SANTA CRUZ BIOTECHNOLOGY, INC.

Ox-LDL R-1 siRNA (m): sc-40186

BACKGROUND

The oxidized low density lipoprotein (lectin-like) receptor-1, Ox-LDL R-1, is a type II membrane protein that is a member of the C-type lectin family and acts as a cell-surface receptor for oxidized low density lipoprotein (Ox-LDL). Ox-LDL plays a role in early atherosclerosis, which includes the transformation of monocyte-derived macrophages to foam cells in atherosclerotic lesions. The binding of Ox-LDL to Ox-LDL R-1 may also trigger the activation of the NFκB signal transduction pathway. Ox-LDL R-1, also designated scavenger receptor class E, member 1 (SCARE1); lectin-type oxidized LDL receptor 1 (LOX-1); and CLEC8A), is expressed by vascular endothelial cells, smooth muscle cells and macrophages. It is expressed endogenously as a precursor form with N-linked high mannose carbohydrate chains and as a mature form due to further glycosylation. The N-linked glycosylation of Ox-LDL R-1 appears to be necessary for adequate transportation to the cell surface and efficient ligand binding.

REFERENCES

1. Kataoka, H., et al. 1999. Expression of lectin-like oxidized low-density lipoprotein receptor-1 in human atherosclerotic lesions. Circulation 99: 3110-3117.
2. Dhaliwal, B.S., et al.1999. Scavenger receptors and oxidized low density lipoproteins. Clin. Chim. Acta 286: 191-205.
3. Aoyama, T., et al.1999. Structure and chromosomal assignment of the human lectin-like oxidized low-density lipoprotein receptor-1 (LOX-1) gene. Biochem. J. 339: 177-184.
4. Murase, T., et al. 2000. Identification of soluble forms of lectin-like oxidized LDL receptor-1. Arterioscler. Thromb. Vasc. Biol. 20: 715-720.
5. Kataoka, H., et al. 2000. Biosynthesis and post-translational processing of lectin-like oxidized low density lipoprotein receptor-1 (LOX-1). N-linked glycosylation affects cell-surface expression and ligand binding. J. Biol. Chem. 275: 6573-6579.
6. Cominacini, L., et al. 2000. Oxidized low density lipoprotein (ox-LDL) binding to ox-LDL receptor-1 in endothelial cells induces the activation of NFκB through an increased production of intracellular reactive oxygen species. J. Biol. Chem. 275: 12633-12638.

CHROMOSOMAL LOCATION

Genetic locus: Olr1 (mouse) mapping to 6 F3.

PRODUCT

Ox-LDL R-1 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 Ox-LDL R-1 shRNA Plasmid (m): sc-40186-SH and Ox-LDL R-1 shRNA (m) Lentiviral Particles: sc-40186-V as alternate gene silencing products.

For independent verification of Ox-LDL R-1 (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-40186A, sc-40186B and sc-40186C.

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

Ox-LDL R-1 siRNA (m) is recommended for the inhibition of Ox-LDL R-1 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.

GENE EXPRESSION MONITORING

Ox-LDL R-1 (X-4): sc-80268 is recommended as a control antibody for monitoring of Ox-LDL R-1 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Ox-LDL R-1 gene expression knockdown using RT-PCR Primer: Ox-LDL R-1 (m)-PR: sc-40186-PR (20 µl, 508 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Ding, Z., et al. 2018. PCSK9 regulates expression of scavenger receptors and ox-LDL uptake in macrophages. Cardiovasc. Res. 114: 1145-1153.

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.