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Anti-MRP1 / ABCC1 Antibody

Mouse Monoclonal Antibody
Catalog # AH13401

Product Information

Application	WB, IHC-P, IF, FC
Primary Accession	P33527
Other Accession	391464
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse / IgG1
Clone Names	MRP1/1343
Calculated MW	171591

Additional Information

Gene ID	4363
Other Names	ABC29; ABCC1; ATP binding cassette sub family C (CFTR/MRP) member 1; ATP-binding cassette sub-family C member 1; GSX; Leukotriene C(4) transporter; LTC4 transporter; Multidrug resistance-associated protein 1 (MRP1)
Application Note	Flow Cytometry (0.5-1ug/million cells); Immunofluorescence (0.5-1ug/ml); ,Western Blotting (0.5-1ug/ml); ,Immunohistology (Formalin-fixed) (1-2ug/ml for 30 minutes at RT),(Staining of formalin-fixed tissues is enhanced by boiling tissue sections in 10mM Tris with 1mM EDTA, pH 9.0 for 10-20 min followed by cooling at RT for 20 minutes),Optimal dilution for a specific application should be determined.
Format	200ug/ml of Ab purified from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with 0.05% BSA & 0.05% azide. Also available WITHOUT BSA & azide at 1.0mg/ml.
Storage	Store at 2 to 8°C.Antibody is stable for 24 months.
Precautions	Anti-MRP1 / ABCC1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

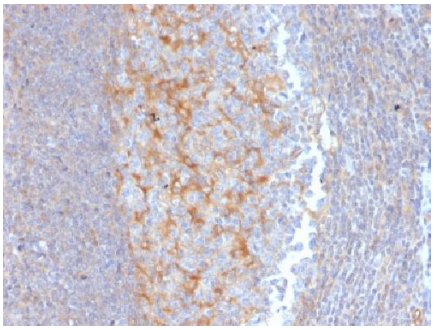
Name	ABCC1 (HGNC:51)
Function	ATP-dependent transporter of the ATP-binding cassette (ABC) family that hydrolyzes ATP to enable the active transport of organic anions conjugated

	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

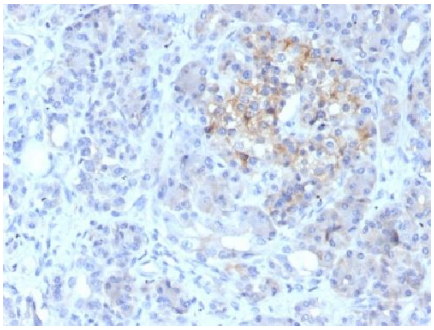
Background

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.

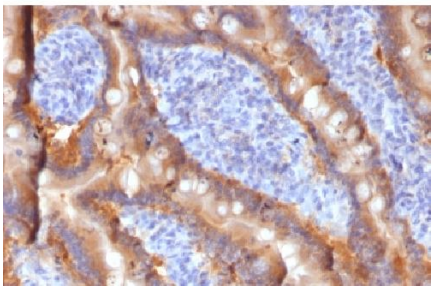
Images



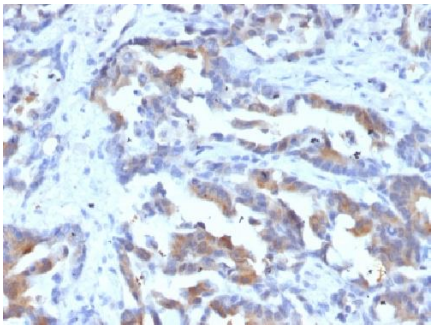
Formalin-fixed, paraffin-embedded Human Tonsil stained with MRP1/ABCC1 Monoclonal Antibody (MRP1/1343).



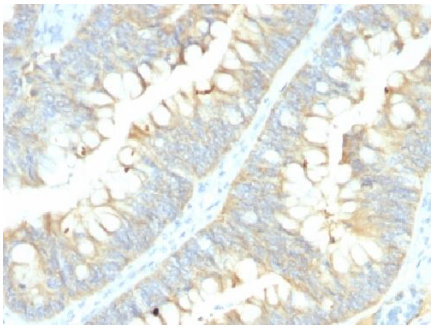
Formalin-fixed, paraffin-embedded Human Pancreas stained with MRP1/ABCC1 Monoclonal Antibody (MRP1/1343).



Formalin-fixed, paraffin-embedded Human Duodenum stained with MRP1/ABCC1 Monoclonal Antibody (MRP1/1343).



Formalin-fixed, paraffin-embedded Human Rectal Carcinoma stained with MRP1/ABCC1 Monoclonal Antibody (MRP1/1343).



Formalin-fixed, paraffin-embedded Human Colon Carcinoma stained with MRP1/ABCC1 Monoclonal Antibody (MRP1/1343).

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