SANTA CRUZ BIOTECHNOLOGY, INC.

Angptl7 siRNA (m): sc-141063

BACKGROUND

Angptl7 (angiopoietin-like 7), alternately known as cornea-derived transcript 6 protein (CDT6) or AngX, is a 346 amino acid secreted protein that is expressed specifically in the stromal layer of cornea. Angptl7 forms disulfide-linked homotetramers via coiled-coil interactions and contains one fibrinogen C-terminal domain. Overexpressed in patients with glaucoma, Angptl7 serves as a potential therapeutic target for glaucoma and has been found to increase collagen expression. The gene encoding Angptl7 maps to human chromosome 1p36.22, which spans 260 million base pairs, contains over 3,000 genes and comprises nearly 8% of the human genome. Chromosome 1 houses a large number of disease-associated genes, including those that are involved in familial adenomatous polyposis, Stickler syndrome, Parkinson's disease, Gaucher disease, schizophrenia and Usher syndrome.

REFERENCES

1. Lim, Y.S., et al. 1994. The thiol-specific antioxidant protein from human brain: gene cloning and analysis of conserved cysteine regions. Gene 140: 279-284.
2. Shau, H., et al. 1994. Cloning and sequence analysis of candidate human natural killer-enhancing factor genes. Immunogenetics 40: 129-134.
3. Peek, R., et al. 1998. Molecular cloning of a new angiopoietinlike factor from the human cornea. Invest. Ophthalmol. Vis. Sci. 39: 1782-1788.
4. Peek, R., et al. 2002. The angiopoietin-like factor cornea-derived transcript 6 is a putative morphogen for human cornea. J. Biol. Chem. 277: 686-693.
5. Tsigkos, S., et al. 2003. Angiopoietins in angiogenesis and beyond. Expert Opin. Investig. Drugs 12: 933-941.
6. Plasilova, M., et al. 2004. Exclusion of an extracolonic disease modifier locus on chromosome 1p33-36 in a large Swiss familial adenomatous polyposis kindred. Eur. J. Hum. Genet. 12: 365-371.
7. Kuchtey, J., et al. 2008. Angiopoietin-like 7 secretion is induced by glaucoma stimuli and its concentration is elevated in glaucomatous aqueous humor. Invest. Ophthalmol. Vis. Sci. 49: 3438-3448.
8. Yokoi, T., et al. 2009. Analysis of the vitreous membrane in a case of type 1 Stickler syndrome. Graefes Arch. Clin. Exp. Ophthalmol. 247: 715-718.

CHROMOSOMAL LOCATION

Genetic locus: Angptl7 (mouse) mapping to 4 E2.

PRODUCT

Angptl7 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Angptl7 shRNA Plasmid (m): sc-141063-SH and Angptl7 shRNA (m) Lentiviral Particles: sc-141063-V as alternate gene silencing products.

For independent verification of Angptl7 (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-141063A, sc-141063B and sc-141063C.

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

Angptl7 siRNA (m) is recommended for the inhibition of Angptl7 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 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 Angptl7 gene expression knockdown using RT-PCR Primer: Angptl7 (m)-PR: sc-141063-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.

PROTOCOLS

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