



# Angptl1 siRNA (h): sc-88171

## 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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- Dhanabal, M., et al. 2002. Angioarrestin: an antiangiogenic protein with tumor-inhibiting properties. *Cancer Res.* 62: 3834-3841.
- Lee, H.J., et al. 2004. Biological characterization of angiopoietin-3 and angiopoietin-4. *FASEB J.* 18: 1200-1208.
- 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.
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- Oike, Y., et al. 2005. Angiopoietin-like proteins: potential new targets for metabolic syndrome therapy. *Trends Mol. Med.* 11: 473-479.

## CHROMOSOMAL LOCATION

Genetic locus: ANGPTL1 (human) mapping to 1q25.2.

## PRODUCT

Angptl1 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Angptl1 shRNA Plasmid (h): sc-88171-SH and Angptl1 shRNA (h) Lentiviral Particles: sc-88171-V as alternate gene silencing products.

For independent verification of Angptl1 (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-88171A, sc-88171B and sc-88171C.

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

## APPLICATIONS

Angptl1 siRNA (h) is recommended for the inhibition of Angptl1 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  $\mu$ M in 66  $\mu$ 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

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-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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 $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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 (h)-PR: sc-88171-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## SELECT PRODUCT CITATIONS

- Sun, R., et al. 2020. ANGPTL1 is a potential biomarker for differentiated thyroid cancer diagnosis and recurrence. *Oncol. Lett.* 20: 240.

## RESEARCH USE

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