

# Human High Oxidized Low Density Lipoprotein (Human High Ox-LDL)

## Product Information

Product Name	Cat#	Size
Human High Oxidized Low Density Lipoprotein (Human High Ox-LDL)	20608ES05	2mg

## Product Description

Low Density Lipoprotein, or LDL, is converted from very Low Density Lipoprotein (VLDL). Its main function is to transport cholesterol to cells throughout the body. Cholesterol is transported to the liver for synthesis of cholic acid. It can be used to study receptor - mediated endocytosis. Plasma derived LDL can be used to study the oxidative role of LDL in function and metabolism, especially in diseases such as atherosclerosis.

Oxidized LDL (Ox-LDL) is a class of modified LDL. The physiological characteristics of OX-LDL are as follows: 1) Ox-LDL can induce cytotoxicity, affect the metabolism of arachidonic acid and inhibit the esterification of cholesterol. 2) Ox-LDL consumes endogenous antioxidants in LDL and reduces vitamin E content on LDL. 3) Oxidative modification involves lipid peroxidation, and PUFAs in LDL is oxidized. 4) ApoB degrades when oxidized LDL is low; When the oxidation degree is high, ApoB can be repolymerized. 5) the fluorescence peak wavelength produced by ox-ldl was 430nm. Ox-LDL is not metabolized by LDL receptor, but is recognized, bound and endocytosed into cells by scavenger receptor and loses normal cholesterol metabolism pathway, resulting in intracellular lipid deposition and foam-like degeneration.

There are many ways of LDL oxidation modification, the common ones are: 1) cell-mediated LDL oxidation modification, also known as biological oxidation modification of LDL. Such as endothelial cells, macrophages, monocytes all have this function; 2) Excessive metal ion mediated LDL oxidative modification, such as  $\text{Ca}^{2+}$ ,  $\text{Fe}^{2+}$ , etc.; There are other forms of oxidative modification, including physical methods such as ultraviolet light, or peroxidase catalysis.

Human High Oxidized Low Density Lipoprotein (High Ox-LDL) provided by YEASEN is Oxidized by excessive copper ion mediated LDL from Human plasma. Fresh plasma was tested negative for HCV, HBsAg and HIV. This product is sterile packaging and can be directly diluted for use. The high oxidation level of the product causes obvious oxidative stress, which can be used to induce cell apoptosis and establish cell damage models. We also offer Ox-LDL (Cat#20605) with moderate oxidation, which is widely used in lipid metabolism studies. In addition to Ox-LDL, we also offer human acetylated LDL (AC-LDL), as well as fluorescently labeled LDL.

## Product Properties

<b>Purity</b>	> 97% by SDS-PAGE.
<b>Concentration</b>	0.8-3.0 mg/mL
<b>Appearance</b>	liliquid
<b>Buffer Components</b>	PBS, pH 7.4
<b>Dilution method</b>	Diluted with PBS phosphate buffer or cell culture solution as required.
<b>preparation method</b>	At 37°C, human LDL was oxidized in PBS solution containing $\text{Cu}_2\text{SO}_4$ , and excessive EDTA was added to terminate the oxidation reaction.
	TBARS test (reflect the oxidation degree of LDL according to MDA content)
<b>Oxidized Level</b>	Initial LDL: 0.1-0.5 nmol MDA/mg protein High OX-LDL: 90~100 nmol MDA/mg protein

## Shipping and Storage

The products are shipped with ice pack and can be stored at 4°C and away from light for 6 weeks.

Do not freeze!

## Cautions

1. The dilution liquid of this product is very unstable, so it is recommended to use it immediately.
2. The product will see a small amount of precipitation after long-term preservation, which is a normal phenomenon. Centrifuge at low speed for 2 min to remove the precipitate and obtain the clarification solution.
3. The binding of LDL to LDL receptor requires the participation of  $\text{Ca}^{2+}$  and  $\text{Mn}^{2+}$ , and the presence of excessive EDTA will inhibit the binding.
4. For your safety and health, please wear lab coats and disposable gloves for operation.
5. For research use only.