

SCD (H-300): sc-30081

BACKGROUND

Stearoyl-CoA desaturase (SCD) is a microsomal enzyme required for the synthesis of oleate and palmitoleate, which are the major monounsaturated fatty acids of membrane phospholipids, triglycerides and cholesterol esters. SCD plays a major role in the triacylglycerol and phospholipid secretion process and in mechanisms of cellular cholesterol homeostasis. It is subject to rapid turnover in the cell and, as such, represents a model for studying selective degradation of short-lived proteins of the ER. SCD is also an important regulator of membrane fluidity. An increase in expression levels of SCD is observed in cells which are induced to differentiate into adipocytes and in certain tumor cell lines. Due to gene duplication events, the number of genes in the SCD family differs between species. Their expression patterns are affected by the level of unsaturated fatty acids in the diet of the animal.

REFERENCES

1. Ntambi, J.M., et al. 1988. Differentiation-induced gene expression in 3T3-L1 preadipocytes. Characterization of a differentially expressed gene encoding stearoyl-CoA desaturase. *J. Biol. Chem.* 263: 17291-17300.
2. Kaestner, K.H., et al. 1989. Differentiation-induced gene expression in 3T3-L1 preadipocytes. A second differentially expressed gene encoding stearoyl-CoA desaturase. *J. Biol. Chem.* 264: 14755-14761.
3. Li, J., et al. 1994. Partial characterization of a cDNA for human stearoyl-CoA desaturase and changes in its mRNA expression in some normal and malignant tissues. *Int. J. Cancer* 57: 348-352.
4. Diot, C., et al. 2000. Stearoyl-CoA desaturase 1 coding sequences and antisense RNA affect lipid secretion in transfected chicken LMH hepatoma cells. *Arch. Biochem. Biophys.* 380: 243-250.
5. Kim, Y.C., et al. 2000. Differential regulation of the stearoyl-CoA desaturase genes by thiazolidinediones in 3T3-L1 adipocytes. *J. Lipid Res.* 41: 1310-1316.
6. Miyazaki, M., et al. 2000. The biosynthesis of hepatic cholesterol esters and triglycerides is impaired in mice with a disruption of the gene for stearoyl-CoA desaturase 1. *J. Biol. Chem.* 275: 30132-30138.

CHROMOSOMAL LOCATION

Genetic locus: SCD (human) mapping to 10q24.31; Scd1/Scd2/Scd3/Scd4 (mouse) mapping to 19 C3.

SOURCE

SCD (H-300) is a rabbit polyclonal antibody raised against amino acids 119-223 mapping within an internal region of SCD 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.

STORAGE

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

APPLICATIONS

SCD (H-300) is recommended for detection of SCD of human origin, and SCD1, SCD2, SCD3 and SCD4 of mouse and rat origin 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).

SCD (H-300) is also recommended for detection of SCD in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for SCD siRNA (h): sc-36464, SCD1/2/3/4 siRNA (m): sc-63288, SCD shRNA Plasmid (h): sc-36464-SH, SCD1/2/3/4 shRNA Plasmid (m): sc-63288-SH, SCD shRNA (h) Lentiviral Particles: sc-36464-V and SCD1/2/3/4 shRNA (m) Lentiviral Particles: sc-63288-V.

Molecular Weight of SCD: 40 kDa.

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. Hashimoto, K., et al. 2013. Human stearoyl-CoA desaturase 1 (SCD-1) gene expression is negatively regulated by thyroid hormone without direct binding of thyroid hormone receptor to the gene promoter. *Endocrinology* 154: 537-549.

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.

MONOS
Satisfaction
Guaranteed

Try **SCD (A00093.01): sc-81776**, our highly recommended monoclonal alternative to SCD (H-300).