

apoOL siRNA (m): sc-141176

BACKGROUND

Apolipoproteins are a family of fatty-acid binding proteins that transport fat through the bloodstream in the form of lipoproteins. ApoO promotes the transport of cholesterol from macrophage cells and may be involved in regulatory mechanisms that protect lipid accumulation within the heart. ApoO is present in high density lipoproteins (HDLs) and low density lipoproteins (LDLs), and is secreted by an MTP (microsomal triglyceride transfer protein)-dependent mechanism. ApoOL (apolipoprotein O-like), also known as FAM121A, is a 268 amino acid secreted protein belonging to the apolipoprotein O family and may be involved in cholesterol transport. ApoOL is encoded by a gene located on human chromosome X, which contains nearly 153 million base pairs and houses over 1,000 genes.

REFERENCES

1. Björkegren, J., et al. 2001. Lipoprotein secretion and triglyceride stores in the heart. *J. Biol. Chem.* 276: 38511-38517.
2. van der Vliet, H.N., et al. 2001. Apolipoprotein A-V: a novel apolipoprotein associated with an early phase of liver regeneration. *J. Biol. Chem.* 276: 44512-44520.
3. Offer, T., et al. 2002. Nitroxides inhibit peroxyl radical-mediated DNA scission and enzyme inactivation. *Free Radic. Biol. Med.* 32: 872-881.
4. Nielsen, L.B. 2002. Lipoprotein production by the heart: a novel pathway of triglyceride export from cardiomyocytes. *Scand. J. Clin. Lab. Invest. Suppl.* 237: 35-40.
5. Clark, H.F., et al. 2003. The secreted protein discovery initiative (SPDI), a large-scale effort to identify novel human secreted and transmembrane proteins: a bioinformatics assessment. *Genome Res.* 13: 2265-2270.
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CHROMOSOMAL LOCATION

Genetic locus: Apool (mouse) mapping to X E1.

PRODUCT

apoOL 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see apoOL shRNA Plasmid (m): sc-141176-SH and apoOL shRNA (m) Lentiviral Particles: sc-141176-V as alternate gene silencing products.

For independent verification of apoOL (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-141176A, sc-141176B and sc-141176C.

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

apoOL siRNA (m) is recommended for the inhibition of apoOL 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 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.

GENE EXPRESSION MONITORING

apoOL (G-6): sc-390958 is recommended as a control antibody for monitoring of apoOL 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 apoOL gene expression knockdown using RT-PCR Primer: apoOL (m)-PR: sc-141176-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.