SANTA CRUZ BIOTECHNOLOGY, INC.

Angptl2 siRNA (h): sc-72351

BACKGROUND

Angptl2 (angiopoietin-like 2), also known as angiopoietin-related protein 2 (ARP2), is a member of the Fibrinogen superfamily. It is expressed in adult heart, stomach, spleen and small intestine tissues. Angptl2 consists of an N-terminus with a conserved coiled-coil domain, two glycosylation sites and a C-terminus with a conserved fibrinogen-like domain. It is a secreted protein and shares 59% sequence identity with Angptl1. In endothelial cells, Angptl2 does not function as a growth factor, instead it functions to induce sprouting and regulate angiogenesis. This activity is thought to be exerted via the interaction of Angptl2 with an endotheilial cell receptor and may involve paracrine and autocrine signalling. The loss of Angptl2 results in impaired vascular development. In addition, upregulation of Angptl2 may play a significant role in the pathogenesis of diabetic glomerulopathy and tumor growth and survival.

REFERENCES

1. Kim, I., et al. 1999. Molecular cloning, expression, and characterization of angiopoietin-related protein. Angiopoietin-related protein induces endothelial cell sprouting. J. Biol. Chem. 274: 26523-26528.
2. Kim, I., et al. 2000. Hepatic expression, synthesis and secretion of a novel Fibrinogen/angiopoietin-related protein that prevents endothelial-cell apoptosis. Biochem. J. 346: 603-610.
3. Stassar, M.J., et al. 2001. Identification of human renal cell carcinoma associated genes by suppression subtractive hybridization. Br. J. Cancer 85: 1372-1382.
4. Ito, Y., et al. 2003. Inhibition of angiogenesis and vascular leakiness by angiopoietin-related protein 4. Cancer Res. 63: 6651-6657.
5. Kubota, Y., et al. 2005. Cooperative interaction of angiopoietin-like proteins 1 and 2 in zebrafish vascular development. Proc. Natl. Acad. Sci. USA 102: 13502-13507.
6. Cazes, A., et al. 2006. Extracellular matrix-bound angiopoietin-like 4 inhibits endothelial cell adhesion, migration, and sprouting and alters Actin cytoskeleton. Circ. Res. 99: 1207-1215.

CHROMOSOMAL LOCATION

Genetic locus: ANGPTL2 (human) mapping to 9q33.3.

PRODUCT

Angptl2 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 Angptl2 shRNA Plasmid (h): sc-72351-SH and Angptl2 shRNA (h) Lentiviral Particles: sc-72351-V as alternate gene silencing products.

For independent verification of Angptl2 (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-72351A, sc-72351B and sc-72351C.

RESEARCH USE

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

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

Angptl2 siRNA (h) is recommended for the inhibition of Angptl2 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.

GENE EXPRESSION MONITORING

Angptl2 (H-2): sc-393747 is recommended as a control antibody for monitoring of Angptl2 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 Angptl2 gene expression knockdown using RT-PCR Primer: Angptl2 (h)-PR: sc-72351-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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