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SR-B1 shRNA (h) Lentiviral Particles: sc-44752-V

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 phosphatidylserine. 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, it 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.
5. Bartosch, B., et al. 2003. Cell entry of hepatitis C virus requires a set of co-receptors that include the CD81 tetraspanin and the SR-B1 scavenger receptor. *J. Biol. Chem.* 278: 41624-41630.

CHROMOSOMAL LOCATION

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

PRODUCT

SR-B1 shRNA (h) Lentiviral Particles is a pool of concentrated, transduction-ready viral particles containing 3 target-specific constructs that encode 19-25 nt (plus hairpin) shRNA designed to knock down gene expression. Each vial contains 200 μ l frozen stock containing 1.0×10^6 infectious units of virus (IFU) in Dulbecco's Modified Eagle's Medium with 25 mM HEPES pH 7.3. Suitable for 10-20 transductions. Also see SR-B1 siRNA (h): sc-44752 and SR-B1 shRNA Plasmid (h): sc-44752-SH as alternate gene silencing products.

STORAGE

Store lentiviral particles at -80° C. Stable for at least one year from the date of shipment. Once thawed, particles can be stored at 4° C for up to one week. Avoid repeated freeze thaw cycles.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

APPLICATIONS

SR-B1 shRNA (h) Lentiviral Particles is recommended for the inhibition of SR-B1 expression in human cells.

SUPPORT REAGENTS

Control shRNA Lentiviral Particles: sc-108080. Available as 200 μ l frozen viral stock containing 1.0×10^6 infectious units of virus (IFU); contains an shRNA construct encoding a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA.

GENE EXPRESSION MONITORING

SR-B1 (H-180): sc-67098 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 (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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 μ l, 587 bp). Annealing temperature for the primers should be $55-60^{\circ}$ C and the extension temperature should be $68-72^{\circ}$ C.

BIOSAFETY

Lentiviral particles can be employed in standard Biosafety Level 2 tissue culture facilities (and should be treated with the same level of caution as with any other potentially infectious reagent). Lentiviral particles are replication-incompetent and are designed to self-inactivate after transduction and integration of shRNA constructs into genomic DNA of target cells.

RESEARCH USE

The purchase of this product conveys to the buyer the nontransferable right to use the purchased amount of the product and all replicates and derivatives for research purposes conducted by the buyer in his laboratory only (whether the buyer is an academic or for-profit entity). The buyer cannot sell or otherwise transfer (a) this product (b) its components or (c) materials made using this product or its components to a third party, or otherwise use this product or its components or materials made using this product or its components for Commercial Purposes.