Recombinant Human ABCB11

Cat. No. ABCB11-2532H **Lot. No.** (See product label)

SPECIFICATION

Species	Human
Source	Sf9 Cells
Description	ATP-binding cassette, sub-family B member 11 also known as ABCB11 is a protein which in humans is encoded by the ABCB11 gene. The product of the ABCB11 gene is an ABC transporter named BSEP (Bile Salt Export Pump), or sPgp (sister of P-glycoprotein). This membrane-associated protein is a member of the superfamily of ATP-binding cassette (ABC) transporters. ABC proteins transport various molecules across extra- and intra-cellular membranes.
General Description	The quantity of transported molecules can be determined by methods such as HPLC, LC/MS/MS separation and detection, and also by labeling with fluorescent or radioactive (3H-taurocholic acid) tags. BSEP mediates the transport of taurocholic acid (TC) very efficiently. Compounds that interact with the transporter modulate the initial rate of TC transport measured without any other compounds added. If a substance is a transported substrate of the transporter, it might compete with TC, thus reducing the rate of TC transport. If a compound is an inhibitor of the transporter, it will block the transport of TC into the membrane vesicles. Some compounds can be co-transported with TC, increasing the rate of TC transport compared to the control level. The bile salt export pump (BSEP/ABCB11) belongs to the family of ATP-binding-cassette (ABC) transporters and has also been called the sister of P-glycoprotein (sister Pgp). Most ABC transporters transport substrates across the cell membrane using ATP as an energy source. BSEP is the major bile salt transporter in

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	the liver canalicular membrane and is inhibited by a number of drugs or drug metabolites. This is potentially a significant mechanism for drug-induced cholestasis. Dysfunction of individual bile salt transporters such as BSEP, due to genetic mutation, suppression of gene expression, disturbed signaling, or steric inhibition, is an important cause of cholestatic liver disease.
Biochem/physiol Actions	The vesicular transport assay determines the interaction of compounds with the BSEP transporter. The interaction is detected by changes in the initial rate of 3H-taurocholic acid transport by BSEP into membrane vesicles purified from Sf9 cells expressing the transporters. Membrane preparations from infected cells always contain some closed membrane vesicles that have an inside-out orientation (5-10% of total lipid). In the case of these inside-out vesicles, transport of substrates across the membrane takes molecules from the surrounding buffer and transports them into the vesicles.
Physical Form	Supplied as isolated Sf9 cell membranes containing human BSEP suspended in 50 mM HEPES-Tris, 100 mM KNO3, and 50 mM sucrose, pH 7.4.
Form	membrane preparation.
Storage Temp	−70°C.

GENE INFORMATION

Gene Name	ABCB11 ATP-binding cassette, sub-family B (MDR/TAP), member 11 [Homo sapiens]
Synonyms	ATP-binding cassette, sub-family B (MDR/TAP), member 11; BSEP; PGY4; SPGP; ABC16; BRIC2; PFIC2; PFIC-2; ABCB11; bile salt export pump; sister p-glycoprotein; ABC member 16, MDR/TAP subfamily; ATP-binding cassette sub-family B member 11; progressive familial intrahepatic cholestasis 2

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Gene ID	8647
mRNA Refseq	NM_003742
Protein Refseq	NP_003733
MIM	603201
UniProt ID	O95342
Chromosome Location	2q24
Pathway	ABC transporters; Metabolism of lipids and lipoproteins
Function	ATP binding; ATPase activity; bile acid-exporting ATPase activity; nucleotide binding; sodium-exporting ATPase activity, phosphorylative mechanism; transporter activity

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