SANTA CRUZ BIOTECHNOLOGY, INC.

SOAT1 (C-20): sc-21029

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

SOAT1 (sterol O-acyltransferase 1), also designated ACAT1, is a homotetrameric enzyme that catalyzes the formation of cholesterol esters from cholesterol and long-chain fatty acyl coenzyme A. The gene encoding human SOAT1 maps to chromosome 1 and is expressed as a protein that localizes to the endoplasmic reticulum (ER) in several tissues, including liver, kidney, adrenal glands and macrophages. SOAT1 is involved in cellular cholesterol homeostasis as well as in foam cell formation and the subsequent progression of atherosclerosis. Several SOAT inhibitors have been developed for the treatment of atherosclerosis. SOAT2 (sterol O-acyltransferase 2), also known as ACAT2 (acyl-CoA:cholesterol acyltransferase-2), participates in lipoprotein assembly, catalyzing cholesterol esterification in mammalian cells. SOAT2 is an integral membrane protein that localizes to the endoplasmic reticulum of human intestinal cells. SOAT2 deficiency contributes to severe mental retardation and hypotonus.

REFERENCES

1. Chang, C.C., et al. 1998. Recombinant acyl-CoA:cholesterol acyltransferase-1 (ACAT1) purified to essential homogeneity utilizes cholesterol in mixed micelles or in vesicles in a highly cooperative manner. J. Biol. Chem. 273: 35132-35141.
2. Li, B.L., et al. 1999. Human acyl-CoA:cholesterol acyltransferase-1 (ACAT1) gene organization and evidence that the 4.3-kilobase ACAT1 mRNA is produced from two different chromosomes. J. Biol. Chem. 274: 11060-11071.
3. Lin, S., et al. 1999. Human acyl-CoA:cholesterol acyltransferase-1 in the endoplasmic reticulum contains seven transmembrane domains. J. Biol. Chem. 274: 23276-23285.
4. Yu, C., et al. 1999. Human acyl-CoA:cholesterol acyltransferase-1 is a homotetrameric enzyme in intact cells and *in vitro*. J. Biol. Chem. 274: 36139-36145.

CHROMOSOMAL LOCATION

Genetic locus: SOAT1 (human) mapping to 1q25.2; Soat1 (mouse) mapping to 1 G3.

SOURCE

SOAT1 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of SOAT1 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.

Blocking peptide available for competition studies, sc-21029 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

SOAT1 (C-20) is recommended for detection of SOAT1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

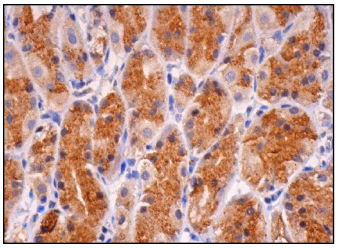
SOAT1 (C-20) is also recommended for detection of SOAT1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for SOAT1 siRNA (h): sc-29624, SOAT1 siRNA (m): sc-29625, SOAT1 shRNA Plasmid (h): sc-29624-SH, SOAT1 shRNA Plasmid (m): sc-29625-SH, SOAT1 shRNA (h) Lentiviral Particles: sc-29624-V and SOAT1 shRNA (m) Lentiviral Particles: sc-29625-V.

Molecular Weight of SOAT1: 50 kDa.

Positive Controls: rat kidney extract: sc-2394, THP-1 cell lysate: sc-2238 or WEHI-231 whole cell lysate: sc-2213.

DATA



SOAT1 (C-20): sc-21029. Immunoperoxidase staining of formalin fixed, paraffin-embedded human upper stomach tissue showing cytoplasmic and weak nuclear staining of glandular cells.

RESEARCH USE

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

PROTOCOLS

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