SANTA CRUZ BIOTECHNOLOGY, INC.

SCD1 (E-8): sc-515844

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 34-57 near the N-terminus of SCD1 of mouse origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

SCD1 (E-8) is recommended for detection of SCD1 and SCD3 of mouse origin by Western Blotting (starting dilution 1:100, 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).

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: c4 whole cell lysate: sc-364186, 3T3-L1 cell lysate: sc-2243 or C2C12 whole cell lysate: sc-364188.

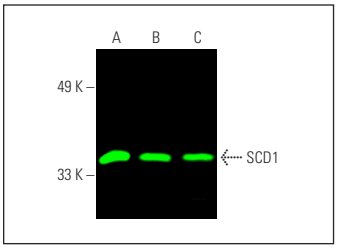
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

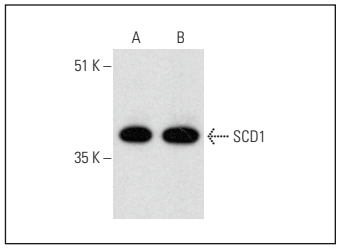
STORAGE

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

DATA



SCD1 (E-8): sc-515844. Near-infrared western blot analysis of SCD1 expression in 3T3-L1 (**A**), c4 (**B**) and C2C12 (**C**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.



SCD1 (E-8): sc-515844. Western blot analysis of SCD1 expression in c4 (**A**) and 3T3-L1 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Xu, H. and Li, F. 2018. miR-127 aggravates myocardial failure by promoting the TGF-β1/Smad3 signaling. Mol. Med. Rep. 18: 4839-4846.
2. Liu, L., et al. 2020. Triose kinase controls the lipogenic potential of fructose and dietary tolerance. Cell Metab. 32: 605-618.e7.
3. Weitkunat, K., et al. 2021. Effect of microbial status on hepatic odd-chain fatty acids is diet-dependent. Nutrients 13: 1546.
4. Wang, H., et al. 2022. The lncRNA ZFAS1 regulates lipogenesis in colorectal cancer by binding polyadenylate-binding protein 2 to stabilize SREBP1 mRNA. Mol. Ther. Nucleic Acids 27: 363-374.
5. Park, S.Y., et al. 2022. Valdecoxib attenuates lipid-induced hepatic steatosis through autophagy-mediated suppression of endoplasmic reticulum stress. Biochem. Pharmacol. 199: 115022.
6. Oh, H., et al. 2022. Resolvin D3 improves the impairment of Insulin signaling in skeletal muscle and nonalcoholic fatty liver disease through AMPK/autophagy-associated attenuation of ER stress. Biochem. Pharmacol. 203: 115203.
7. Wang, D., et al. 2022. Dysregulated autophagic activity induced in response to chronic intermittent hypoxia contributes to the pathogenesis of NAFLD. Front. Physiol. 13: 941706.
8. Choi, S.W., et al. 2022. Netrin-1 attenuates hepatic steatosis via UNC5b/PPARγ-mediated suppression of inflammation and ER stress. Life Sci. 311: 121149.
9. Zhang, H., et al. 2023. GLIS2 prevents hepatic fibrosis by competitively binding HDAC3 to inhibit hepatic stellate cell activation. Cell. Mol. Gastroenterol. Hepatol. 15: 355-372.

RESEARCH USE

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