

# ADAMTS-7 siRNA (h): sc-89955

## BACKGROUND

ADAMTS (a disintegrin and metalloproteinase domain with thrombospondin type-1 modules) is a family of zinc-dependent proteases that are implicated in a variety of normal and pathological conditions, including arthritis and cancer. ADAMTS protein family members contain an N-terminal propeptide domain, a metalloproteinase domain, a disintegrin-like domain and a C-terminus that contains a varying number of thrombospondin type-1 (TSP-1) motifs. ADAMTS genes are primarily expressed in fetal tissues, including lung, kidney and liver. ADAMTS-7 (ADAM metalloproteinase with thrombospondin type 1 motif, 7), also known as COMPase, is a 1,686 amino acid protein that exists as two alternatively spliced isoforms. Encoded by a gene that maps to human chromosome 15q25.1, ADAMTS-7 contains eight TSP-1 motifs and binds one zinc ion per subunit. ADAMTS-7 is expressed in heart, brain, placenta, lung, liver, skeletal muscle, kidney and pancreas. ADAMTS-7 is also located in meniscus, bone, tendon, cartilage, synovium, fat and ligaments, and is up-regulated in articular cartilage and synovium in arthritis patients. ADAMTS-7 functions as a metalloprotease and may play a role in the degradation of COMP. ADAMTS-7 is pH dependent, with optimum pH between 7.5 and 9.5.

## REFERENCES

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3. Somerville, R.P., et al. 2004. ADAMTS7B, the full-length product of the ADAMTS7 gene, is a chondroitin sulfate proteoglycan containing a mucin domain. *J. Biol. Chem.* 279: 35159-35175.
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## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## CHROMOSOMAL LOCATION

Genetic locus: ADAMTS7 (human) mapping to 15q25.1.

## PRODUCT

ADAMTS-7 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 ADAMTS-7 shRNA Plasmid (h): sc-89955-SH and ADAMTS-7 shRNA (h) Lentiviral Particles: sc-89955-V as alternate gene silencing products.

For independent verification of ADAMTS-7 (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-89955A, sc-89955B and sc-89955C.

## 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

ADAMTS-7 siRNA (h) is recommended for the inhibition of ADAMTS-7 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.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ADAMTS-7 gene expression knockdown using RT-PCR Primer: ADAMTS-7 (h)-PR: sc-89955-PR (20  $\mu$ l). 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.