SANTA CRUZ BIOTECHNOLOGY, INC.

SCD2 (H-12): sc-518034

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.

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.

CHROMOSOMAL LOCATION

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

SOURCE

SCD2 (H-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 38-60 near the N-terminus of SCD2 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SCD2 (H-12) is available conjugated to agarose (sc-518034 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-518034 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518034 PE), fluorescein (sc-518034 FITC), Alexa Fluor® 488 (sc-518034 AF488), Alexa Fluor® 546 (sc-518034 AF546), Alexa Fluor® 594 (sc-518034 AF594) or Alexa Fluor® 647 (sc-518034 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-518034 AF680) or Alexa Fluor® 790 (sc-518034 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

SCD2 (H-12) is recommended for detection of SCD2 of mouse and rat 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 SCD2 siRNA (m): sc-41654, SCD2 shRNA Plasmid (m): sc-41654-SH and SCD2 shRNA (m) Lentiviral Particles: sc-41654-V.

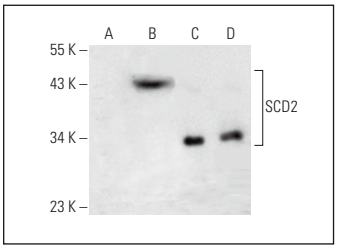
Molecular Weight of SCD2: 37 kDa.

Positive Controls: SCD2 (m): 293T Lysate: sc-123380, c4 whole cell lysate: sc-364186 or 3T3-L1 cell lysate: sc-2243.

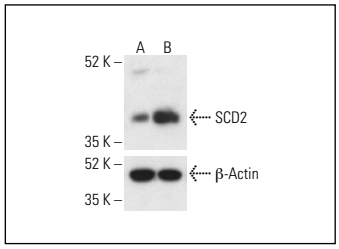
RECOMMENDED SECONDARY REAGENTS

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 A/G PLUS-Agarose: sc-2003 (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.

DATA



SCD2 (H-12): sc-518034. Western blot analysis of SCD2 expression in non-transfected 293T: sc-117752 (**A**), mouse SCD2 transfected 293T: sc-123380 (**B**), c4 (**C**) and 3T3-L1 (**D**) whole cell lysates.



SCD2 (H-12): sc-518034. Western blot analysis of SCD2 expression in untreated (**A**) and chemically-treated (**B**) NIH/3T3 whole cell lysates. β-Actin (C4): sc-47778 used as loading control. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.

SELECT PRODUCT CITATIONS

1. Liebergall, S.R., et al. 2020. Inflammation triggers liver X receptor-dependent lipogenesis. Mol. Cell. Biol. 40: e00364-19.
2. Zhou, X., et al. 2021. Stearoyl-CoA desaturase-mediated monounsaturated fatty acid availability supports humoral immunity. Cell Rep. 34: 108601.
3. Rajesh, Y., et al. 2022. Dissecting the balance between metabolic and oncogenic functions of astrocyte-elevated gene-1/metadherin. Hepatol. Commun. 6: 561-575.

RESEARCH USE

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