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Angptl4 siRNA (h): sc-44664

BACKGROUND

Angiotensin-like 4 (Angptl4), also designated hepatic fibrinogen/angiotensin-related protein (HFARP), is a secreted protein which, through an endocrine action, exerts a protective function over endothelial cells. The Angptl4 gene has hypoxia-induced expression in endothelial cells. Angptl4 has a highly hydrophobic region at the N-terminus that is typical of a secretory signal sequence and one consensus glycosylation site. Angptl4 is considered a marker of renal cell carcinoma (other renal tumor cells do not produce Angptl4 mRNA). Evidence suggests that Angptl4 is a blood-borne hormone directly involved in regulating glucose homeostasis, lipid metabolism and Insulin sensitivity. Angptl4 exerts distinct effects on glucose and lipid metabolism, and may be useful for the treatment of diabetes.

REFERENCES

- Kim, I., et al. 2000. Hepatic expression, synthesis and secretion of a novel fibrinogen/angiotensin-related protein that prevents endothelial cell apoptosis. *Biochem. J.* 346: 603-610.
- Li, K.Q., et al. 2004. Anti-tumor effect of recombinant retroviral vector-mediated human Angptl4 gene transfection. *Chin. Med. J.* 117: 1364-1369.
- Yu, X., et al. 2005. Inhibition of cardiac lipoprotein utilization by transgenic overexpression of Angptl4 in the heart. *Proc. Natl. Acad. Sci. USA* 102: 1767-1772.
- Xu, A., et al. 2005. Angiotensin-like protein 4 decreases blood glucose and improves glucose tolerance but induces hyperlipidemia and hepatic steatosis in mice. *Proc. Natl. Acad. Sci. USA* 102: 6086-6091.

CHROMOSOMAL LOCATION

Genetic locus: ANGPTL4 (human) mapping to 19p13.2.

PRODUCT

Angptl4 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Angptl4 shRNA Plasmid (h): sc-44664-SH and Angptl4 shRNA (h) Lentiviral Particles: sc-44664-V as alternate gene silencing products.

For independent verification of Angptl4 (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-44664A, sc-44664B and sc-44664C.

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

Angptl4 siRNA (h) is recommended for the inhibition of Angptl4 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 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

Angptl4 (A-2): sc-373761 is recommended as a control antibody for monitoring of Angptl4 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 Angptl4 gene expression knockdown using RT-PCR Primer: Angptl4 (h)-PR: sc-44664-PR (20 μ l, 564 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

- Guo, L., et al. 2015. Silencing angiotensin-like protein 4 (Angptl4) protects against lipopolysaccharide-induced acute lung injury via regulating SIRT1/NF κ B pathway. *J. Cell. Physiol.* 230: 2390-2402.

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.