocarcinoma cell line. *Oncol. Lett.* 18: 3845-3856.
- Tao, M., et al. 2022. Semaphorin 3F induces colorectal cancer cell chemosensitivity by promoting P27 nuclear export. *Front. Oncol.* 12: 899927.

RESEARCH USE

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