

# apoM siRNA (h): sc-61978

## BACKGROUND

Apolipoproteins are protein components of plasma lipoproteins. ApoM (apolipoprotein M), also known as protein G3a, is a member of the Lipocalin family of proteins. ApoM is exclusively expressed in kidney tubular epithelial cells and liver hepatocytes. Mature apoM retains its signal peptide, which acts as a hydrophobic anchor, and contains a structurally conserved eight stranded antiparallel  $\beta$  barrel which binds retinol and retinoic acid. ApoM may play a key role in reverse cholesterol transport. It mainly associates with high density lipoprotein (HDL) and to a lesser extent with triglyceride-rich lipoprotein (TRL) and low-density lipoprotein (LDL). ApoM is important for the pre $\beta$ -HDL formation. Pre $\beta$ -HDL is an important acceptor of peripheral cellular cholesterol. The concentration of apoM in plasma strongly correlates with total cholesterol. Low concentrations of apoM in plasma is associated with diabetes.

## REFERENCES

- Zhang, X.Y., et al. 2003. Specific tissue expression and cellular localization of human apolipoprotein M as determined by *in situ* hybridization. *Acta Histochem.* 105: 67-72.
- Wolfrum, C., et al. 2005. Apolipoprotein M is required for pre $\beta$ -HDL formation and cholesterol efflux to HDL and protects against atherosclerosis. *Nat. Med.* 11: 418-422.
- Christoffersen, C., et al. 2006. Isolation and characterization of human apolipoprotein M-containing lipoproteins. *J. Lipid Res.* 47: 1833-1843.
- Dahlbäck, B., et al. 2006. Apolipoprotein M—a novel player in high-density lipoprotein metabolism and atherosclerosis. *Curr. Opin. Lipidol.* 17: 291-295.

## CHROMOSOMAL LOCATION

Genetic locus: APOM (human) mapping to 6p21.33.

## PRODUCT

apoM 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see apoM shRNA Plasmid (h): sc-61978-SH and apoM shRNA (h) Lentiviral Particles: sc-61978-V as alternate gene silencing products.

For independent verification of apoM (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-61978A, sc-61978B and sc-61978C.

## STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at  $-20^{\circ}$  C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at  $-20^{\circ}$  C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

apoM siRNA (h) is recommended for the inhibition of apoM 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  $\mu$ M in 66  $\mu$ 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

apoM (A-10): sc-365139 is recommended as a control antibody for monitoring of apoM 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 $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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 $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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 apoM gene expression knockdown using RT-PCR Primer: apoM (h)-PR: sc-61978-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60 $^{\circ}$  C and the extension temperature should be 68-72 $^{\circ}$  C.

## SELECT PRODUCT CITATIONS

- Kurano, M., et al. 2015. LDL receptor and apoE are involved in the clearance of apoM-associated sphingosine 1-phosphate. *J. Biol. Chem.* 290: 2477-2488.
- Takahashi, C., et al. 2017. Vehicle-dependent effects of sphingosine 1-phosphate on plasminogen activator inhibitor-1 expression. *J. Atheroscler. Thromb.* 24: 954-969.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.