

SCD1 (E-15): sc-14720

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.

CHROMOSOMAL LOCATION

Genetic locus: Scd1/Scd3 (mouse) mapping to 19 C3.

SOURCE

SCD1 (E-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of SCD1 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-14720 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SCD1 (E-15) is recommended for detection of SCD1 and SCD3 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-reactive with SCD4.

SCD1 (E-15) is also recommended for detection of SCD1 and SCD3 in additional species, including equine and porcine.

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

Molecular Weight of SCD1: 37 kDa.

Positive Controls: SCD1 (m): 293T Lysate: sc-123378 or mouse liver extract: sc-2256.

STORAGE

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

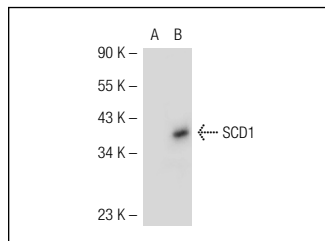
RESEARCH USE

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

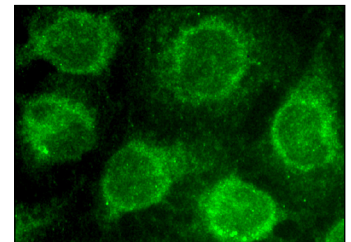
RECOMMENDED SECONDARY REAGENTS

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



SCD1 (E-15): sc-14720. Western blot analysis of SCD1 expression in non-transfected: sc-117752 (A) and mouse SCD1 transfected: sc-123378 (B) 293T whole cell lysates.



SCD1 (E-15): sc-14720. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Choi, C.S. and Savage, D. 2007. Suppression of diacylglycerol acyltransferase-2 (DGAT2), but not DGAT1, with antisense oligonucleotides reverses diet-induced hepatic steatosis and insulin resistance. *J. Biol. Chem.* 282: 22678-22688.
- Wang, J., et al. 2008. Identification and characterization of hamster stearoyl-CoA desaturase isoforms. *Lipids* 43: 197-205.
- Arnauld, S., et al. 2009. Modulation of the hepatic fatty acid pool in peroxisomal 3-ketoacyl-CoA thiolase B-null mice exposed to the selective PPARα agonist Wy14,643. *Biochimie* 91: 1376-1386.
- Crespillo, A., et al. 2011. Reduction of body weight, liver steatosis and expression of stearoyl-CoA desaturase 1 by the isoflavone daidzein in diet-induced obesity. *Br. J. Pharmacol.* 164: 1899-1915.
- Lombardi, A., et al. 2012. Responses of skeletal muscle lipid metabolism in rat gastrocnemius to hypothyroidism and iodothyronine administration: a putative role for FAT/CD36. *Am. J. Physiol. Endocrinol. Metab.* 303: E1222-E1233.

PROTOCOLS

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