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MRP1/ABCC1 Rabbit pAb

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Catalog # AP52039

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	P33527
Reactivity	Rat, Human
Predicted	Mouse, Chicken
Host	Rabbit
Clonality	Polyclonal
Calculated MW	171591
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human MRP1
Epitope Specificity	501-600/1531
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Cell membrane; Multi-pass membrane protein.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	The protein encoded by this gene is a member of the superfamily of ATP-binding cassette (ABC) transporters. ABC proteins transport various molecules across extra-and intra-cellular membranes. ABC genes are divided into seven distinct subfamilies (ABC1, MDR/TAP, MRP, ALD, OABP, GCN20, White). This full transporter is a member of the MRP subfamily which is involved in multi-drug resistance. This protein functions as a multispecific organic anion transporter, with oxidized glutatione, cysteinyl leukotrienes, and activated aflatoxin B1 as substrates. This protein also transports glucuronides and sulfate conjugates of steroid hormones and bile salts. Alternatively spliced variants of this gene have been described but their full-length nature is unknown. [provided by RefSeq, Apr 2012]

Additional Information

Gene ID	4363
Other Names	Multidrug resistance-associated protein 1, 7.6.2.2, ATP-binding cassette sub-family C member 1, Glutathione-S-conjugate-translocating ATPase ABCC1, Leukotriene C(4) transporter, LTC4 transporter, ABCC1 (HGNC:51), MRP, MRP1
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,Flow-Cyt=2ug/test
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	ABCC1 (HGNC:51)
Function	ATP-dependent transporter of the ATP-binding cassette (ABC) family that hydrolyzes ATP to enable the active transport of organic anions conjugated with glutathione, glucuronate or sulfate. Operates at the plasma membrane where it mediates the efflux of substrates from the cytoplasm into the extracellular space. The rate of transport is in some way coupled to the reduced glutathione (GSH) intracellular levels (PubMed:10064732, PubMed:11114332, PubMed:16230346, PubMed:8640791, PubMed:7961706, PubMed:9281595). Mediates the systemic release of glutathione-conjugated leukotriene C4 (LTC4) from myeloid cells such as mast cells, as part of the inflammatory response (PubMed:10064732, PubMed:11114332, PubMed:7961706, PubMed:8640791). Exports S- geranylgeranyl-glutathione (GGG) in lymphoid cells and stromal compartments of lymphoid organs. ABCC1 (via extracellular transport) with GGT5 (via GGG catabolism) establish GGG gradients within lymphoid tissues to position P2RY8-positive lymphocytes at germinal centers in lymphoid follicles and restrict their chemotactic transmigration from blood vessels to the bone marrow parenchyma (By similarity). Mediates basolateral export of GSH-conjugated R- and S-prostaglandin A2 diastereomers in polarized epithelial cells (PubMed:9426231). Can export both GSH and its oxidized form GSSG in a protective mechanism that limits cellular damage especially during oxidative stress. Regulates GSH and GSSG release from astrocytes to maintain glutathione redox equilibrium in the brain (PubMed:16230346, PubMed:8640791). Transports signaling molecules. Appears to selectively recognize cyclic 2'3'-GMP-AMP (cGAMP) produced by mammals but not 3'3'-cGAMP produced by bacteria. Mediates 2'3'-cGAMP export and limits intracellular cGAMP- mediated cGAS-STING signaling and type I interferon synthesis (PubMed:36070769, PubMed:39765229). Exports sphingosine 1-phosphate from mast cells independently of their degranulation (PubMed:17050692). Confers resistance to anticancer drugs by mediating ATP- and GSH- dependent drug export (PubMed:9281595). Similarly to MRP2, transports various steroids, bile acids and bilirubin conjugates (PubMed:8640791, PubMed:9355767).
Cellular Location	Cell membrane; Multi-pass membrane protein. Basolateral cell membrane; Multi-pass membrane protein
Tissue Location	Lung, testis and peripheral blood mononuclear cells

Background

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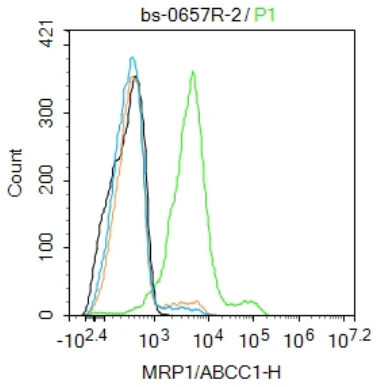
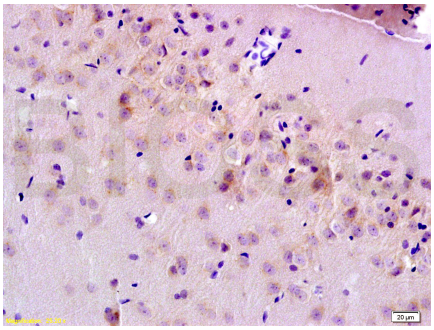
References

Stride B.D.,et al.Mol. Pharmacol. 49:962-971(1996).
Carninci P.,et al.Science 309:1559-1563(2005).
Stride B.D.,et al.Mol. Pharmacol. 52:344-353(1997).
Trost M.,et al.Immunity 30:143-154(2009).

Images



Blank control: K562.
Primary Antibody (green line): Rabbit Anti-MRP1/ABCC1 antibody (AP52039)
Dilution: 2ug/Test;
Secondary Antibody : Goat anti-rabbit IgG-FITC
Dilution: 0.5ug/Test.
Protocol
The cells were incubated in 5%BSA to block non-specific protein-protein interactions for 30 min at room temperature .Cells stained with Primary Antibody for 30 min at room temperature. The secondary antibody used for 40 min at room temperature. Acquisition of 20,000 events was performed.



Tissue/cell: rat brain tissue; 4% Paraformaldehyde-fixed and paraffin-embedded;
Antigen retrieval: citrate buffer (0.01M, pH 6.0), Boiling bathing for 15min; Block endogenous peroxidase by 3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum,C-0005) at 37℃ for 20 min;
Incubation: Anti-MRP1 Polyclonal Antibody, Unconjugated(AP52039) 1:200, overnight at 4°C, followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.