abcam

ab24108

Anti-ABCB4 antibody [P3II-26]

Key facts

Isotype	IgG2b
Host species	Mouse
Storage buffer	pH: 7.3 Preservative: 0.1% Sodium azide Constituents: 0.7% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Fragment Protein within Human ABCB4 aa 600-700. The exact immunogen used to generate this antibody is proprietary information. Database link P21439
Clone number	P3II-26
Purification technique	Affinity purification Protein G
Specificity	Clone P3II-26 does not cross-react with the human ABCB1.
Epitope	Clone P3II-26 reacts with an internal epitope of ABCB4.
Concentration	0.1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1 µg for 10^6 Cells

Notes	ab170192 - Mouse monoclonal IgG2b, is suitable for use as an isotype control with this antibody.

IHC-P

Not recommended

Species	Human
Dilution info	-
Notes	-

Target data

See full target information ABCB4

Function	Isoform 1. Energy-dependent phospholipid efflux translocator that acts as a positive regulator of biliary lipid secretion. Functions as a floppase that translocates specifically phosphatidylcholine (PC) from the inner to the outer leaflet of the canalicular membrane bilayer into the canaliculi of hepatocytes. Translocation of PC makes the biliary phospholipids available for extraction into the canaliculi lumen by bile salt mixed micelles and therefore protects the biliary tree from the detergent activity of bile salts (PubMed:17523162, PubMed:21820390, PubMed:23468132, PubMed:24594635, PubMed:24723470, PubMed:24806754, PubMed:31873305, PubMed:7957936, PubMed:8898203, PubMed:9366571). Plays a role in the recruitment of phosphatidylcholine (PC), phosphatidylethanolamine (PE) and sphingomyelin (SM) molecules to nonraft membranes and to further enrichment of SM and cholesterol in raft membranes in hepatocytes (PubMed:23468132). Required for proper phospholipid bile formation (By similarity). Indirectly involved in cholesterol efflux activity from hepatocytes into the canalicular lumen in the presence of bile salts in an ATP-dependent manner (PubMed:24045840). Promotes biliary phospholipid secretion as canaliculi-containing vesicles from the canalicular plasma membrane (PubMed:28012258, PubMed:9366571). In cooperation with ATP8B1, functions to protect hepatocytes from the deleterious detergent activity of bile salts (PubMed:21820390). Does not confer multidrug resistance (By similarity).

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C

Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	ABCB4 also known as MDR3 is a member of the ATP-binding cassette (ABC) transporter family with a molecular weight of approximately 140 kDa. This protein is mainly expressed in the canalicular membrane of hepatocytes in the liver. Its primary mechanical function involves the translocation of phosphatidylcholine from the inner to the outer leaflet of the hepatocyte membrane into bile.
Biological function summary	This phospholipid translocation is essential for the formation of bile that is non-toxic and aids in digestion. ABCB4 does not function alone; it operates as a part of a heterocomplex with other proteins that contribute to bile formation and secretion. The absence or dysfunction of this target results in imbalanced bile composition which can negatively impact liver function.
Pathways	The ABCB4 protein plays a significant role in the enterohepatic circulation of bile acids. It interacts closely with the bile salt export pump (BSEP) to facilitate the secretion of bile acids into bile. This protein is also linked to the phospholipid transport exact in the hepatic pathways collaborating with other ABC transporters such as ABCB11 underpinning the finely tuned processes that maintain hepatic homeostasis.
Associated diseases and disorders	Mutations or deficiencies in ABCB4 are commonly associated with progressive familial intrahepatic cholestasis type 3 (PFIC3) and intrahepatic cholestasis of pregnancy (ICP). Defects in the function of this protein lead to toxic bile accumulation causing cholestasis. Other related proteins such as ABCB11 and ATP8B1 may also influence the occurrence of these disorders due to their overlapping roles in hepatobiliary transport processes.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

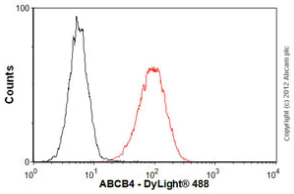
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1 product image



Flow Cytometry - Anti-ABCB4 antibody [P3II-26] (ab24108)

ABCB4 Flow Cytometry staining using mouse Anti-ABCB4 antibody

Overlay histogram showing HeLa cells stained with ab24108 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab24108, 1µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG2b [PLPV219] (ab91366, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a positive signal in HeLa cells fixed with 4% paraformaldehyde (10 min)/permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions.

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