SANTA CRUZ BIOTECHNOLOGY, INC.

# MRP2 (M2 III-6): sc-59608

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 me-diates 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. 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.
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: ABCC2 (human) mapping to 10q24.2.

## SOURCE

MRP2 (M2 III-6) is a mouse monoclonal antibody raised against the C-terminus of MRP2 of human origin.

## PRODUCT

Each vial contains 50 µg $IgG_{2a}$ in 0.5 ml of PBS with 0.02% sodium azide and 0.1% stabilizer protein.

## 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.

## APPLICATIONS

MRP2 (M2 III-6) 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), immunofluorescence (starting dilution to be determined by researcher, dilution range 1:10-1:200) and immunohistochemistry (including paraffin-embedded sections) (starting dilution to be determined by researcher, dilution range 1:10-1:200); non cross-reactive with human MDR 1, MRP 1, MRP 3 or MRP 5 gene products.

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.

## SELECT PRODUCT CITATIONS


1. Crowe, A. 2011. The role of P-glycoprotein and breast cancer resistance protein (BCRP) in bacterial attachment to human gastrointestinal cells. J. Crohns Colitis 5: 531-542.
2. Crowe, A. and Keelan, J.A. 2012. Development of a model for functional studies of ABCG2 (breast cancer resistance protein) efflux employing a standard BeWo clone (B24). Assay Drug Dev. Technol. 10: 476-484.
3. Hoffmann, S.A., et al. 2012. Analysis of drug metabolism activities in a miniaturized liver cell bioreactor for use in pharmacological studies. Biotechnol. Bioeng. 109: 3172-3181.
4. Ott, L.M., et al. 2017. An automated multiplexed hepatotoxicity and CYP induction assay using HepaRG cells in 2D and 3D. SLAS Discov. 22: 614-625.
5. Chan, G.N., et al. 2017. Selective induction of P-glycoprotein at the CNS barriers during symptomatic stage of an ALS animal model. Neurosci. Lett. 639: 103-113.
6. Haas, B., et al. 2018. Inhibition of the PI3K but not the MEK/ERK pathway sensitizes human glioma cells to alkylating drugs. Cancer Cell Int. 18: 69.
7. Afrouzian, M., et al. 2018. Role of the efflux transporters BCRP and MRP1 in human placental bio-disposition of pravastatin. Biochem. Pharmacol. 156: 467-478.
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9. Hess, M.W., et al. 2021. Advanced microscopy for liver and gut ultrastructural pathology in patients with MVID and PFIC caused by MYO5B mutations. J. Clin. Med. 10: 1901.
10. Weller, A., et al. 2022. Quantifying the transport of biologics across intestinal barrier models in real-time by fluorescent imaging. Front. Bioeng. Biotechnol. 10: 965200.


## RESEARCH USE

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