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Antibodies to Multidrug resistance protein 1

Multidrug resistance protein 1 (MRP1) antibodies (Cat # MRP1-101AP, FITC-MRP1, P-MRP1, PC-MRP1)

Alternate Nomenclature: *ABCC1*; *ABCC1a*; *AVCC1a*; *MRP*

Accession #: *NP_071617*

Multidrug resistance protein 1 (MRP1) belongs to a family of MRP proteins. Components of the MRP family of proteins are known to mediate the ATP-dependent efflux of chemotherapeutic drugs from cancer cells (1). MRP1 is an integral membrane transport and efflux protein involved in the release of glutathione synthase during oxidative stress. It is also implicated in multidrug resistance of cancer cells; it is responsible for actively pumping out chemotherapeutic drugs from tumor cells (2). It is located at rat chromosome 10q11. It plays an important role in the transport of inflammatory factors during ocular inflammation (3). In skeletal muscles, it may play a role in statin-induced myopathy (4).

MRP1 was predominantly expressed in human brain derived endothelial cells and it played a major role in suppressing the entry of highly active anti-retroviral therapy (5). Since MRP1 was also highly expressed in tumor cells, their specific inhibition may be the key in developing treatments for cancer and HIV. Inhibition or down regulation of MRP1 caused a significant reduction in the export of sphingosine-1-phosphate, a potent inflammatory mediator, from mast cells (6). MRP1 is highly expressed in cancer cells. It is approximately a 184 kDa protein (1532 amino acids).

The MRP1-selective antibodies were generated against antigenic sequence near the N-terminal end of the protein. The antibodies to MRP1 are affinity purified over immobilized antigen based chromatography, and the purified immunoglobulins are stabilized in antibody stabilization buffer. FabGennix Int. Inc., will also provide limited quantities of antigenic blocking peptides for MRP1 antibodies. FabGennix International Inc. also carries antibodies related to neurodegenerative disorders, for a complete listing please visit www.Fabgennix.com. FabGennix Inc. will also conjugate antibodies with fluorescent probes upon request at a reasonable cost.

Catalog #	Product Description	Host Species	Cross Reactivity	Quantity	Price
MRP1-101 AP	MRP1 antibodies	Rabbit	R, m	100 ug	235
FITC-MRP1	FITC-conjugated MRP1 antibodies	Rabbit	R, m	100 ug	285
P-MRP1	Antigenic blocking peptide	n/a	n/a	250 ug	115
PC-MRP1	WB positive control for MRP1-101AP	n/a	n/a	for 5 applications	165

R = rat; M = mouse; H = humans; R = rabbit * Actual volume is 103-110 µl; WB, Western Blot analyses; IMM, Immunoprecipitation; IHC, Immunohistochemistry, n.d, not determine.

Immunogen: Synthetic peptides corresponding to unique epitope on MRP1. The MRP1 peptide was covalently modified post-synthetically covalently modified to achieve desired antigenicity.

Concentration: MRP1-101AP antibody has Ig concentration ranging from 0.68-0.70mg/ml in antibody stabilization buffer.

Applications: For ELISA/Dot blot assay the antibody MRP1-101AP can be diluted to 1:20,000 in diluObuffer (Cat # FGI-1963). Western blot applications, starting dilution of 1:500 is recommended. Other applications and species cross reactivity for this antibody is yet to be determined.

Reactivity: The antibody MRP1-101AP labels a band of around 184kDa in PC-MRP1 samples.

Protocols: Standard protocol for various applications (Western blot; immunoprecipitation and immunohistochemistry) of this antibody can be obtained by calling technical service hotline. The general information on this antibody is supplied with the product.

FabGennix Inc. recommends investigators to optimize conditions for optimal usage of this product.

Form/Storage: The antiserum is supplied in antibody stabilization buffer with preservatives. For long-term storage of antibody, store at -20°C FabGennix Inc. does not recommend storage of very dilute antibody solutions unless they are prepared in specially formulated multi-use antibody dilution buffer (Cat # DiluOBuffer). Working solutions of antibodies in DiluOBuffer should be filtered

through 0.45µm filter after every use for long-term storage..

Notes: Briefly centrifuge to collect liquid before opening the vial, heat the PC-MRP1 tube in 90°C water bath for 1-2 minutes to dissolve any precipitate before use. This product is "ready-to-use" for electrophoresis. After thawing store at room temperature. Repeated freezing and thawing may result in appearance of higher molecular weight immunoreactive bands.

Note: Now you can recycle your western blots (nitrocellulose, supported membranes and PVDF membranes) by using our StripObuffer (Cat FGI-1989). Each stripping is guaranteed to give better signal (up to 8 stripping). No strong pungent smell of reducing agents or heating is required.

References:

1. Pei QL, Koyabashi Y, Tanaka Y, Taguchi Y, Higuchi K, Kaito M, Ma N, Semba R, Kamisako T, Adachi Y. Increased expression of multidrug resistance-associated protein 1 (mrp1) in hepatocyte basolateral membrane and renal tubular epithelia after bile duct ligation in rats. *Hepato Res.* 2002 January; 22(1): 58-64.
2. Thews O, Gassner B, Kelleher DK, Gekle M. Activity of drug efflux transporters in tumor cells under hypoxic conditions. *Adv Exp Med Biol.* 2008; 614: 157-164.
3. Yang JJ, Ann DK, Kannan R, Lee VH. Multidrug resistance protein 1 (MRP1) in rabbit conjunctival epithelial cells: its effect on drug efflux and its regulation by adenoviral infection. *Pharm Res.* 2007 August; 24(8): 1490-1500.
4. Dorajoo R, Pereira BP, Yu Z, Gopalakrishnakone P, Leong CC, Wee A, Lee E. Role of multi-drug resistance-associated protein-1 transporter in statin-induced myopathy. *Life Sci.* 2008 April; 82(15-16): 823-830.
5. Eilers M, Roy U, Mondal D. MRP (ABCC) transporters-mediated efflux of anti-HIV drugs, saquinavir and zidovudine, from human endothelial cells. *Exp Biol Med (Maywood).* 2008 September; 233(9): 1149-1160.
6. Mitra P, Oskeritzian CA, Payne SG, Beaven MA, Milstien S, Spiegel S. Role of ABCC1 in export of sphingosine-1-phosphate from mast cells. *Proc Natl Acad Sci U S A.* 2006 October; 103(44): 16394-16399.



Western Blot of MRP1. The MRP1 antibody (Cat # MRP1-101AP) at 1:500 in diluObuffer was probed with PC-MRP1 sample. MW of MRP1 is approximately 184kDa

* For users who may require large amounts of MRP1-101AP, please enquire about bulk material discounts. This Product is for Research Use Only and is NOT intended for use in humans or clinical diagnosis.

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