

SCD2 (G-15): sc-14722

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.

CHROMOSOMAL LOCATION

Genetic locus: *Scd2* (mouse) mapping to 19 C3.

SOURCE

SCD2 (G-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of SCD2 of mouse 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-14722 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

SCD2 (G-15) is recommended for detection of SCD2 of mouse and rat 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); may cross-react with SCD4 of mouse origin.

Suitable for use as control antibody for SCD2 siRNA (m): sc-41654, SCD2 shRNA Plasmid (m): sc-41654-SH and SCD2 shRNA (m) Lentiviral Particles: sc-41654-V.

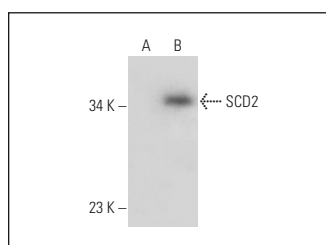
Molecular Weight of SCD2: 37 kDa.

Positive Controls: SCD2 (m): 293T Lysate: sc-123380.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



SCD2 (G-15): sc-14722. Western blot analysis of SCD2 expression in non-transfected: sc-117752 (A) and mouse SCD2 transfected: sc-123380 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Moreau, C., et al. 2006. Expression and regulation of the SCD2 desaturase in the rat ovary. *Biol. Reprod.* 74: 75-87.
2. Wang, J., et al. 2008. Identification and characterization of hamster stearoyl-CoA desaturase isoforms. *Lipids* 43: 197-205.

RESEARCH USE

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