

Ox-LDL R-1 (LOX19-22): sc-66155

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 NF κ B 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. and Steinbrecher, U.P. 1999. Scavenger receptors and oxidized low density lipoproteins. *Clin. Chim. Acta* 286: 191-205.

CHROMOSOMAL LOCATION

Genetic locus: OLR1 (human) mapping to 12p13.2.

SOURCE

Ox-LDL R-1 (LOX19-22) is a mouse monoclonal antibody raised against recombinant fragment corresponding to amino acids 58-273 of Ox-LDL R-1 of human origin.

PRODUCT

Each vial contains 100 μ g IgG $_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

Ox-LDL R-1 (LOX19-22) is recommended for detection of Ox-LDL R-1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

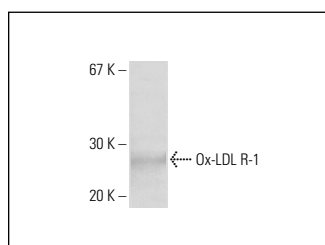
Suitable for use as control antibody for Ox-LDL R-1 siRNA (h): sc-40185, Ox-LDL R-1 shRNA Plasmid (h): sc-40185-SH and Ox-LDL R-1 shRNA (h) Lentiviral Particles: sc-40185-V.

Molecular Weight of Ox-LDL R-1: 32 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



Ox-LDL R-1 (LOX19-22): sc-66155. Western blot analysis of Ox-LDL R-1 expression in human coronary vessels.

SELECT PRODUCT CITATIONS

1. Alanne-Kinnunen, M., et al. 2014. Activated human mast cells induce LOX-1-specific scavenger receptor expression in human monocyte-derived macrophages. *PLoS ONE* 9: e108352.
2. Bakthavatsalam, D., et al. 2014. Chaperonin-containing TCP-1 complex directly binds to the cytoplasmic domain of the LOX-1 receptor. *FEBS Lett.* 588: 2133-2140.
3. Ma, S.C., et al. 2017. Homocysteine-induced oxidative stress through TLR4/NF κ B/DNMT1-mediated LOX-1 DNA methylation in endothelial cells. *Mol. Med. Rep.* 16: 9181-9188.
4. Su, Q., et al. 2018. Oxidized low density lipoprotein induces endothelial-to-mesenchymal transition by stabilizing Snail in human aortic endothelial cells. *Biomed. Pharmacother.* 106: 1720-1726.
5. Shatoor, A.S. and Al Humayed, S. 2020. The protective effect of *Crataegus aronia* against high-fat diet-induced vascular inflammation in rats entails inhibition of the NLRP-3 inflammasome pathway. *Cardiovasc. Toxicol.* 20: 82-99.
6. Duprat, F., et al. 2023. LOX-1 activation by oxLDL induces AR and AR-V7 expression via NF κ B and STAT3 signaling pathways reducing enzalutamide cytotoxic effects. *Int. J. Mol. Sci.* 24: 5082.
7. Zeng, J., et al. 2024. LOX-1 acts as an N⁶-methyladenosine-regulated receptor for *Helicobacter pylori* by binding to the bacterial catalase. *Nat. Commun.* 15: 669.

RESEARCH USE

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