

SOAT2 (ACAT-2): sc-69837

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 (acyl-CoA). 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 lipo-protein 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

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- 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.
- 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.
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- Chiwata, T., et al. 2001. Direct effect of an acyl-CoA:cholesterol acyltransferase inhibitor, F-1394, on atherosclerosis in apolipoprotein E and low density lipoprotein receptor double knockout mice. *Br. J. Pharmacol.* 133: 1005-1012.
- Yang, J.B., et al. 2001. Synergistic transcriptional activation of human acyl-coenzyme A:cholesterol acyltransferase-1 gene by interferon- γ and all-*trans*-retinoic acid THP-1 cells. *J. Biol. Chem.* 276: 20989-20998.
- Maung, K., et al. 2001. Induction of acyl-coenzyme A:cholesterol acyltransferase-1 by 1,25-dihydroxyvitamin D₃ or 9-*cis*-retinoic acid in undifferentiated THP-1 cells. *J. Lipid Res.* 42: 181-187.

CHROMOSOMAL LOCATION

Genetic locus: SOAT2 (human) mapping to 12q13.13.

RESEARCH USE

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

SOURCE

SOAT2 (ACAT-2) is a mouse monoclonal antibody raised against recombinant protein corresponding to amino acids 314-388 of SOAT2 of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SOAT2 (ACAT-2) is available conjugated to agarose (sc-69837 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-69837 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-69837 PE), fluorescein (sc-69837 FITC), Alexa Fluor[®] 488 (sc-69837 AF488), Alexa Fluor[®] 546 (sc-69837 AF546), Alexa Fluor[®] 594 (sc-69837 AF594) or Alexa Fluor[®] 647 (sc-69837 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-69837 AF680) or Alexa Fluor[®] 790 (sc-69837 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

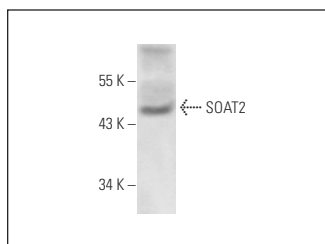
SOAT2 (ACAT-2) is recommended for detection of SOAT2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for SOAT2 siRNA (h): sc-76535, SOAT2 shRNA Plasmid (h): sc-76535-SH and SOAT2 shRNA (h) Lentiviral Particles: sc-76535-V.

Molecular Weight of SOAT2: 46 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

DATA



SOAT2 (ACAT-2): sc-69837. Western blot analysis of SOAT2 expression in Hep G2 whole cell lysate.

SELECT PRODUCT CITATIONS

- Williams, E.G., et al. 2018. Quantifying and localizing the mitochondrial proteome across five tissues in a mouse population. *Mol. Cell. Proteomics* 17: 1766-1777.

STORAGE

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