

# SR-B1 siRNA (h): sc-44752

## BACKGROUND

The macrophage class A scavenger receptors (SR-A) type I and II mediate the uptake of modified low density lipoprotein (LDL), while the scavenger receptor class B type 1 (SR-B1) mediates the selective uptake of cholesterol and cholesterol esters (CE) from HDLs into cells. SREC, Ox-LDL-R1, SR-A and SR-B1 may all be involved in the early development of atherosclerosis. SR-B1, an integral membrane protein, acts as a receptor for various ligands, including apoptotic cells, cholesterol ester, phospholipids, lipoproteins and phosphatidyl-serine. SR-B1, which may be involved in phagocytosis of apoptotic cells, enables the movement of cholesterol between the cell surface and extracellular donors and acceptors. Although it is widely expressed, SR-B1 localizes primarily to cholesterol and sphingomyelin-enriched domains within the plasma membrane, called caveolae.

## REFERENCES

1. Kawasaki, Y., et al. 2002. Phosphatidylserine binding of class B scavenger receptor type I, a phagocytosis receptor of testicular sertoli cells. *J. Biol. Chem.* 277: 27559-27566.
2. Scarselli, E., et al. 2002. The human scavenger receptor class B type I is a novel candidate receptor for the hepatitis C virus. *EMBO J.* 21: 5017-5025.
3. Morabia, A., et al. 2003. Association of extreme blood lipid profile phenotypic variation with 11 reverse cholesterol transport genes and 10 non-genetic cardiovascular disease risk factors. *Hum. Mol. Genet.* 12: 2733-2743.
4. Tai, E.S., et al. 2003. Polymorphisms at the SR-B1 locus are associated with lipoprotein levels in subjects with heterozygous familial hypercholesterolemia. *Clin. Genet.* 63: 53-58.

## CHROMOSOMAL LOCATION

Genetic locus: SCARB1 (human) mapping to 12q24.31.

## PRODUCT

SR-B1 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 SR-B1 shRNA Plasmid (h): sc-44752-SH and SR-B1 shRNA (h) Lentiviral Particles: sc-44752-V as alternate gene silencing products.

For independent verification of SR-B1 (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-44752A, sc-44752B and sc-44752C.

## 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  $\mu$ 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

SR-B1 siRNA (h) is recommended for the inhibition of SR-B1 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

SR-B1 (F-12): sc-518140 is recommended as a control antibody for monitoring of SR-B1 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<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor SR-B1 gene expression knockdown using RT-PCR Primer: SR-B1 (h)-PR: sc-44752-PR (20  $\mu$ l, 587 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## SELECT PRODUCT CITATIONS

1. Farid, M.M., et al. 2014. Silencing of the scavenger receptor (class B-type 1) gene using siRNA-loaded chitosan nanaoparticles in a Hep G2 cell model. *Colloids Surf. B, Biointerfaces* 123: 930-937.
2. Cheng, J.J., et al. 2016. CD36 is a co-receptor for hepatitis C virus E1 protein attachment. *Sci. Rep.* 6: 21808.
3. Lee, M.H., et al. 2017. S1P in HDL promotes interaction between SR-B1 and S1PR1 and activates S1PR1-mediated biological functions: calcium flux and S1PR1 internalization. *J. Lipid Res.* 58: 325-338.
4. Wu, Z.Y., et al. 2019. Farnesoid X receptor agonist GW4064 indirectly inhibits HCV entry into cells via down-regulating scavenger receptor class B type I. *Eur. J. Pharmacol.* 853: 111-120.

## RESEARCH USE

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