SANTA CRUZ BIOTECHNOLOGY, INC.

ADAMTS-16 siRNA (m): sc-61953

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 pro-peptide domain, a metalloproteinase domain, a disintegrin-like domain and a carboxy-terminus that contains a varying number of thrombospondin type-1 (TSP-1) motifs. Structurally, ADAMTS-16 most closely resembles ADAMTS-18. ADAMTS-16 is expressed predominantly in fetal lung and kidney tissues, as well as in adult brain tissue. ADAMTS-16 may play a role in cartilage aggrecan loss in osteoarthritis (OA), a disease of the joints. This role is suggested by a significant upregulation of ADAMTS-16 in OA synovium and cartilage.

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. Online Mendelian Inheritance in Man, OMIM™. 2000. Johns Hopkins University, Baltimore, MD. MIM Number: 605008. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Tang, B.L. 2001. ADAMTS: a novel family of extracellular matrix proteases. Int. J. Biochem. Cell Biol. 33: 33-44.
4. 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.
5. Ote, M., et al. 2005. Characteristics of two genes encoding proteins with an ADAM-type metalloprotease domain, which are induced during the molting periods in *Bombyx mori*. Arch. Insect Biochem. Physiol. 59: 91-98.
6. Zeng, W., et al. 2006. Glycosaminoglycan-binding properties and aggrecanase activities of truncated ADAMTSs: comparative analyses with ADAMTS-5, -9, -16 and -18. Biochim. Biophys. Acta 1760: 517-524.

CHROMOSOMAL LOCATION

Genetic locus: Adamts16 (mouse) mapping to 13 C1.

PRODUCT

ADAMTS-16 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-16 shRNA Plasmid (m): sc-61953-SH and ADAMTS-16 shRNA (m) Lentiviral Particles: sc-61953-V as alternate gene silencing products.

For independent verification of ADAMTS-16 (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-61953A, sc-61953B and sc-61953C.

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-16 siRNA (m) is recommended for the inhibition of ADAMTS-16 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-16 gene expression knockdown using RT-PCR Primer: ADAMTS-16 (m)-PR: sc-61953-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.