SANTA CRUZ BIOTECHNOLOGY, INC.

MRP6 (M6II-31): sc-59618

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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 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 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.
3. 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.
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.
7. Stockel, B., et al. 2000. Characterization of the 5'-flanking region of the human multidrug resistance protein 2 (MRP2) gene and its regulation in comparison with the multidrug resistance protein 3 (MRP3) gene. Eur. J. Biochem. 267: 1347-1358.

CHROMOSOMAL LOCATION

Genetic locus: ABCC6 (human) mapping to 16p13.11.

SOURCE

MRP6 (M6II-31) is a rat monoclonal antibody raised against amino acids 764-964 of MRP6 of human origin.

PRODUCT

Each vial contains 500 µl culture supernatant containing IgG_{2a} with < 0.1% sodium azide and 0.7% stabilizer protein.

APPLICATIONS

MRP6 (M6II-31) is recommended for detection of MRP6 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 MDR1, MRP1, MRP2 or MRP3, MRP4 and MRP5.

Suitable for use as control antibody for MRP6 siRNA (h): sc-35967, MRP6 shRNA Plasmid (h): sc-35967-SH and MRP6 shRNA (h) Lentiviral Particles: sc-35967-V.

Molecular Weight of MRP6: 170 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227 or A549 cell lysate: sc-2413.

SELECT PRODUCT CITATIONS

1. Le Saux, O., et al. 2011. Expression and *in vivo* rescue of human ABCC6 disease-causing mutants in mouse liver. PLoS ONE 6: e24738.
2. Brampton, C., et al. 2014. The level of hepatic ABCC6 expression determines the severity of calcification after cardiac injury. Am. J. Pathol. 184: 159-170.
3. Xue, P., et al. 2014. Regulation of ABCC6 trafficking and stability by a conserved C-terminal PDZ-like sequence. PLoS ONE 9: e97360.
4. Pomozi, V., et al. 2017. Functional rescue of ABCC6 deficiency by 4-phenylbutyrate therapy reduces dystrophic calcification in $ABCC6^{-/-}$ mice. J. Invest. Dermatol. 137: 595-602.
5. Pomozi, V., et al. 2017. Pyrophosphate supplementation prevents chronic and acute calcification in ABCC6-deficient mice. Am. J. Pathol. 187: 1258-1272.

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.

PROTOCOLS

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