



Mouse low density lipoprotein cholesterol (LDL-C) ELISA kit

Product Code	CSB-EQ027860MO
Abbreviation	LDL-C
Target Name	low density lipoprotein cholesterol (LDL-C)
Product Type	ELISA Kit
Immunogen Species	Mus musculus (Mouse)
Sample Types	serum, plasma, tissue homogenates
Detection Range	0.312 µg/mL-20 µg/mL
Sensitivity	0.078 µg/mL
Assay Time	1-5h
Sample Volume	50-100ul
Detection Wavelength	450 nm
Lead Time	3-5 working days after you place the order, and it takes another 3-5 days for delivery via DHL or FedEx.
Research Area	Cardiovascular
Tag Info	quantitative
Protein Description	Competitive

Description

The Mouse Low-Density Lipoprotein Cholesterol (LDL-C) ELISA Kit is a valuable tool for researchers working with mouse samples to quantify LDL-C levels. This kit is specifically designed for serum, plasma, and tissue homogenates from mice. It offers a wide detection range from 0.312 µg/mL to 20 µg/mL, with a high sensitivity of 0.078 µg/mL. The assay principle is quantitative, utilizing a competitive measurement approach. The assay can be completed within 1-5 hours, making it efficient for laboratory workflows. A small sample volume of 50-100 µL is required for analysis. The detection is read at a wavelength of 450 nm, ensuring accurate and reliable results. This ELISA kit has been utilized in multiple research papers, indicating its reliability and widespread acceptance within the scientific community.

Research on mouse models has been instrumental in understanding the pathophysiological mechanisms underlying atherosclerosis [1]. Studies have shown that LDL-C plays a significant role in the development of atherosclerosis, with LDL particles being taken up by macrophages through receptor-dependent and receptor-independent mechanisms, leading to the formation of foam cells, a hallmark of atherosclerotic plaques [2]. Additionally, interventions targeting cholesterol metabolism, such as blocking cholesterol absorption, have been shown to impact LDL-C levels in mice [3].



References:

- [1] Y. Lee, H. Lin, Y. Chan, K. Li, O. To, B. Yanet al., "Mouse models of atherosclerosis: a historical perspective and recent advances", *Lipids in Health and Disease*, vol. 16, no. 1, 2017. <https://doi.org/10.1186/s12944-016-0402-5>
- [2] H. Kruth, "Receptor-independent fluid-phase pinocytosis mechanisms for induction of foam cell formation with native low-density lipoprotein particles", *Current Opinion in Lipidology*, vol. 22, no. 5, p. 386-393, 2011. <https://doi.org/10.1097/mol.0b013e32834adadb>
- [3] J. Repa, S. Turley, & G. Quan, "Delineation of molecular changes in intrahepatic cholesterol metabolism resulting from diminished cholesterol absorption", *The Journal of Lipid Research*, vol. 46, no. 4, p. 779-789, 2005. <https://doi.org/10.1194/jlr.m400475-jlr200>

Product Precision

Intra-assay Precision (Precision within an assay): CV%<8%

Three samples of known concentration were tested twenty times on one plate to assess.

Inter-assay Precision (Precision between assays): CV%<10%

Three samples of known concentration were tested in twenty assays to assess.

Linearity

To assess the linearity of the assay, samples were spiked with high concentrations of mouse LDL-C in various matrices and diluted with the Sample Diluent to produce samples with values within the dynamic range of the assay.

?	Sample	Serum(n=4)
1:100	Average %	86
	Range %	82-92
1:200	Average %	94
	Range %	91-98
1:400	Average %	107
	Range %	103-114
1:800	Average %	89
	Range %	85-94

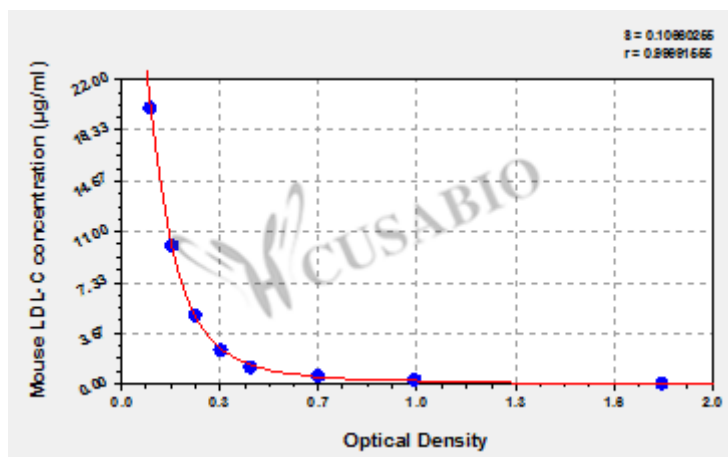
Recovery

The recovery of mouse LDL-C spiked to levels throughout the range of the assay in various matrices was evaluated. Samples were diluted prior to assay as directed in the Sample Preparation section.

Sample Type	Average % Recovery	Range
Serum (n=5)	88	84-93
EDTA plasma (n=4)	91	87-95

Typical

These standard curves are provided for demonstration only. A standard curve should be generated for each set of samples assayed.



µg/ml	OD1	OD2	Average
20	0.105	0.107	0.106
10	0.173	0.178	0.176
5	0.248	0.255	0.252
2.5	0.330	0.345	0.338
1.25	0.430	0.443	0.437
0.625	0.640	0.682	0.661
0.312	0.941	1.011	0.976
0	1.752	1.834	1.793