

ADAMTS-19 siRNA (h): sc-61866

BACKGROUND

ADAMTS (a disintegrin and metalloproteinase domain with Thrombospondin type-1 modules) is a family of zinc-dependent protease that are implicated in a variety of normal and pathological conditions, including arthritis and cancer. Embryogenesis, morphological growth changes, inflammation, tumor invasion and metastasis involve the breakdown and remodeling of the extracellular matrix. This degradation is due to the family of enzymes known as the matrix metalloproteinases (MMPs), which are related to ADAMTS subtypes. ADAMTS protein family members contain an amino-terminal propeptide domain, a metalloproteinase domain, a disintegrin-like domain and a carboxy-terminus that contains a varying number of thrombospondin type-1 (TSP-1) motifs. ADAMTS genes are primarily expressed in fetal tissues, including the lung, kidney and liver. The human ADAMTS10 gene maps to chromosome 19p13.3. The human ADAMTS19 gene maps to chromosome 5q31.

REFERENCES

1. Tang, B.L. and Hong, W. 1999. ADAMTS: a novel family of proteases with an ADAM protease domain and Thrombospondin 1 repeats. *FEBS Lett.* 445: 223-225.
2. Tang, B.L. 2001. ADAMTS: a novel family of extracellular matrix proteases. *Int. J. Biochem. Cell Biol.* 33: 33-44.
3. Cal, S., et al. 2002. Cloning, expression analysis, and structural characterization of seven novel human ADAMTSs, a family of metalloproteinases with disintegrin and Thrombospondin 1 domains. *Gene* 283: 49-62.
4. Nicholson, A.C., et al. 2005. Functional evolution of ADAMTS genes: evidence from analyses of phylogeny and gene organization. *BMC Evol. Biol.* 5: 11.

CHROMOSOMAL LOCATION

Genetic locus: ADAMTS19 (human) mapping to 5q23.3.

PRODUCT

ADAMTS-19 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 ADAMTS-19 shRNA Plasmid (h): sc-61866-SH and ADAMTS-19 shRNA (h) Lentiviral Particles: sc-61866-V as alternate gene silencing products.

For independent verification of ADAMTS-19 (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-61866A, sc-61866B and sc-61866C.

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.

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-19 siRNA (h) is recommended for the inhibition of ADAMTS-19 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ADAMTS-19 gene expression knockdown using RT-PCR Primer: ADAMTS-19 (h)-PR: sc-61866-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.