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ABCB7 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP6114a

Product Information

Application	WB, IHC-P, E
Primary Accession	O75027
Other Accession	Q704E8, Q61102, NP_004290
Reactivity	Human
Predicted	Mouse, Rat, Bovine, Canine, Rabbit, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB1811
Calculated MW	82641
Antigen Region	718-746

Additional Information

Gene ID	22
Other Names	ATP-binding cassette sub-family B member 7, mitochondrial, ATP-binding cassette transporter 7, ABC transporter 7 protein, ABCB7, ABC7
Target/Specificity	This ABCB7 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 718-746 amino acids from the C-terminal region of human ABCB7.
Dilution	WB~~1:1000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	ABCB7 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	ABCB7 (HGNC:48)
Synonyms	ABC7

Function	Exports glutathione-coordinated iron-sulfur clusters such as [2Fe-2S]-(GS)4 cluster from the mitochondria to the cytosol in an ATP- dependent manner allowing the assembly of the cytosolic iron-sulfur (Fe/S) cluster-containing proteins and participates in iron homeostasis (PubMed:10196363, PubMed:17192393, PubMed:33157103). Moreover, through a functional complex formed of ABCB7, FECH and ABCB10, also plays a role in the cellular iron homeostasis, mitochondrial function and heme biosynthesis (PubMed:30765471). In cardiomyocytes, regulates cellular iron homeostasis and cellular reactive oxygen species (ROS) levels through its interaction with COX4I1 (By similarity). May also play a role in hematopoiesis (By similarity).
Cellular Location	Mitochondrion inner membrane {ECO:0000250|UniProtKB:P40416}; Multi-pass membrane protein {ECO:0000250|UniProtKB:P40416}

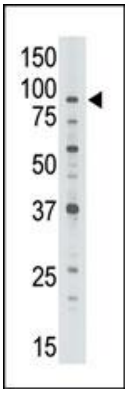
Background

The membrane-associated protein ABCB7 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 protein is a member of the MDR/TAP subfamily. Members of the MDR/TAP subfamily are involved in multidrug resistance as well as antigen presentation. This gene encodes a half-transporter involved in the transport of heme from the mitochondria to the cytosol. With iron/sulfur cluster precursors as its substrates, this protein may play a role in metal homeostasis. Mutations in this gene have been implicated in X-linked sideroblastic anemia with ataxia.

References

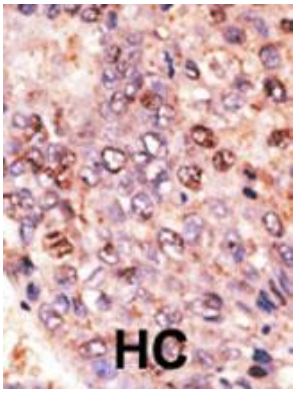
Allikmets, R., et al., Hum. Mol. Genet. 8(5):743-749 (1999).
Csere, P., et al., FEBS Lett. 441(2):266-270 (1998).
Mao, M., et al., Proc. Natl. Acad. Sci. U.S.A. 95(14):8175-8180 (1998).
Shimada, Y., et al., J. Hum. Genet. 43(2):115-122 (1998).
Savary, S., et al., Genomics 41(2):275-278 (1997).

Images



The anti-ABCB7 C-term Pab (Cat. #AP6114a) is used in Western blot to detect ABCB7 in Jurkat cell lysate.

Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.



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