SANTA CRUZ BIOTECHNOLOGY, INC.

ADAMTS-3 siRNA (m): sc-140866

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 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-2 and ADAMTS-3 are the only two members of the ADAMTS family to have three carboxy-terminal TS domains. ADAMTS genes are primarily expressed in fetal tissues, including the lung, kidney and liver. The human ADAMTS-3 gene maps to chromosome 4q13.3 and encodes a protein that catalyzes the excision of the N-propeptide of type II procollagens. The ratio of ADAMTS-3 to ADAMTS-2 mRNA in human cartilage is approximately 5:1.

REFERENCES

1. Nagase, T., et al. 1997. Prediction of the coding sequences of unidentified human genes. VII. The complete sequences of 100 new cDNA clones from brain which can code for large proteins *in vitro*. DNA Res. 4: 141-150.
2. Tang, B.L. and Hong, W. 1999. ADAMTS: a novel family of proteases with an ADAM protease domain and thrombospondin 1 repeats. FEBS Letts. 445: 223-225.
3. Online Mendelian Inheritance in Man, OMIM™. 2000. Johns Hopkins University, Baltimore, MD. MIM Number: 605011. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Fernandes, R.J., et al. 2001. Procollagen II amino propeptide processing by ADAMTS-3. Insights on dermatosparaxis. J. Biol. Chem. 276: 31502-31509.

CHROMOSOMAL LOCATION

Genetic locus: Adamts3 (mouse) mapping to 5 E1.

PRODUCT

ADAMTS-3 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ADAMTS-3 shRNA Plasmid (m): sc-140866-SH and ADAMTS-3 shRNA (m) Lentiviral Particles: sc-140866-V as alternate gene silencing products.

For independent verification of ADAMTS-3 (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-140866A, sc-140866B and sc-140866C.

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 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

ADAMTS-3 siRNA (m) is recommended for the inhibition of ADAMTS-3 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ADAMTS-3 gene expression knockdown using RT-PCR Primer: ADAMTS-3 (m)-PR: sc-140866-PR (20 µl, 463 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.