SANTA CRUZ BIOTECHNOLOGY, INC.

apoL siRNA (h): sc-41189

BACKGROUND

Apolipoproteins are protein components of plasma lipoproteins. The apolipoprotein L gene family encodes six highly homologous proteins designated apoL-I to -VI, which are associated with large high density type lipoproteins (HDL). The human apoL family maps to chromosome 22q12.1-13.1 within a 127,000-bp region. apoL has been characterized as a pancreas specific, 383-amino acid protein that contains a 12-amino acid secretory signal peptide. The apoL genes have TATA-less promoters and contain putative sterol regulatory elements, suggesting that transcription of these genes may be coordinated with that of the low density lipoprotein receptor and genes in pathways involving the synthesis of triglycerides and cholesterol. apoL homologs can undergo ten fold changes in expression during atherosclerotic changes in vascular endothelial cells, which includes the inflammatory reaction of atherosclerotic lesions.

REFERENCES

1. Duchateau, P.N., et al. 1997. Apolipoprotein L, a new human high density lipoprotein apolipoprotein expressed by the pancreas. Identification, cloning, characterization, and plasma distribution of apolipoprotein L. J. Biol. Chem. 272: 25576-25582.
2. Horrevoets, A.J., et al. 1999. Vascular endothelial genes that are responsive to tumor necrosis factor α *in vitro* are expressed in atherosclerotic lesions, including inhibitor of apoptosis protein-1, Stannin, and two novel genes. Blood 93: 3418-3431.
3. Duchateau, P.N., et al. 2001. Apolipoprotein L gene family: tissue-specific expression, splicing, promoter regions; discovery of a new gene. J. Lipid Res. 42: 620-630.
4. Page, N.M., et al. 2001. The human apolipoprotein L gene cluster: identification, classification, and sites of distribution. Genomics 74: 71-78.
5. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 603743. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: APOL1 (human) mapping to 22q12.3.

PRODUCT

apoL 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see apoL shRNA Plasmid (h): sc-41189-SH and apoL shRNA (h) Lentiviral Particles: sc-41189-V as alternate gene silencing products.

For independent verification of apoL (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-41189A, sc-41189B and sc-41189C.

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

apoL siRNA (h) is recommended for the inhibition of apoL 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 apoL gene expression knockdown using RT-PCR Primer: apoL (h)-PR: sc-41189-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. Lan, X., et al. 2013. High glucose enhances HIV entry into T cells through upregulation of CXCR4. J. Leukoc. Biol. 94: 769-777.
2. Mishra, A., et al. 2018. Modulation of apolipoprotein L1-microRNA-193a axis prevents podocyte dedifferentiation in high-glucose milieu. Am. J. Physiol. Renal Physiol. 314: F832-F843.
3. Kumar, V., et al. 2019. Disruption of APOL1-miR193a axis induces disorganization of podocyte Actin cytoskeleton. Sci. Rep. 9: 3582.

RESEARCH USE

For research use only, not for use in diagnostic procedures.