SANTA CRUZ BIOTECHNOLOGY, INC.

Angptl1 siRNA (m): sc-141061

BACKGROUND

Angptl1 (angiopoietin-like 1), also known as angioarrestin, ARP1, ANGPT3 or previously known as angiopoietin 3 (ANG3), is a member of the angiopoietin-like family. It is highly expressed in adult tissues, particularly adrenal gland, thyroid, placenta and small intestine. Angptl1 exists as a disulfide-linked dimer and shares 45.1% identity with Ang-1 and 59% identity with Angptl2. Angptl1 consists of an N-terminus with a coiled-coil domain, potential glycosylation sites and a C-terminus with a fibrinogen-like domain. It is a secreted protein but does not function as a growth factor in endothelial cells. Angptl1 plays a distinct role in the regulation of angiogenesis; inhibiting proliferation, migration, tube formation and endothelial cell adhesion. To exert this inhibitory activity, Angptl1 is speculated to interact with a receptor on endothelial cells. In a wide variety of tumor tissues, Angptl1 expression is down-regulated suggesting that a major function of this protein involves its antiangiogenic properties.

REFERENCES

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2. Kim, I., et al. 1999. Molecular cloning and characterization of a novel angiopoietin family protein, angiopoietin-3. FEBS Lett. 443: 353-356.
3. Dhanabal, M., et al. 2002. Angioarrestin: an antiangiogenic protein with tumor-inhibiting properties. Cancer Res. 62: 3834-3841.
4. Lee, H.J., et al. 2004. Biological characterization of angiopoietin-3 and angiopoietin-4. FASEB J. 18: 1200-1208.
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. Kubota, Y., et al. 2005. Isolation and expression patterns of genes for three angiopoietin-like proteins, Angptl1, 2 and 6 in zebrafish. Gene Expr. Patterns 5: 679-685.
7. Oike, Y., et al. 2005. Angiopoietin-like proteins: potential new targets for metabolic syndrome therapy. Trends Mol. Med. 11: 473-479.
8. Bouïs, D., et al. 2005. A review on pro- and anti-angiogenic factors as targets of clinical intervention. Pharmacol. Res. 53: 89-103.

CHROMOSOMAL LOCATION

Genetic locus: Angptl1 (mouse) mapping to 1 H1.

PRODUCT

Angptl1 siRNA (m) is a target-specific 19-25 nt siRNA 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 Angptl1 shRNA Plasmid (m): sc-141061-SH and Angptl1 shRNA (m) Lentiviral Particles: sc-141061-V as alternate gene silencing 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

Angptl1 siRNA (m) is recommended for the inhibition of Angptl1 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.

GENE EXPRESSION MONITORING

Angptl1 (A-3): sc-271841 is recommended as a control antibody for monitoring of Angptl1 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 Angptl1 gene expression knockdown using RT-PCR Primer: Angptl1 (m)-PR: sc-141061-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.