

ADAMTS-L2 siRNA (h): sc-72447

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-L2 (ADAMTS-like protein 2) is a 951 amino acid secreted protein that is highly expressed in lung, kidney and liver. Mutations in the gene encoding ADAMTS are the cause of geleophysic dysplasia, an autosomal recessive disorder characterized by cardiac valvular anomalies, short stature, thick skin and brachydactyly. In individuals affected with geleophysic dysplasia, there is a significant increase in total active TGF β 1 and nuclear locations of p-SAMD2 in fibroblasts. Interestingly, ADAMTS-L2 interacts with LTBP-1, a glycoprotein that is part of the platelet-derived TGF β 1 complex.

REFERENCES

1. Nagase, T., et al. 1998. Prediction of the coding sequences of unidentified human genes. IX. The complete sequences of 100 new cDNA clones from brain which can code for large proteins *in vitro*. DNA Res. 5: 31-39.
2. Hall, N.G., et al. 2003. ADAMTSL-3/punctin-2, a novel glycoprotein in extracellular matrix related to the ADAMTS family of metalloproteases. Matrix Biol. 22: 501-510.
3. Humphray, S.J., et al. 2004. DNA sequence and analysis of human chromosome 9. Nature 429: 369-374.
4. Koo, B.H., et al. 2007. ADAMTS-like 2 (ADAMTSL2) is a secreted glycoprotein that is widely expressed during mouse embryogenesis and is regulated during skeletal myogenesis. Matrix Biol. 26: 431-441.
5. Le Goff, C., et al. 2008. ADAMTSL2 mutations in geleophysic dysplasia demonstrate a role for ADAMTS-like proteins in TGF- β bioavailability regulation. Nat. Genet. 40: 1119-1123.
6. Online Mendelian Inheritance in Man, OMIM[™]. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 612277. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: ADAMTSL2 (human) mapping to 9q34.2.

PRODUCT

ADAMTS-L2 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-L2 shRNA Plasmid (h): sc-72447-SH and ADAMTS-L2 shRNA (h) Lentiviral Particles: sc-72447-V as alternate gene silencing products.

For independent verification of ADAMTS-L2 (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-72447A, sc-72447B and sc-72447C.

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-L2 siRNA (h) is recommended for the inhibition of ADAMTS-L2 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-L2 gene expression knockdown using RT-PCR Primer: ADAMTS-L2 (h)-PR: sc-72447-PR (20 μ 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.

PROTOCOLS

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