

# SPTLC1 (E-17): sc-27497

## 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 transepidermal 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

1. 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.
2. Uhlinger, D.J., et al. 2001. Increased expression of serine palmitoyltransferase (SPT) in balloon-injured rat carotid artery. *Thromb. Haemost.* 86: 1320-1326.
3. Stachowitz, S., et al. 2002. Permeability barrier disruption increases the level of serine palmitoyltransferase in human epidermis. *J. Invest. Dermatol.* 119: 1048-1052.
4. Batheja, A.D., et al. 2003. Characterization of serine palmitoyltransferase in normal human tissues. *J. Histochem. Cytochem.* 51: 687-696.
5. 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.
6. 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.
7. 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 (E-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of SPTLC1 of human 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-27497 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

SPTLC1 (E-17) 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), 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).

SPTLC1 (E-17) is also recommended for detection of SPTLC1 in additional species, including equine, canine, bovine, porcine and avian.

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.

## 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) 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.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

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Try **SPTLC1 (H-1): sc-374143** or **SPTLC1 (49): sc-136076**, our highly recommended monoclonal alternatives to SPTLC1 (E-17).