

SOAT1 (h): 293T Lysate: sc-113987

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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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.
5. Chang, C.C., et al. 2000. Immunological quantitation and localization of ACAT1 and ACAT2 in human liver and small intestine. *J. Biol. Chem.* 275: 28083-28092.
6. 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.
7. 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.
8. 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.
9. Puglielli, L., et al. 2001. Acyl-coenzyme A:cholesterol acyltransferase modulates the generation of the amyloid β -peptide. *Nat. Cell Biol.* 3: 905-912.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

CHROMOSOMAL LOCATION

Genetic locus: SOAT1 (human) mapping to 1q25.2.

PRODUCT

SOAT1 (h): 293T Lysate represents a lysate of human SOAT1 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

APPLICATIONS

SOAT1 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive SOAT1 antibodies. Recommended use: 10-20 μ l per lane.

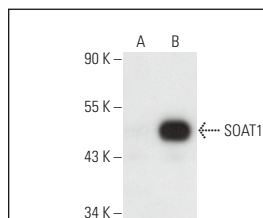
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

SOAT1 (A-11): sc-136959 is recommended as a positive control antibody for Western Blot analysis of enhanced human SOAT1 expression in SOAT1 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

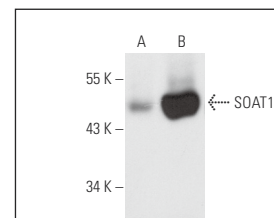
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



SOAT1 (A-11): sc-136959. Western blot analysis of SOAT1 expression in non-transfected: sc-117752 (A) and human SOAT1 transfected: sc-113987 (B) 293T whole cell lysates.



SOAT1 (D-1): sc-137013. Western blot analysis of SOAT1 expression in non-transfected: sc-117752 (A) and human SOAT1 transfected: sc-113987 (B) 293T whole cell lysates.

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.