SANTA CRUZ BIOTECHNOLOGY, INC.

ADAMTS-13 siRNA (m): sc-37059

BACKGROUND

ADAMTS (a disintegrin and metalloproteinase domain with Thrombospondin 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 1 (TSP-1) motifs. ADAMTS genes are primarily expressed in fetal tissues, including the lung, kidney and liver. The human ADAMTS13 gene maps to chromosome 9q34.2 and encodes a 1,427-amino acid protein, known as von Willebrand factor-cleaving protease, that is expressed in the liver and placenta. ADAMTS-13 cleaves the peptide bond between Tyr 842 and Met 843 in monomeric subunits of von Willebrand factor. Human ADAMTS-13 protein can be expressed as multiple variants that share a common amino-terminal sequence.

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. Gerritsen, H.E., Robles, R., Lammle, B. and Furlan, M. 2001. Partial amino acid sequence of purified von Willebrand factor-cleaving protease. Blood 98: 1654-1661.
4. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 605421. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Cal, S., Obaya, A.J., Llamazares, M., Garabaya, C., Quesada, V. and Lopez-Otin, C. 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.
6. LocusLink Report (LocusID: 11093). http://www.ncbi.nlm.nih.gov/LocusLink/

CHROMOSOMAL LOCATION

Genetic locus: Adamts13 (mouse) mapping to 2 A3.

PRODUCT

ADAMTS-13 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-13 shRNA Plasmid (m): sc-37059-SH and ADAMTS-13 shRNA (m) Lentiviral Particles: sc-37059-V as alternate gene silencing products.

For independent verification of ADAMTS-13 (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-37059A, sc-37059B and sc-37059C.

RESEARCH USE

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

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-13 siRNA (m) is recommended for the inhibition of ADAMTS-13 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-13 gene expression knockdown using RT-PCR Primer: ADAMTS-13 (m)-PR: sc-37059-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.