SANTA CRUZ BIOTECHNOLOGY, INC.

MRP1 (IU2H10): sc-53130

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.

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. Keppler, D. and Konig, J. 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.

CHROMOSOMAL LOCATION

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

SOURCE

MRP1 (IU2H10) is a mouse monoclonal antibody raised against recombinant MRP1 of human origin.

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 (IU2H10) is available conjugated to agarose (sc-53130 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-53130 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53130 PE), fluorescein (sc-53130 FITC), Alexa Fluor® 488 (sc-53130 AF488), Alexa Fluor® 546 (sc-53130 AF546), Alexa Fluor® 594 (sc-53130 AF594) or Alexa Fluor® 647 (sc-53130 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53130 AF680) or Alexa Fluor® 790 (sc-53130 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

RESEARCH USE

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

APPLICATIONS

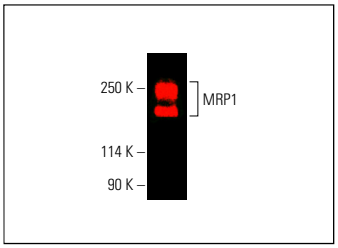
MRP1 (IU2H10) is recommended for detection of MRP1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10^6 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.

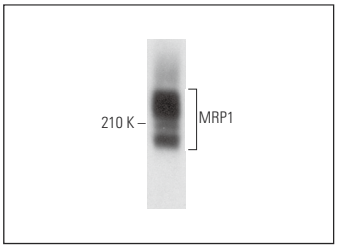
Molecular Weight of MRP1: 190 kDa.

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

DATA



MRP1 (IU2H10): sc-53130. Near-Infrared western blot analysis of MRP1 expression in H69AR whole cell lysate. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG_1 BP-CFL 790: sc-533666.



MRP1 (IU2H10): sc-53130. Western blot analysis of MRP1 expression in H69AR whole cell lysate.

SELECT PRODUCT CITATIONS

1. Januchowski, R., et al. 2013. MDR gene expression analysis of six drug-resistant ovarian cancer cell lines. Biomed Res. Int. 2013: 241763.
2. Campbell, A., et al. 2016. Mutation of ataxia-telangiectasia mutated is associated with dysfunctional glutathione homeostasis in cerebellar astroglia. Glia 64: 227-239.
3. Wang, Y., et al. 2016. Effects of realgar on GSH synthesis in the mouse hippocampus: involvement of system X_{AG}^-, system X_C^-, MRP-1 and Nrf2. Toxicol. Appl. Pharmacol. 308: 91-101.
4. Wang, Y.L., et al. 2016. Effects of glycyrrhetinic acid on GSH synthesis induced by realgar in the mouse hippocampus: involvement of system X_{AG}^-, system X_C^-, MRP-1, and Nrf2. Mol. Neurobiol. 54: 3102-3116.
5. Xu, H., et al. 2017. Efflux transporters regulate arsenite-induced genotoxicity in double negative and double positive T cells. Toxicol. Sci. 158: 127-139.

STORAGE

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