SANTA CRUZ BIOTECHNOLOGY, INC.

SREC siRNA (m): sc-36562

BACKGROUND

Scavenger receptors mediate the endocytosis and degradation of chemically modified low density lipoproteins (LDL), such as acetylated LDL (Ac-LDL) and oxidized LDL (Ox-LDL). The scavenger receptor expressed by endothelial cells (SREC) primarily binds Ac-LDL and aids in its degradation. However, it has been shown to bind other ligands such as Ox-LDL, which suggests that SREC has a binding specificity similar to the type I and II macrophage scavenger receptors. SREC is expressed in HUVEC, CAE, and CASM cell lines. It is characterized by an extra-cellular amino-terminal domain with five epidermal growth factor-like cysteine pattern signatures and an unusually long cytoplasmic carboxy-terminal domain. SREC is thought to be involved in the development of atherosclerosis as it mediates the recruitment, activation, and transformation of macrophages after endothelial cell injury.

REFERENCES

1. Lerman, A., Edwards, B.S., Hallett, J.W., Heublein, D.M., Sandberg, S.M. and Burnett, J.C., Jr. 1991. Circulating and tissue endothelin immunoreactivity in advanced atherosclerosis. N. Engl. J. Med. 325: 997-1001.
2. Adachi, H., Tsujimoto, M., Arai, H. and Inoue, K. 1997. Expression cloning of a novel scavenger receptor from human endothelial cells. J. Biol. Chem. 272: 31217-31220.
3. Yamada, Y., Doi, T., Hamakubo, T. and Kodama, T. 1998. Scavenger receptor family proteins: roles for atherosclerosis, host defence and disorders of the central nervous system. Cell. Mol. Life Sci. 54: 628-640.
4. Dhaliwal, B.S. and Steinbrecher, U.P., 1999. Scavenger receptors and oxidized low density lipoproteins. Clin. Chim. Acta 286: 191-205.
5. Steinbrecher, U.P. 1999. Receptors for oxidized low density lipoprotein. Biochim. Biophys. Acta 1436: 279-298.
6. Shirai, H., Murakami, T., Yamada, Y., Doi, T., Hamakubo, T. and Kodama, T. 1999. Structure and function of type I and II macrophage scavenger receptors. Mech. Dev. 111: 107-121.

CHROMOSOMAL LOCATION

Genetic locus: Scarf1 (mouse) mapping to 11 B5.

PRODUCT

SREC 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see SREC shRNA Plasmid (m): sc-36562-SH and SREC shRNA (m) Lentiviral Particles: sc-36562-V as alternate gene silencing products.

For independent verification of SREC (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-36562A, sc-36562B and sc-36562C.

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

SREC siRNA (m) is recommended for the inhibition of SREC 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 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 SREC gene expression knockdown using RT-PCR Primer: SREC (m)-PR: sc-36562-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. Murshid, A., Gong, J., Prince, T., Borges, T.J. and Calderwood, S.K. 2015. Scavenger receptor SREC-I mediated entry of TLR4 into lipid microdomains and triggered inflammatory cytokine release in RAW 264.7 cells upon LPS activation. PLoS ONE 10: e0122529.

RESEARCH USE

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