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ABCA7 Antibody

Catalog # ASC11494

Product Information

Application	WB, IF, ICC, E
Primary Accession	Q8IZY2
Other Accession	NP_061985, 150417984
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	234350
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	ABCA7 antibody can be used for detection of ABCA7 by Western blot at 1 - 2 g/mL. Antibody can also be used for immunocytochemistry starting at 5 g/mL. For immunofluorescence start at 5 g/mL.

Additional Information

Gene ID	10347
Other Names	ATP-binding cassette sub-family A member 7, ABCA-SSN, Autoantigen SS-N, Macrophage ABC transporter, ABCA7
Target/Specificity	ABCA7; ABCA7 antibody is predicted to not cross-react with other ABC1 subfamily proteins.
Reconstitution & Storage	ABCA7 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	ABCA7 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	ABCA7 (HGNC:37)
Function	Catalyzes the translocation of specific phospholipids from the cytoplasmic to the extracellular/lumenal leaflet of membrane coupled to the hydrolysis of ATP (PubMed:24097981). Transports preferentially phosphatidylserine over phosphatidylcholine (PubMed:24097981). Plays a role in lipid homeostasis and macrophage- mediated phagocytosis (PubMed:12917409, PubMed:12925201, PubMed:14570867, PubMed:14592415). Binds APOA1 and may function in apolipoprotein-mediated phospholipid efflux from cells (PubMed:12917409, PubMed:14570867, PubMed:14592415). May also

	mediate cholesterol efflux (PubMed:14570867). May regulate cellular ceramide homeostasis during keratinocyte differentiation (PubMed:12925201). Involved in lipid raft organization and CD1D localization on thymocytes and antigen-presenting cells, which plays an important role in natural killer T-cell development and activation (By similarity). Plays a role in phagocytosis of apoptotic cells by macrophages (By similarity). Macrophage phagocytosis is stimulated by APOA1 or APOA2, probably by stabilization of ABCA7 (By similarity). Also involved in phagocytic clearance of amyloid-beta by microglia cells and macrophages (By similarity). Further limits amyloid-beta production by playing a role in the regulation of amyloid-beta A4 precursor protein (APP) endocytosis and/or processing (PubMed:26260791). Amyloid-beta is the main component of amyloid plaques found in the brains of Alzheimer patients (PubMed:26260791).
Cellular Location	Cell membrane; Multi-pass membrane protein. Golgi apparatus membrane {ECO:0000250|UniProtKB:Q91V24}; Multi-pass membrane protein. Early endosome membrane {ECO:0000250|UniProtKB:Q91V24}; Multi-pass membrane protein. Cytoplasm {ECO:0000250|UniProtKB:Q91V24}. Cell projection, ruffle membrane {ECO:0000250|UniProtKB:Q91V24}. Cell projection, phagocytic cup {ECO:0000250|UniProtKB:Q91V24} Note=Localizes to cell membrane ruffles and phagocytic cups of macrophages stimulated with C1q or apoptotic cells. Localizes to the cytoplasm of resting macrophages, probably in Golgi and endosomes Localizes to the apical brush border of cells in the proximal tubules of kidney (By similarity). {ECO:0000250|UniProtKB:Q91V24}
Tissue Location	Expressed in leukocytes (at protein level) (PubMed:10873640). Widely expressed (PubMed:10873640). Highly expressed in myelo-lymphatic tissues including peripheral leukocytes, thymus, spleen and bone marrow (PubMed:10873640, PubMed:11435699). Expressed in the hippocampus and the cerebellum (PubMed:27472885). Isoform 2: Abundant in lymph node, spleen, thymus and trachea (PubMed:14592415) Isoform 1: Strongly expressed in brain and bone marrow (PubMed:14592415).

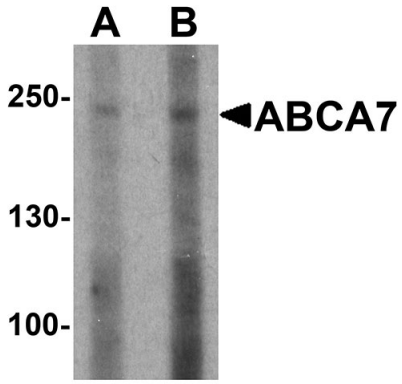
Background

ABCA7 Antibody: ATP-binding cassette (ABC) transporters are an evolutionarily conserved family that use ATP hydrolysis to catalyze the transport of various molecules across cell membranes. They are divided into seven distinct subfamilies (ABC1, MDR/TAP, MRP, ALD, OABP, GCN20, White). ABCA7, a member of the ABC1 subfamily, is a full-size ABC transporter consisting of two sets of the multiple membrane-spanning domains plus the Walker motifs for the ATP interaction. ABCA7 shows the highest homology to ABCA1, an essential molecule for cholesterol homeostasis. The high expression levels of ABCA7 in peripheral leukocytes, thymus, spleen and bone marrow suggests a role in the immune system lipid homeostasis.

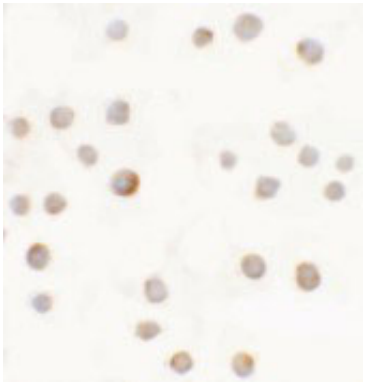
References

Kaminski WE, Orsó E, Diederich W, et al. Identification of a novel human sterol-sensitive ATP-binding cassette transporter (ABCA7). Biochem. Biophys. Res. Commun. 2000; 273:532-8.
Abe-Dohmae S, Ueda K, and Yokoyama S. ABCA7, a molecule with unknown function. FEBS Lett. 2006; 580:1178-82
Ikeda Y, Abe-Dohmae S, Munehira Y, et al. 2003. Post-transcriptional regulation of human ABCA7 and its function for the apoA-I-dependent lipid release. Biochem. Biophys. Res.Commun. 311:313-8.
Iwamoto N, Abe-Dohmae S, Sato R, et al. ABCA7 expression is regulated by cellular cholesterol through the SREBP2 pathway and associated with phagocytosis. J. Lipid Res. 2006; 47:1915-27.

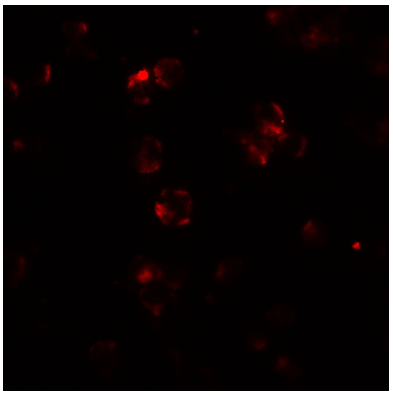
Images



Western blot analysis of ABCA7 in 293 cell lysate with ABCA7 antibody at (A) 1 and (B) 2 µg/mL.



Immunocytochemistry of ABCA7 in 293 cells with ABCA7 antibody at 5 µg/mL.



Immunofluorescence of ABCA7 in 293 cells with ABCA7 antibody at 20 µg/mL.

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