SANTA CRUZ BIOTECHNOLOGY, INC.

ADAMTS-9 siRNA (r): sc-270181

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 genes are primarily expressed in fetal tissues, including the lung, kidney and liver. The human ADAMTS9 gene maps to chromosome 3p14.1 and encodes a deduced 1,1471 amino acid protein that is expressed in ovary, pancreas, heart, lung, placenta, adult kidney and fetal tissues. Human chromosome 3p14.1 is a region that is known to contain deletions and rearrangements in renal cell carcinomas, breast cancers, uterine cervical carcinomas and vulvar carcinomas.

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. Clark, M.E., Kelner, G.S., Turbeville, L.A., Boyer, A., Arden, K.C. and Maki, R.A. 2000. ADAMTS9, a novel member of the ADAM-TS/metallospondin gene family. Genomics 67: 343-350.
3. Tang, B.L. 2001. ADAMTS: a novel family of extracellular matrix proteases. Int. J. Biochem. Cell Biol. 33: 33-44.
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.

CHROMOSOMAL LOCATION

Genetic locus: Adamts9 (rat) mapping to 4q34.

PRODUCT

ADAMTS-9 siRNA (r) 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-9 shRNA Plasmid (r): sc-270181-SH and ADAMTS-9 shRNA (r) Lentiviral Particles: sc-270181-V as alternate gene silencing products.

For independent verification of ADAMTS-9 (r) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-270181A, sc-270181B and sc-270181C.

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-9 siRNA (r) is recommended for the inhibition of ADAMTS-9 expression in rat 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-9 gene expression knockdown using RT-PCR Primer: ADAMTS-9 (r)-PR: sc-270181-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Iskandar, K., et al. 2024. A novel MTORC2-AKT-ROS axis triggers mitofission and mitophagy-associated execution of colorectal cancer cells upon drug-induced activation of mutant KRAS. Autophagy 20: 1418-1441.

PROTOCOLS

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