SANTA CRUZ BIOTECHNOLOGY, INC.

ELOVL4 (W-12): sc-49193

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The Power to Question

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-like 4 (ELOVL4) is expressed in ER in the retina and, to a lesser extent, in the brain. ELOVL4 is a possible photoreceptor-specific component of the fatty acid elongation system residing on the ER. Mutations in the ELOVL4 gene cause autosomal dominant Stargardt disease 3 (STGD3) and autosomal dominant Stargardt-like macular dystrophy (ADMD). STGD3 is a form of macular degeneration that causes macular atrophy, decreased visual acuity and extensive fundus flecks in affected individuals.

REFERENCES

1. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 605512. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
2. Maugeri, A., et al. 2004. A novel mutation in the ELOVL4 gene causes autosomal dominant Stargardt-like macular dystrophy. Invest. Ophthalmol. Vis. Sci. 45: 4263-4267.
3. Conley, Y.P., et al. 2005. Candidate gene analysis suggests a role for fatty acid biosynthesis and regulation of the complement system in the etiology of age-related maculopathy. Hum. Mol. Genet. 14: 1991-2002.
4. Grayson, C., et al. 2005. Dominant negative mechanism underlies autosomal dominant Stargardt-like macular dystrophy linked to mutations in ELOVL4. J. Biol. Chem. 280: 32521-32530.
5. Karan, G., et al. 2005. Lipofuscin accumulation, abnormal electrophysiology and photoreceptor degeneration in mutant ELOVL4 transgenic mice: a model for macular degeneration. Proc. Natl. Acad. Sci. USA 102: 4164-4169.
6. Karan, G., et al. 2005. Loss of ER retention and sequestration of the wild-type ELOVL4 by Stargardt disease dominant negative mutants. Mol. Vis. 11: 657-664.

CHROMOSOMAL LOCATION

Genetic locus: ELOVL4 (human) mapping to 6q14.1; Elovl4 (mouse) mapping to 9 E2.

SOURCE

ELOVL4 (W-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of ELOVL4 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-49193 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ELOVL4 (W-12) is recommended for detection of ELOVL4 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).

ELOVL4 (W-12) is also recommended for detection of ELOVL4 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for ELOVL4 siRNA (h): sc-60574, ELOVL4 siRNA (m): sc-60575, ELOVL4 shRNA Plasmid (h): sc-60574-SH, ELOVL4 shRNA Plasmid (m): sc-60575-SH, ELOVL4 shRNA (h) Lentiviral Particles: sc-60574-V and ELOVL4 shRNA (m) Lentiviral Particles: sc-60575-V.

Molecular Weight of ELOVL4: 37 kDa.

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.

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.