SANTA CRUZ BIOTECHNOLOGY, INC.

SAMD1 siRNA (h): sc-97245

BACKGROUND

SAMD1 (sterile α motif domain containing 1), also known atherin, is a 538 amino acid secreted protein that contains one SAM (sterile α motif) domain. Amino acid sequences in SAMD1 shows extensive sequence conservation of the full-length sequences for human and rabbit SAMD1. SAMD1 is present only in atherosclerotic lesions, not in normal intima. Within lesions, SAMD1 is found both in the extracellular compartment and within foam cells. SAMD1 may play a role in atherogenesis by immobilizing LDL in the atherial wall. The SAMD1 gene maps to human chromosome 19p13.12. Chromosome 19 consists of approximately 63 million bases and makes up over 2% of human genomic DNA. Chromosome 19 includes a diversity of interesting genes and is recognized for having the greatest gene density of the human chromosomes. It is the genetic home for a number of immunoglobulin superfamily members including the killer cell and leukocyte Ig-like receptors, a number of ICAMs, the CEACAM and PSG family, and Fcα receptors. Key genes for eye color and hair color also map to chromosome 19.

REFERENCES

1. Trettel, F., et al. 2000. A fine physical map of the CACNA1A gene region on 19p13.1-p13.2 chromosome. Gene 241: 45-50.
2. Grimwood, J., et al. 2004. The DNA sequence and biology of human chromosome 19. Nature 428: 529-535.
3. Lees, A.M., et al. 2005. Atherin: a newly identified, lesion-specific, LDL-binding protein in human atherosclerosis. Atherosclerosis 182: 219-230.
4. Baptista, J., et al. 2005. Molecular cytogenetic analyses of breakpoints in apparently balanced reciprocal translocations carried by phenotypically normal individuals. Eur. J. Hum. Genet. 13: 1205-1212.
5. Lopez-Coviella, I., et al. 2006. Developmental pattern of expression of BMP receptors and Smads and activation of Smad1 and Smad5 by BMP9 in mouse basal forebrain. Brain Res. 1088: 49-56.
6. Jensen, D.R., et al. 2009. A novel chromosome 19p13.12 deletion in a child with multiple congenital anomalies. Am. J. Med. Genet. A 149A: 396-402.

CHROMOSOMAL LOCATION

Genetic locus: SAMD1 (human) mapping to 19p13.12.

PRODUCT

SAMD1 siRNA (h) is a pool of 2 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 SAMD1 shRNA Plasmid (h): sc-97245-SH and SAMD1 shRNA (h) Lentiviral Particles: sc-97245-V as alternate gene silencing products.

For independent verification of SAMD1 (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-97245A and sc-97245B.

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

SAMD1 siRNA (h) is recommended for the inhibition of SAMD1 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 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 SAMD1 gene expression knockdown using RT-PCR Primer: SAMD1 (h)-PR: sc-97245-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.