Human LOX-1/OLR1 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF1798

DESCRIPTION

Species Reactivity	Human
Specificity	Selected for its ability to block receptor-ligand interaction in a functional ELISA assay. In direct ELISAs, less than 5% cross-reactivity with recombinant mouse LOX-1 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human LOX-1 (R&D Systems, Catalog # 1798-LX) Ser61-Gln273 Accession # P78380
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

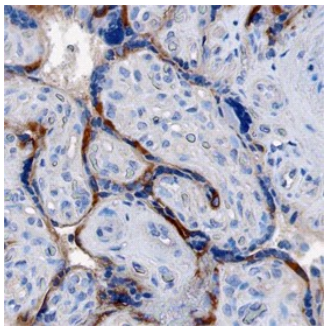
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	0.1 µg/mL	Recombinant Human LOX-1/OLR1 (Catalog # 1798-LX)
Immunohistochemistry	5-15 µg/mL	See Below
Blockade of Receptor-ligand Interaction	In a functional ELISA, 0.5 - 2 µg/mL of this antibody will block 50% of the binding of 1 µg/mL of biotinylated AGE-BSA to immobilized recombinant human LOX-1 coated at 5 µg/mL (100 µL/well). At 10 µg/mL, this antibody will block >95% of the binding.	

DATA

Immunohistochemistry



LOX-1/OLR1 in Human Placenta. LOX-1/OLR1 was detected in immersion fixed paraffin-embedded sections of human placenta using Goat Anti-Human LOX-1/OLR1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1798) at 1 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). Specific staining was localized to cytotrophoblasts. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449

Human LOX-1/OLR1 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF1798

BACKGROUND

Lectin-like oxidized low-density-lipoprotein receptor-1 (LOX-1), also known as oxidized low-density-lipoprotein receptor-1 (OLR-1), is a type II transmembrane receptor belonging to the C-type lectin family (1). It also belongs to the functionally defined scavenger receptor (SR) superfamily, whose members share the common ability to bind and internalize modified forms of Low Density Lipoproteins (LDL) (2 - 4). LOX-1 is the first member of the class E scavenger receptor subfamily (SR-E). It binds and supports the internalization of multiple structurally unrelated macromolecules including oxidized LDL, advanced glycation end products (AGE), activated platelets, bacteria, apoptotic or aged cells, and heat shock proteins (5 - 7). LOX-1 has also been implicated as an intestinal receptor involved in the transcytosis of pancreatic bile salt-dependent lipase (8). The human LOX-1 gene encodes a 273 amino acid (aa) residue protein with a short N-terminal intracellular domain, a transmembrane domain, an extracellular stalk/neck region followed by a C-type lectin-like domain (CTLD) (1, 6). The CTLD, which is required for ligand recognition, contains the six conserved cysteine residues present in all C-type lectins, but lacks the Ca^{2+}-binding residues found in classical C-type lectins. LOX-1 can be detected on activated endothelial cells, vascular smooth muscle cells, macrophages, intestinal cells and dendritic cells (6 - 8). The expression of LOX-1 is induced by proinflammatory or proatherogenic stimuli, as well as by oxidized LDL itself and hemodynamic or oxidative stress. Human LOX-1 exists on the cell surface as covalent homodimers, which can further associate into non-covalent-linked oligomers (9). Cell surface LOX-1 can also be cleaved by yet unidentified proteases to release the soluble LOX-1 extracellular domain (6). Binding and endocytosis of oxidized LDL by LOX-1 induces oxidative stress, activates NFκB, and upregulates the expression of monocyte chemoattractant protein-1 and matrix metalloproteases (5 - 9). LOX-1-dependent oxidized LDL uptake also induces apoptosis by inducing the expression of the pro-apoptotic Bax and downregulation of the anti-apoptotic Bcl-2 (10). Oxidized LDL plays a key role in the pathogenesis of atherosclerosis and endothelial dysfunction. Blockade of LOX-1 functions may turn out to be a suitable target for the therapeutic intervention of atherosclerosis.

References:

1. Sawamura, T. *et al.* (1997) Nature **386**:73.
2. Daugherty, A. *et al.* (2000) Curr. Opin. Cardiovasc. Pulm. Ren. Invest. Drugs. **2**:223.
3. Platt, N. and S. Gordon (2001) J. Clin. Invest. **108**:649.
4. Platt, N. and S. Gordon (1998) Chem. Biol. **5**:R193.
5. Jono, T. *et al.* (2002) FEBS Lett. **511**:170.
6. Kume, N. *et al.* (2001) Curr. Opin. Lipidol. **12**:419.
7. Delneste, Y. *et al.* (2002) Immunity **17**:353.
8. Bruneau, N. *et al.* (2003) Mol. Biol. Cell **14**:2861.
9. Xie, Q. *et al.* (2004) DNA and Cell Biol. **23**:111.
10. Chen, J. *et al.* (2003) Circ. Res. **94**:370.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 **Canada** TEL 855 668 8722 **China** TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449