SANTA CRUZ BIOTECHNOLOGY, INC.

SCD2 (m): 293T Lysate: sc-123380

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., Buhrow, S.A., Kaestner, K.H., Christy, R.J., Sibley, E., Kelly, T.J., Jr. and Lane, M.D. 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., Ntambi, J.M., Kelly, T.J., Jr. and Lane, M.D. 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., Ding, S.F., Habib, N.A., Fermor, B.F., Wood, C.B. and Gilmour, R.S. 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., Lefevre, P., Herve, C., Belloir, B., Narce, M., Damon, M., Poisson, J.P., Mallard, J. and Douaire, M. 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., Gomez, F.E., Fox, B.G. and Ntambi, J.M. 2000. Differential regulation of the stearoyl-CoA desaturase genes by thiazolidinediones in 3T3-L1 adipocytes. J. Lipid Res. 41: 1310-1316.
6. Miyazaki, M., Kim, Y.C., Gray-Keller, M.P., Attie, A.D. and Ntambi, J.M. 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.
7. Mziaut, H., Korza, G. and Ozols, J. 2000. The N terminus of microsomal Δ9 stearoyl-CoA desaturase contains the sequence determinant for its rapid degradation. Proc. Natl. Acad. Sci. USA 97: 8883-8888.

CHROMOSOMAL LOCATION

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

PRODUCT

SCD2 (m): 293T Lysate represents a lysate of mouse SCD2 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

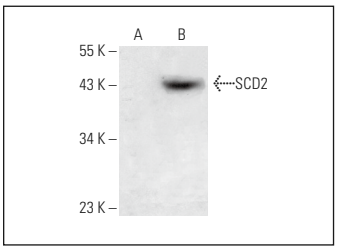
APPLICATIONS

SCD2 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive SCD2 antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

SCD2 (H-12): sc-518034 is recommended as a positive control antibody for Western Blot analysis of enhanced mouse SCD2 expression in SCD2 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

DATA



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

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

RESEARCH USE

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

PROTOCOLS

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