abcam

Product datasheet

Mouse LOX1 ELISA Kit (OLR1) ab204521

Recombinant SimpleStep ELISA

7 Images

Overview

Product name Mouse LOX1 ELISA Kit (OLR1)

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
Mouse serum	8			2.8%

Inter-assay

Sample	n	Mean	SD	CV%
Mouse serum	3			8.9%

Sample type Cell culture supernatant, Serum, Hep Plasma, EDTA Plasma, Cit plasma

Assay type Sandwich (quantitative)

Sensitivity 7.9 pg/ml

Range 62.5 pg/ml - 4000 pg/ml

Recovery

Sample specific recovery

Sample type	Average %	Range
Serum	87	86% - 88%
Cell culture media	109	108% - 110%
Hep Plasma	106	99% - 111%
EDTA Plasma	108	100% - 113%
Cit plasma	113	103% - 119%

Assay time 1h 30m

Assay duration One step assay

Species reactivity

Reacts with: Mouse
Does not react with: Goat, Cow, Pig

Product overview

Mouse LOX1 ELISA Kit (OLR1) (ab204521) is a single-wash 90 min sandwich ELISA designed for the quantitative measurement of LOX1 (OLR1) protein in cell culture supernatant, cit plasma, edta plasma, hep plasma, and serum. It uses our proprietary SimpleStep ELISA® technology. Quantitate Mouse LOX1 (OLR1) with 7.9 pg/ml sensitivity.

SimpleStep ELISA® technology employs capture antibodies conjugated to an affinity tag that is recognized by the monoclonal antibody used to coat our SimpleStep ELISA® plates. This approach to sandwich ELISA allows the formation of the antibody-analyte sandwich complex in a single step, significantly reducing assay time. See the SimpleStep ELISA® protocol summary in the image section for further details. Our SimpleStep ELISA® technology provides several benefits:

- Single-wash protocol reduces assay time to 90 minutes or less
- High sensitivity, specificity and reproducibility from superior antibodies
- Fully validated in biological samples
- 96-wells plate breakable into 12 x 8 wells strips

A 384-well SimpleStep ELISA® microplate (**ab203359**) is available to use as an alternative to the 96-well microplate provided with SimpleStep ELISA® kits.

Notes

Mouse Lectin like oxidized low density lipoprotein receptor 1 (LOX1), also known as oxidized low density lipoprotein receptor 1 (OLR-1), is a type II transmembrane receptor belonging to the C type lectin family. The mouse LOX1 gene encodes a 363 amino acid (aa) residue protein with a short N-terminal intracellular domain, a transmembrane domain, and a C-type lectin like domain which is required for ligand recognition. Mouse LOX1 has 57% and 79% identity to Human and Rat LOX1, respectively.

LOX1 is a receptor that mediates the recognition, internalization, and degradation of oxidatively modified low density lipoprotein (oxLDL) by vascular endothelial cells. OxLDL is a marker of atherosclerosis that induces vascular endothelial cell activation and dysfunction, resulting in pro-inflammatory responses, pro-oxidative conditions and apoptosis. The association of LOX1 with oxLDL induces the activation of NF-kappa-B through an increased production of intracellular reactive oxygen and a variety of pro-atherogenic cellular responses including a reduction of nitric oxide (NO) release, monocyte adhesion and apoptosis. In addition to binding oxLDL, LOX1 acts as a receptor for the HSP70 protein involved in antigen cross-presentation to naive T-cells in dendritic cells, thereby participating in cell-mediated antigen cross-presentation. Finally, LOX1 also acts as a receptor for advanced glycation end (AGE) products, activated platelets, monocytes, and apoptotic cells.

Platform

Pre-coated microplate (12 x 8 well strips)

Properties

Storage instructions

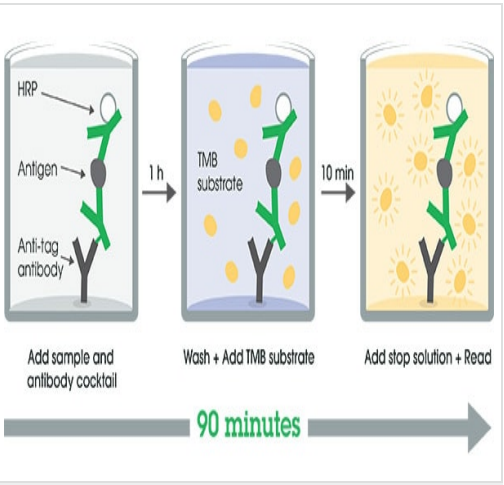
Store at +4°C. Please refer to protocols.

