

bABCC1 Protein, Human (HEK293, GFP, Strep, His)

Cat. No.:	HY-P701355
Synonyms:	ABCC1; Multidrug resistance-associated protein 1; ATP-binding cassette sub-family C member 1; Glutathione-S-conjugate-translocating ATPase ABCC1; Leukotriene C(4) transporter; LTC4 transporter
Species:	Human
Source:	HEK293
Accession:	Q8HXQ5 (M1-V1530)
Gene ID:	281588
Molecular Weight:	

PROPERTIES

Appearance	Solution.
Formulation	Supplied as a 0.22 µm filtered solution of 50 mM Tris-HCl, pH8.0, 150 mM KCl, 2 mM DTT, 2 mM MgCl ₂ , 5% glycerol, 0.06% digitonin.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	Please use rapid thawing with running water to thaw the protein.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice.

DESCRIPTION

Background

bABCC1 Protein assumes a pivotal role in cellular physiology by mediating the export of organic anions and diverse drugs from the cytoplasm. This multifunctional transporter facilitates the ATP-dependent transport of various substrates, including glutathione and its conjugates, leukotriene C₄, estradiol-17-beta-o-glucuronide, methotrexate, and antiviral drugs. Remarkably, bABCC1 confers resistance to anticancer drugs by actively reducing the intracellular accumulation of these agents through ATP- and GSH-dependent drug export mechanisms. Despite its relatively low efficiency in ATP hydrolysis, bABCC1 plays a crucial role in exporting sphingosine 1-phosphate from mast cells independently of degranulation, and also participates in the inflammatory response by facilitating the export of leukotriene C₄ from cells involved in leukotriene C₄ synthesis. Additionally, bABCC1 mediates ATP-dependent, GSH-independent export of cyclic GMP-AMP (cGAMP), thus acting as a negative regulator of the cGAS-STING pathway by limiting intracellular cGAMP concentrations. The broad spectrum of substrates and its impact on drug resistance underscore the importance of bABCC1 in cellular homeostasis and therapeutic response, warranting further investigation into its precise molecular mechanisms and therapeutic implications.

Caution: Product has not been fully validated for medical applications. For research use only.

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