

ELOVL1 (Y-15): sc-54871

BACKGROUND

Elongation of very long chain fatty acid-like (ELOVL) proteins 1-6 are members of the ELO family of proteins, which play an important role in tissue-specific biosynthesis of very long chain fatty acids and sphingolipids. The ELOVL proteins act as catalysts in fatty acid elongation reduction and localize to the endoplasmic reticulum (ER). Elongation of very long chain fatty acids protein 1 (ELOVL1), also referred to as Ssc1, is the human homolog of the yeast ELO3 protein. It is expressed in a variety of tissues and at especially high levels in stomach, skin, intestine, kidney and lung. ELOVL1 participates in the elongation of very long chain saturated and monounsaturated fatty acids of up to 26 carbons and may be required for the development of a barrier in epithelial cells and skin. ELOVL1 is also important for the formation of Myelin in the central nervous system. Impaired ELOVL1 activity may be associated with disorders of sphingolipid metabolism.

REFERENCES

1. Tvrdik, P., et al. 2000. Role of a new mammalian gene family in the biosynthesis of very long chain fatty acids and sphingolipids. *J. Cell Biol.* 149: 707-718.
2. Zhang, K., et al. 2001. A 5 bp deletion in ELOVL4 is associated with two related forms of autosomal dominant macular dystrophy. *Nat. Genet.* 27: 89-93.
3. Kohlwein, S.D., et al. 2001. TSC-13p is required for fatty acid elongation and localizes to a novel structure at the nuclear-vacuolar interface in *Saccharomyces cerevisiae*. *Mol. Cell. Biol.* 21: 109-125.
4. Moon, Y.A., et al. 2001. Identification of a mammalian long chain fatty acyl elongase regulated by sterol regulatory element-binding proteins. *J. Biol. Chem.* 276: 45358-45366.
5. Leonard, A.E., et al. 2002. Identification and expression of mammalian long-chain PUFA elongation enzymes. *Lipids* 37: 733-740.
6. Asadi, A., et al. 2002. ELOVL1 and p55Cdc genes are localized in a tail-to-tail array and are co-expressed in proliferating cells. *J. Biol. Chem.* 277: 18494-18500.
7. Zhang, X.M., et al. 2003. ELOVL4 mRNA distribution in the developing mouse retina and phylogenetic conservation of ELOVL4 genes. *Mol. Vis.* 9: 301-307.

CHROMOSOMAL LOCATION

Genetic locus: Elov11 (mouse) mapping to 4 D2.1.

SOURCE

ELOVL1 (Y-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of ELOVL1 of mouse 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-54871 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ELOVL1 (Y-15) is recommended for detection of ELOVL1 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 ELOVL1 siRNA (m): sc-62264.

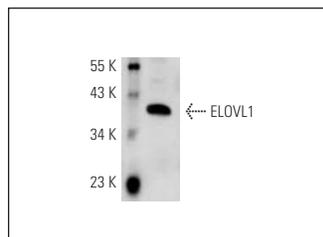
Molecular Weight of ELOVL1: 33 kDa.

Positive Controls: mouse brain extract: sc-2253.

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



ELOVL1 (Y-15): sc-54871. Western blot analysis of ELOVL1 expression in mouse brain tissue extract.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. 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 or our catalog for detailed protocols and support products.