SANTA CRUZ BIOTECHNOLOGY, INC.

ELOVL7 siRNA (h): sc-62273

BACKGROUND

Elongation of very long chain fatty acid-like (ELOVL) proteins 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. Fatty acids are important in many biological processes including fetal growth and development, brain development, inflammatory response, and retinal function. The ELOVL proteins function as elongases and catalyze fatty acid elongation reduction and localize to the endoplasmic reticulum (ER). Elongation of very long chain fatty acids protein 7 (ELOVL7) is involved in lipogenesis and its expression is regulated by PPARα. ELOVL7 is a 281 amino acid protein and the gene encoding ELOVL7 maps to chromosome 5q12.1.

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. Tsc13p 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. 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: ELOVL7 (human) mapping to 5q12.1.

PRODUCT

ELOVL7 siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ELOVL7 shRNA Plasmid (h): sc-62273-SH and ELOVL7 shRNA (h) Lentiviral Particles: sc-62273-V as alternate gene silencing products.

For independent verification of ELOVL7 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-62273A, sc-62273B and sc-62273C.

PROTOCOLS

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

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

ELOVL7 siRNA (h) is recommended for the inhibition of ELOVL7 expression in human cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ELOVL7 gene expression knockdown using RT-PCR Primer: ELOVL7 (h)-PR: sc-62273-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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