Components	1 x 96 tests
10X Mouse LOX1 Capture Antibody	1 x 600µl

Components	1 x 96 tests
10X Mouse LOX1 Detector Antibody	1 x 600µl
10X Wash Buffer PT (ab206977)	1 x 20ml
Antibody Diluent 5BI	1 x 6ml
Mouse LOX1Lyophilized Recombinant Protein	2 vials
Plate Seals	1 unit
Sample Diluent NS (ab193972)	1 x 50ml
SimpleStep Pre-Coated 96-Well Microplate (ab206978)	1 unit
Stop Solution	1 x 12ml
TMB Development Solution	1 x 12ml

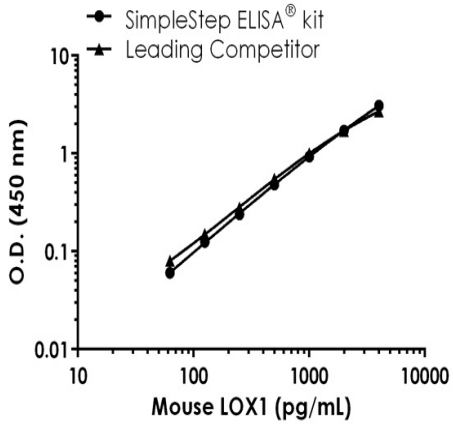
Function	Receptor that mediates the recognition, internalization and degradation of oxidatively modified low density lipoprotein (oxLDL) by vascular endothelial cells. OxLDL is a marker of atherosclerosis that induces vascular endothelial cell activation and dysfunction, resulting in pro-inflammatory responses, pro-oxidative conditions and apoptosis. Its association with oxLDL induces the activation of NF-kappa-B through an increased production of intracellular reactive oxygen and a variety of pro-atherogenic cellular responses including a reduction of nitric oxide (NO) release, monocyte adhesion and apoptosis. In addition to binding oxLDL, it acts as a receptor for the HSP70 protein involved in antigen cross-presentation to naive T-cells in dendritic cells, thereby participating in cell-mediated antigen cross-presentation. Also involved in inflammatory process, by acting as a leukocyte-adhesion molecule at the vascular interface in endotoxin-induced inflammation. Also acts as a receptor for advanced glycation end (AGE) products, activated platelets, monocytes, apoptotic cells and both Gram-negative and Gram-positive bacteria.
Tissue specificity	Expressed at high level in endothelial cells and vascular-rich organs such as placenta, lung, liver and brain, aortic intima, bone marrow, spinal cord and substantia nigra. Also expressed at the surface of dendritic cells. Widely expressed at intermediate and low level.
Involvement in disease	Note=Independent association genetic studies have implicated OLR1 gene variants in myocardial infarction susceptibility. Note=OLR1 may be involved in Alzheimer disease (AD). Involvement in AD is however unclear: according to some authors (PubMed:12354387, PubMed:12810610 and PubMed:15976314), variations in OLR1 modify the risk of AD, while according to other (PubMed:15000751 and PubMed:15060104) they do not.
Sequence similarities	Contains 1 C-type lectin domain.
Domain	The cytoplasmic region is required for subcellular sorting on the cell surface. The C-type lectin domain mediates the recognition and binding of oxLDL.
Post-translational modifications	The intrachain disulfide-bonds prevent N-glycosylation at some sites. N-glycosylated.
Cellular localization	Cell membrane. Secreted. A secreted form also exists.

Images



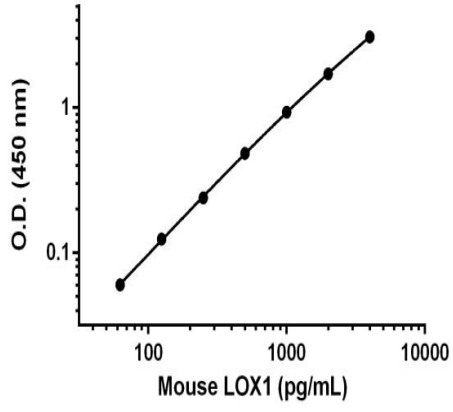
SimpleStep ELISA technology allows the formation of the antibody-antigen complex in one single step, reducing assay time to 90 minutes. Add samples or standards and antibody mix to wells all at once, incubate, wash, and add your final substrate. See protocol for a detailed step-by-step guide.

