SANTA CRUZ BIOTECHNOLOGY, INC.

ABC1 (H-220): sc-20794

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 2 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 lipo-protein. ABC1 may have a dual regulatory function in macrophage lipid metabolism and inflammation.

REFERENCES

1. Decottignies, A. and Goffeau, A. 1997. Complete inventory of the yeast ABC proteins. Nat. Genet. 15: 137-145.
2. Schwiebert, E.M. 1999. ABC transporter-facilitated ATP conductive transport. Am. J. Physiol. 276: C1-C8.
3. 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.
4. 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.
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.

CHROMOSOMAL LOCATION

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

SOURCE

ABC1 (H-220) is a rabbit polyclonal antibody raised against amino acids 91-310 of ABC1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Available as agarose conjugate for immunoprecipitation, sc-20794 AC, 500 µg/0.25 ml agarose in 1 ml.

STORAGE

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

RESEARCH USE

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

APPLICATIONS

ABC1 (H-220) 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

ABC1 (H-220) is also recommended for detection of ABC1 in additional species, including porcine.

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: 202 kDa.

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

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Marceau, G., et al. 2005. Placental expression of the nuclear receptors for oxysterols LXRα and LXRβ during mouse and human development. Anat. Rec. A Discov. Mol. Cell. Evol. Biol. 283: 175-181.
2. Myers, S.A., et al. 2006. The chicken ovalbumin upstream promoter-transcription factors modulate genes and pathways involved in skeletal muscle cell metabolism. J. Biol. Chem. 281: 24149-24160.
3. Xiong, H., et al. 2008. Cholesterol retention in Alzheimer's brain is responsible for high β- and γ-secretase activities and Aβ production. Neurobiol. Dis. 29: 422-437.
4. Li, G., et al. 2011. Macrophage LXRα gene therapy ameliorates atherosclerosis as well as hypertriglyceridemia in LDLR$^{-/-}$ mice. Gene Ther. 18: 835-841.