

ABCA7 (7A1-144): sc-130576

BACKGROUND

ATP-binding cassette (ABC) transporters are an evolutionarily conserved family of widely-expressed proteins that use ATP hydrolysis to catalyze the transport of various molecules across extracellular and intracellular membranes. Eukaryotic ABC transporters are largely responsible for trafficking hydrophobic compounds either within the cell as part of a metabolic process, outside the cell for transport to other organs or for secretion from the body. The cholesterol-responsive transporter, ABCA7, maps to human chromosome 19 and mouse chromosome 10 and has been reported as a candidate regulator of ceramide transport in epidermal lipid reorganization. High expression levels of ABCA7 have been reported in myelolymphatic tissues, reticuloendothelial cells, peripheral leukocytes, thymus, spleen and bone marrow. This expression pattern of the two alternatively-spliced isoforms also indicates an involvement in lipid homeostasis in cells of the immune system, though the complete role of ABCA7 is not yet known. Full-length type I ABCA7 has shown plasma membrane localization, while the type II splicing variant has shown expression predominantly in the endoplasmic reticulum.

REFERENCES

1. Kaminski, W.E., et al. 2000. Genomic organization of the human cholesterol-responsive ABC transporter ABCA7: tandem linkage with the minor histocompatibility antigen HA-1 gene. *Biochem. Biophys. Res. Commun.* 278: 782-789.
2. Broccardo, C., et al. 2001. Comparative analysis of the promoter structure and genomic organization of the human and mouse ABCA7 gene encoding a novel ABCA transporter. *Cytogenet. Cell Genet.* 92: 264-270.
3. Ikeda, Y., et al. 2003. Posttranscriptional regulation of human ABCA7 and its function for the apoA-I-dependent lipid release. *Biochem. Biophys. Res. Commun.* 311: 313-318.
4. Kielar, D., et al. 2003. Adenosine triphosphate binding cassette (ABC) transporters are expressed and regulated during terminal keratinocyte differentiation: a potential role for ABCA7 in epidermal lipid reorganization. *J. Invest. Dermatol.* 121: 465-474.
5. Wang, N., et al. 2003. ATP-binding cassette transporter A7 (ABCA7) binds apolipoprotein A-I and mediates cellular phospholipid but not cholesterol efflux. *J. Biol. Chem.* 278: 42906-42912.
6. Abe-Dohmae, S., et al. 2004. Human ABCA7 supports apolipoprotein-mediated release of cellular cholesterol and phospholipid to generate high density lipoprotein. *J. Biol. Chem.* 279: 604-611.

CHROMOSOMAL LOCATION

Genetic locus: Abca7 (mouse) mapping to 10 C1.

SOURCE

ABCA7 (7A1-144) is a rat monoclonal antibody raised against Hela cells transfected with ABCA7 of mouse origin.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PRODUCT

Each vial contains 200 µg IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ABCA7 (7A1-144) is available conjugated to either phycoerythrin (sc-130576 PE) or fluorescein (sc-130576 FITC), 200 µg/ml, for IF, IHC(P) and FCM.

APPLICATIONS

ABCA7 (7A1-144) is recommended for detection of ABCA7 of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10⁶ cells).

Suitable for use as control antibody for ABCA7 siRNA (m): sc-45432, ABCA7 shRNA Plasmid (m): sc-45432-SH and ABCA7 shRNA (m) Lentiviral Particles: sc-45432-V.

Molecular Weight of ABCA7: 251 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048.
 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).
 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.