

SPTLC1 (49): sc-136076

BACKGROUND

SPTLC1 (serine palmitoyltransferase 1), also known as LCB1, and SPTLC2 (serine palmitoyltransferase 2), also known as LCB2, together catalyze sphingolipid biosynthesis by converting L-serine and palmitoyl-CoA to 3-oxosphinganine, utilizing pyridoxal 5'-phosphate as a cofactor. Increases in trans-epidermal water loss triggers upregulation of serine palmitoyltransferase mRNA expression in humans. Deficiencies in wildtype SPTLC1 and SPTLC2 can lead to hereditary sensory neuropathy, atopic eczema and psoriasis.

REFERENCES

- Weiss, B., et al. 1997. Human and murine serine-palmitoyl-CoA transferase—cloning, expression and characterization of the key enzyme in sphingolipid synthesis. *Eur. J. Biochem.* 249: 239-247.
- Uhlinger, D.J., et al. 2001. Increased expression of serine palmitoyltransferase (SPT) in balloon-injured rat carotid artery. *Thromb. Haemost.* 86: 1320-1326.
- Stachowitz, S., et al. 2002. Permeability barrier disruption increases the level of serine palmitoyltransferase in human epidermis. *J. Invest. Dermatol.* 119: 1048-1052.
- Batheja, A.D., et al. 2003. Characterization of serine palmitoyltransferase in normal human tissues. *J. Histochem. Cytochem.* 51: 687-696.
- Carton, J.M., et al. 2003. Enhanced serine palmitoyltransferase expression in proliferating fibroblasts, transformed cell lines, and human tumors. *J. Histochem. Cytochem.* 51: 715-726.
- Dedov, V.N., et al. 2004. Activity of partially inhibited serine palmitoyltransferase is sufficient for normal sphingolipid metabolism and viability of HSN1 patient cells. *Biochim. Biophys. Acta* 1688: 168-175.
- LocusLink Report (LocusID: 10558). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

Genetic locus: SPTLC1 (human) mapping to 9q22.31; Sptlc1 (mouse) mapping to 13 B1.

SOURCE

SPTLC1 (49) is a mouse monoclonal antibody raised against amino acids 121-238 of SPTLC1 of mouse origin.

PRODUCT

Each vial contains 50 µg IgG₁ in 500 µl of PBS with < 0.1% sodium azide, 0.1% gelatin, 20% glycerol and 0.04% stabilizer protein.

STORAGE

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

PROTOCOLS

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

APPLICATIONS

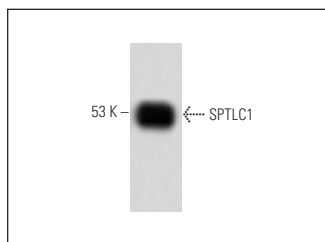
SPTLC1 (49) is recommended for detection of SPTLC1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for SPTLC1 siRNA (h): sc-106561, SPTLC1 siRNA (m): sc-153804, SPTLC1 shRNA Plasmid (h): sc-106561-SH, SPTLC1 shRNA Plasmid (m): sc-153804-SH, SPTLC1 shRNA (h) Lentiviral Particles: sc-106561-V and SPTLC1 shRNA (m) Lentiviral Particles: sc-153804-V.

Molecular Weight of SPTLC1: 55 kDa.

Positive Controls: rat kidney extract: sc-2394 or mouse liver extract: sc-2256.

DATA



SPTLC1 (49): sc-136076. Western blot analysis of SPTLC1 expression in rat kidney tissue extract.

SELECT PRODUCT CITATIONS

- Lucki, N.C., et al. 2012. Acid ceramidase (ASAH1) is a global regulator of steroidogenic capacity and adrenocortical gene expression. *Mol. Endocrinol.* 26: 228-243.
- Konstantynowicz-Nowicka, K., et al. 2015. New evidence for the role of ceramide in the development of hepatic Insulin resistance. *PLoS ONE* 10: e0116858.
- Wang, W. and Fromm, M. 2015. Sphingolipids are required for efficient triacylglycerol loss in conjugated linoleic acid treated adipocytes. *PLoS ONE* 10: e0119005.

RESEARCH USE

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