SANTA CRUZ BIOTECHNOLOGY, INC.

ABC1 (A00121.01): sc-81779

BACKGROUND

ABC1 (for ATP-binding cassette transporter 1) is a member of the family of ATP-binding cassette proteins which transport various molecules across biological membranes. ABC1 contains two characteristic ATP-binding domains and 12 transmembrane domains which form a channel-like structure for transport. Mutations in the ABC1 gene are implicated in Tangier disease, characterized by low serum high density lipoprotein. ABC1 is widely expressed in human tissues, with high levels of expression in liver, lung, adrenal glands, placenta and fetal tissue. ABC1 expression is induced during monocyte differentiation and upregulated in the presence of acetylated low-density lipoprotein. ABC1 may have a dual regulatory function in macrophage lipid metabolism and inflammation.

REFERENCES

1. Decottignies, A., et al. 1997. Complete inventory of the yeast ABC proteins. Nat. Genet. 15: 137-145.
2. Rust, S., et al. 1999. Tangier disease is caused by mutations in the gene encoding ATP-binding cassette transporter 1. Nat. Genet. 22: 352-355.
3. Schwiebert, E.M. 1999. ABC transporter-facilitated ATP conductive transport. Am. J. Physiol. 276: C1-C8.
4. Remaley, A.T., et al. 1999. Human ATP-binding cassette transporter 1 (ABC1): genomic organization and identification of the genetic defect in the original Tangier disease kindred. Proc. Natl. Acad. Sci. USA 96: 12685-12690.
5. Langmann, T., et al. 1999. Molecular cloning of the human ATP-binding cassette transporter 1 (hABC1): evidence for sterol-dependent regulation in macrophages. Biochem. Biophys. Res. Commun. 257: 29-33.
6. Orso, E., et al. 2000. Transport of lipids from Golgi to plasma membrane is defective in Tangier disease patients and ABC1-deficient mice. Nat. Genet. 24: 192-196.
7. Schmitz, G., et al. 2000. ATP-binding cassette transporter A1 (ABCA1) in macrophages: a dual function in inflammation and lipid metabolism? Pathobiology 67: 236-240.

CHROMOSOMAL LOCATION

Genetic locus: ABCA1 (human) mapping to 9q31.1; Abca1 (mouse) mapping to 4 B2.

SOURCE

ABC1 (A00121.01) is a mouse monoclonal antibody raised against amino acids 1800-2260 of ABC1 of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

ABC1 (A00121.01) is recommended for detection of ABC1 of mouse, rat and human 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for ABC1 siRNA (h): sc-41136, ABC1 siRNA (m): sc-41137, ABC1 shRNA Plasmid (h): sc-41136-SH, ABC1 shRNA Plasmid (m): sc-41137-SH, ABC1 shRNA (h) Lentiviral Particles: sc-41136-V and ABC1 shRNA (m) Lentiviral Particles: sc-41137-V.

Molecular Weight of ABC1: 220 kDa.

Positive Controls: MES-SA/Dx5 cell lysate: sc-2284.

SELECT PRODUCT CITATIONS

1. Koyani, C.N., et al. 2016. Activation of the MAPK/Akt/Nrf2-Egr1/HO-1-GCLc axis protects MG-63 osteosarcoma cells against 15d-PGJ2-mediated cell death. Biochem. Pharmacol. 104: 29-41.
2. Xu, Z., et al. 2017. Interleukin-32 promotes lipid accumulation through inhibition of cholesterol efflux. Exp. Ther. Med. 14: 947-952.

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.