

LASS5 (L-15): sc-65122

BACKGROUND

The LASS (longevity assurance homolog) family members are highly conserved from yeasts to mammals. Six members of this family of proteins have been characterized (LASS1, LASS2, LASS3, LASS4, LASS5 and LASS6) and they are all involved in sphingolipid synthesis. LASS5, also called Trh4, is a 392 amino acid endoplasmic reticulum, multi-pass membrane protein. On the luminal side of the endoplasmic reticulum membrane, the N-terminal asparagine residue is glycosylated. Functioning as a bonafide (dihydro)ceramide synthase, LASS5 increases the levels of short ceramide species, such as C14:0- and C16:0-ceramides, as well as those selectively enriched in palmitic acid. LASS5 is the most abundantly expressed longevity assurance homolog in lung epithelia, where it functions as a regulator of PtdCho metabolism. In cells deficient for CLN9, as observed in neuronal ceroid lipofuscinosis (NCL) or Batten disease, LASS5 can increase ceramide levels and partially correct growth and apoptosis.

REFERENCES

1. Riebeling, C., et al. 2003. Two mammalian longevity assurance gene (LAG1) family members, Trh1 and Trh, regulate dihydroceramide synthesis using different fatty acyl-CoA donors. *J. Biol. Chem.* 278: 43452-43459.
2. Mizutani, Y., et al. 2005. Mammalian LASS6 and its related family members regulate synthesis of specific ceramides. *Biochem. J.* 390: 263-271.
3. Xu, Z., et al. 2005. LASS5 is the predominant ceramide synthase isoform involved in *de novo* sphingolipid synthesis in lung epithelia. *J. Lipid Res.* 46: 1229-1238.
4. Lahiri, S. and Futerman, A.H. 2005. LASS5 is a bonafide dihydroceramide synthase that selectively utilizes palmitoyl-CoA as acyl donor. *J. Biol. Chem.* 280: 33735-33738.
5. Schulz, A., et al. 2006. The CLN9 protein, a regulator of dihydroceramide synthase. *J. Biol. Chem.* 281: 2784-2794.

CHROMOSOMAL LOCATION

Genetic locus: *Lass5* (mouse) mapping to 15 F1.

SOURCE

LASS5 (L-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of LASS5 of mouse origin.

STORAGE

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

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-65122 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-65122 X, 200 µg/0.1 ml.

APPLICATIONS

LASS5 (L-15) is recommended for detection of LASS5 of mouse 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)], 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 LASS5 siRNA (m): sc-62552, LASS5 shRNA Plasmid (m): sc-62552-SH and LASS5 shRNA (m) Lentiviral Particles: sc-62552-V.

LASS5 (L-15) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

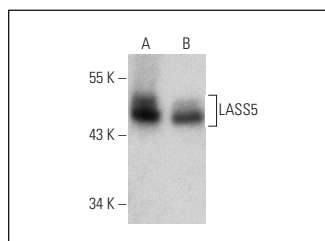
Molecular Weight of LASS5: 46 kDa.

Positive Controls: LASS5 (m): 293T Lysate: sc-121306, Neuro-2A whole cell lysate: sc-364185 or 3T3-L1 cell lysate: sc-2243.

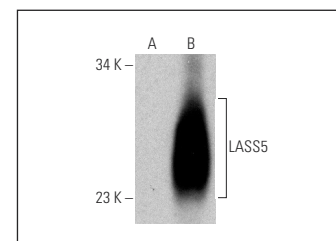
RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



LASS5 (L-15): sc-65122. Western blot analysis of LASS5 expression in Neuro-2A (A) and 3T3-L1 (B) whole cell lysates.



LASS5 (L-15): sc-65122. Western blot analysis of LASS5 expression in non-transfected: sc-117752 (A) and mouse LASS5 transfected: sc-121306 (B) 293T whole cell lysates.

RESEARCH USE

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

PROTOCOLS

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