SANTA CRUZ BIOTECHNOLOGY, INC.

ADAMTS-L4 siRNA (m): sc-140870

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The Power to Question

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-L4 (ADAMTS-like protein 4), also known as TSRC1 (thrombospondin repeat-containing protein 1), is a 1074 amino acid secreted protein. Known to interact with cathepsin B, ADAMTS-L4 functions as a positive regulator of apoptosis. Mutations in the gene that encodes ADAMTS-L4 are a cause of autosomal recessive isolated ectopia lentis (EL), a rare condition in which defective zonule formation results in partial or complete displacement of the lens from its space. ADAMTS-L4 is expressed in spleen, liver, skeletal muscle, lung, colon, testis, placenta heart and leukocyte.

REFERENCES

1. Adams, J.C., et al. 2000. The thrombospondin type 1 repeat (TSR) superfamily: diverse proteins with related roles in neuronal development. Dev. Dyn. 218: 280-299.
2. Buchner, D.A., et al. 2003. TSRC1, a widely expressed gene containing seven thrombospondin type I repeats. Gene 307: 23-30.
3. Liu, T., et al. 2005. Human plasma N-glycoproteome analysis by immunoaffinity subtraction, hydrazide chemistry, and mass spectrometry. J. Proteome Res. 4: 2070-2080.
4. Liu, J., et al. 2006. Cathepsin B and its interacting proteins, bikunin and TSRC1, correlate with TNF-induced apoptosis of ovarian cancer cells OV-90. FEBS Lett. 580: 245-250.
5. Ahram, D., et al. 2009. A homozygous mutation in ADAMTSL4 causes autosomal-recessive isolated ectopia lentis. Am. J. Hum. Genet. 84: 274-278.

CHROMOSOMAL LOCATION

Genetic locus: Adamtsl4 (mouse) mapping to 3 F2.1.

PRODUCT

ADAMTS-L4 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-L4 shRNA Plasmid (m): sc-140870-SH and ADAMTS-L4 shRNA (m) Lentiviral Particles: sc-140870-V as alternate gene silencing products.

For independent verification of ADAMTS-L4 (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-140870A, sc-140870B and sc-140870C.

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-L4 siRNA (m) is recommended for the inhibition of ADAMTS-L4 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.

GENE EXPRESSION MONITORING

ADAMTS-L4 (H-9): sc-390187 is recommended as a control antibody for monitoring of ADAMTS-L4 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ADAMTS-L4 gene expression knockdown using RT-PCR Primer: ADAMTS-L4 (m)-PR: sc-140870-PR (20 µl). 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.