

SEC14L4 siRNA (m): sc-153301

BACKGROUND

The monomeric, SEC14L2 (SEC14-like protein 2), also known as supernatant protein factor (SPF), α -tocopherol-associated protein or squalene transfer protein, functions as a carrier protein transferring tocopherols, as a transcriptional activator via its interaction with α -tocopherol and as a stimulator of conversion of microsomal squalene-2,3-oxide into lanosterol in cholesterol biosynthesis. High levels of SEC14L2 are expressed in liver, brain, intestine and prostate. Subcellular localization of SEC14L2 is cytoplasmic, but in the presence of α -tocopherol, SEC14L2 localizes in the nucleus. Activity of SEC14L2 depends on posttranslational modifications, specifically phosphorylation by PKA and PKC. SEC14L3 and SEC14L4 both contain one CRAL-TRIO domain and one GOLD domain and may be involved in the transport of hydrophobic ligands.

REFERENCES

1. Caras, I.W. and Bloch, K. 1979. Effects of a supernatant protein activator on microsomal squalene-2,3-oxide-lanosterol cyclase. *J. Biol. Chem.* 254: 11816-11821.
2. Friedlander, E.J., et al. 1980. Supernatant protein factor facilitates inter-membrane transfer of squalene. *J. Biol. Chem.* 255: 8042-8045.
3. Chin, J. and Bloch, K. 1984. Role of supernatant protein factor and anionic phospholipid in squalene uptake and conversion by microsomes. *J. Biol. Chem.* 259: 11735-11738.
4. Shibata, N., et al. 2001. Supernatant protein factor, which stimulates the conversion of squalene to lanosterol, is a cytosolic squalene transfer protein and enhances cholesterol biosynthesis. *Proc. Natl. Acad. Sci. USA* 98: 2244-2249.
5. Singh, D.K., et al. 2003. Phosphorylation of supernatant protein factor enhances its ability to stimulate microsomal squalene monooxygenase. *J. Biol. Chem.* 278: 5646-5651.
6. Stocker, A. and Baumann, U. 2003. Supernatant protein factor in complex with RRR- α -tocopherylquinone: a link between oxidized Vitamin E and cholesterol biosynthesis. *J. Mol. Biol.* 332: 759-765.

CHROMOSOMAL LOCATION

Genetic locus: Sec14l4 (mouse) mapping to 11 A1.

PRODUCT

SEC14L4 siRNA (m) 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see SEC14L4 shRNA Plasmid (m): sc-153301-SH and SEC14L4 shRNA (m) Lentiviral Particles: sc-153301-V as alternate gene silencing products.

For independent verification of SEC14L4 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-153301A, sc-153301B and sc-153301C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

SEC14L4 siRNA (m) is recommended for the inhibition of SEC14L4 expression in mouse 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 μ M in 66 μ l. 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.

GENE EXPRESSION MONITORING

SEC14L2/L3/L4 (E-10): sc-365420 is recommended as a control antibody for monitoring of SEC14L4 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor SEC14L4 gene expression knockdown using RT-PCR Primer: SEC14L4 (m)-PR: sc-153301-PR (20 μ l). 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.

PROTOCOLS

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