Other - Mouse LOX1 ELISA Kit (OLR1) (ab204521)



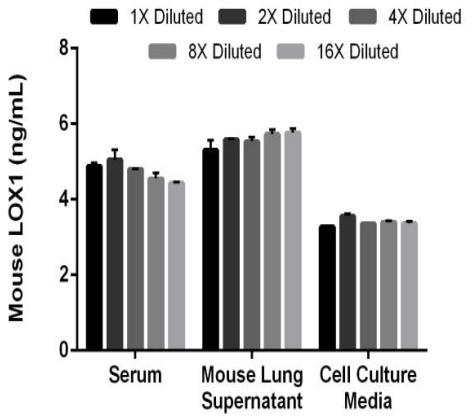
Standard curve comparison between mouse RBP4 SimpleStep ELISA® kit and traditional ELISA kit from leading competitor. SimpleStep ELISA kit shows comparable sensitivity with shorter protocol time.

Mouse LOX1 standard curve comparison data.



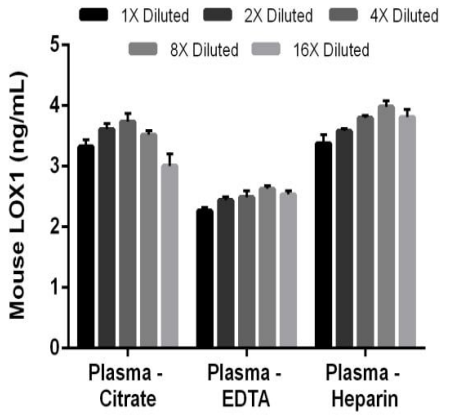
Background-subtracted data values (mean +/- SD) are graphed.

Example of the mouse LOX1 standard curve in Sample Diluent NS.



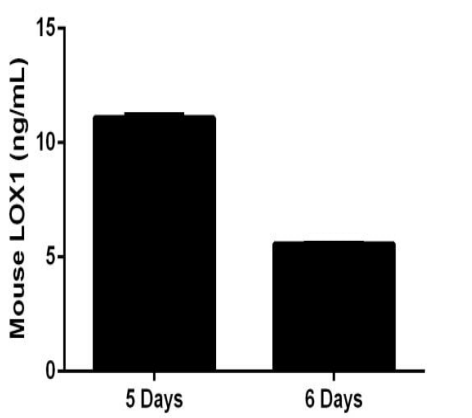
Linearity of dilution of mouse LOX1 in serum, mouse lung supernatants, and cell culture media.

Native mouse LOX1 was measured in 50% mouse serum and 50% mouse lung supernatants (lung cultured 6 days in RPMI + 10% Fetal Bovine Serum) diluted in a 2-fold dilution series in Sample Diluent NS. Recombinant mouse LOX1 was spiked into 10% cell culture media and diluted in a 2-fold dilution series in Sample Diluent NS. The concentrations of mouse LOX1 were measured in duplicate and interpolated from the mouse LOX1 standard curve and corrected for sample dilution. The interpolated dilution factor corrected values are graphed (mean +/- SD).



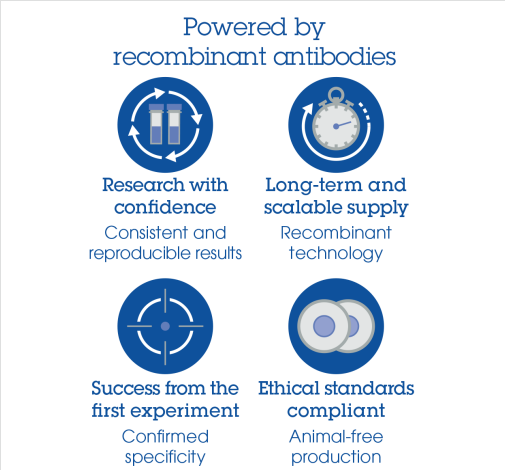
Linearity of dilution of mouse LOX1 in plasma samples.

Native mouse LOX1 was measured in 25% mouse plasma citrate, 100% mouse plasma EDTA, and 50% mouse plasma heparin diluted in a 2-fold dilution series in Sample Diluent NS. The concentrations of mouse LOX1 were measured in duplicate and interpolated from the mouse LOX1 standard curve and corrected for sample dilution. The interpolated dilution factor corrected values are graphed (mean +/- SD).



Native signal of Mouse LOX1 in mouse lung supernatants.

Separate sections of mouse lung were cultured for either 5 or 6 days in RPMI + 10% Fetal bovine serum. The concentrations of mouse LOX1 were measured in duplicate in 25% mouse lung supernatants and interpolated from the mouse LOX1 standard curve and corrected for sample dilution. The interpolated dilution factor corrected values are graphed (mean +/- SD).



Sandwich ELISA - Mouse LOX1 ELISA Kit (OLR1) (ab204521)

To learn more about the advantages of recombinant antibodies see **here**.

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