

ADAMTS-1 siRNA (m): sc-41426

BACKGROUND

ADAMTS-1, also known as METH-1, C3-C5 and KIAA1346, and the related protein ADAMTS-8, also known as METH-2 and FLJ41712, represent a new family of proteins with metalloprotease, disintegrin and Thrombospondin domains. ADAMTS-1 and ADAMTS-2 are secreted and proteolytically processed proteins that are 51.7% identical but display different, non-overlapping patterns of expression in tissues and cultured cell lines. Both ADAMTS proteins have been shown to be more active than Thrombospondin 1 or endostatin in preventing angiogenesis in a cornea pocket model, and both may have application for the inhibition of new blood vessel formation in a range of tumor types. The spacer region and the Thrombospondin type 1 motifs in the carboxy-terminus of ADAMTS-1 are important for anchoring ADAMTS-1 to the extracellular matrix.

REFERENCES

1. Kuno, K., et al. 1997. The exon/intron organization and chromosomal mapping of the mouse ADAMTS-1 gene encoding an ADAM family protein with TSP motifs. *Genomics* 46: 466-471.
2. Kuno, K., et al. 1997. Molecular cloning of a gene encoding a new type of metalloproteinase-disintegrin family protein with Thrombospondin motifs as an inflammation associated gene. *J. Biol. Chem.* 272: 556-562.
3. Kuno, K. and Matsushima, K. 1998. ADAMTS-1 protein anchors at the extracellular matrix through the Thrombospondin type I motifs and its spacing region. *J. Biol. Chem.* 273: 13912-13917.
4. Kuno, K., et al. 1999. ADAMTS-1 is an active metalloproteinase associated with the extracellular matrix. *J. Biol. Chem.* 274: 18821-18826.

CHROMOSOMAL LOCATION

Genetic locus: Adamts1 (mouse) mapping to 16 C3.3.

PRODUCT

ADAMTS-1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ADAMTS-1 shRNA Plasmid (m): sc-41426-SH and ADAMTS-1 shRNA (m) Lentiviral Particles: sc-41426-V as alternate gene silencing products.

For independent verification of ADAMTS-1 (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-41426A, sc-41426B and sc-41426C.

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

ADAMTS-1 siRNA (m) is recommended for the inhibition of ADAMTS-1 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 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

ADAMTS-1 (3C8F4): sc-47727 is recommended as a control antibody for monitoring of ADAMTS-1 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 ADAMTS-1 gene expression knockdown using RT-PCR Primer: ADAMTS-1 (m)-PR: sc-41426-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Hong-Brown, L.Q., et al. 2015. Adamts1 mediates ethanol-induced alterations in collagen and elastin via a FoxO1-sestrin3-AMPK signaling cascade in myocytes. *J. Cell. Biochem.* 116: 91-101.
2. Pitts, M.S., et al. 2019. TAAR1 levels and sub-cellular distribution are cell line but not breast cancer subtype specific. *Histochem. Cell Biol.* 152: 155-166.

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.