SANTA CRUZ BIOTECHNOLOGY, INC.

MRP2 (6D564): sc-71603

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 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.
5. Ortiz, D.F., et al. 1999. MRP3, a new ATP-binding cassette protein localized to the canalicular domain of the hepatocyte. Am. J. Physiol. 276: 1493-1500.
6. Konig, J., et al. 1999. Characterization of the human multidrug resistance protein isoform MRP3 localized to the basolateral hepatocyte membrane. Hepatology 29: 1156-1163.

CHROMOSOMAL LOCATION

Genetic locus: ABCC2 (human) mapping to 10q24.2.

SOURCE

MRP2 (6D564) is a mouse monoclonal antibody raised against amino acids 215-310 of MRP2 of human origin.

PRODUCT

Each vial contains 500 µl culture supernatant containing IgG_1 with < 0.1% sodium azide and 0.7% stabilizer protein.

APPLICATIONS

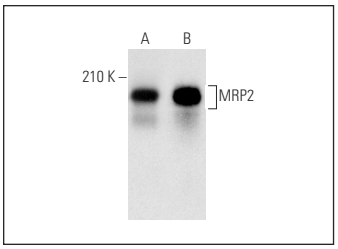
MRP2 (6D564) is recommended for detection of MRP2 of human origin by Western Blotting (starting dilution to be determined by researcher, dilution range 1:10-1:200), immunoprecipitation [10-20 µl per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution to be determined by researcher, dilution range 1:10-1:200); non cross-reactive with MDR1, MRP1, MRP3 or MRP5.

Suitable for use as control antibody for MRP2 siRNA (h): sc-35963, MRP2 shRNA Plasmid (h): sc-35963-SH and MRP2 shRNA (h) Lentiviral Particles: sc-35963-V.

Molecular Weight of MRP2: 190-200 kDa.

Positive Controls: A549 cell lysate: sc-2413, JAR cell lysate: sc-2276 or A-431 whole cell lysate: sc-2201.

DATA



MRP2 (6D564): sc-71603. Western blot analysis of MRP2 expression in JAR (**A**) and A-431 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Chen, X., et al. 2009. The overexpression of multidrug resistance-associated proteins and gankyrin contribute to arsenic trioxide resistance in liver and gastric cancer cells. Oncol. Rep. 22: 73-80.
2. Mao, X.M., et al. 2018. Retinoic acid receptor α knockdown suppresses the tumorigenicity of esophageal carcinoma via Wnt/β-catenin pathway. Dig. Dis. Sci. 63: 3348-3358.
3. Ghosh, S., et al. 2022. Microbial metabolite restricts 5-fluorouracil-resistant colonic tumor progression by sensitizing drug transporters via regulation of FOXO3-FOXM1 axis. Theranostics 12: 5574-5595.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

RESEARCH USE

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