

## Lipoproteins, Low Density, Human Plasma

**Cat #** LIPL18-N

Lipoproteins, Low Density, Human Plasma

**Size:** 1 mg

Low-density lipoprotein (LDL) is one of the five major groups of lipoproteins, which in order of size, largest to smallest, are chylomicrons, VLDL, IDL, LDL, and HDL, that enable transport of multiple different fat molecules, as well as cholesterol, within the water around cells and within the water-based bloodstream. Studies have shown that higher levels of type-B LDL particles (as opposed to type-A LDL particles) are associated with health problems, including cardiovascular disease. LDL is often informally called bad cholesterol, (as opposed to HDL particles, which are frequently referred to as good cholesterol or healthy cholesterol).

Each native LDL particle contains a single apolipoprotein B-100 molecule (Apo B-100, a protein that has 4536 amino acid residues and a mass of 514 kDa), which circulates the fatty acids, keeping them soluble in the aqueous environment.[citation needed] In addition, LDL has a highly hydrophobic core consisting of polyunsaturated fatty acid known as linoleate and about 1500 esterified cholesterol molecules.[citation needed] This core is surrounded by a shell of phospholipids and unesterified cholesterol, as well as the single copy of Apo B-100. LDL particles are approximately 22 nm (0.00000087 in.) in diameter and have a mass of about 3 million daltons, but since LDL particles contain a changing number of fatty acids, they actually have a distribution of mass and size.

LDL lipoproteins interfere with the quorum sensing system that upregulates genes required for invasive *Staphylococcus aureus* infection. The mechanism of antagonism entails binding Apolipoprotein B, to a *S. aureus* autoinducer pheromone, preventing signaling through its receptor. Mice deficient in apolipoprotein B are more susceptible to invasive bacterial infection.

In a normal fasting individual, low density lipoprotein concentrations range from 2.0 - 3.5 g/L. LDL constitutes 50% of the total lipoprotein mass in plasma and is the major carrier of cholesterol and cholesteryl esters. LDL levels strongly correlate with coronary heart disease.

### Source and Form:



**Cat #** LIPL18-N, Purified Native Human Low Density Lipoproteins (LDL) prepared from fresh, non-frozen plasma shown to be non reactive for HbsAG, anti-HCV, anti-HBc, and negative for anti-HIV 1 & 2 by FDA approved tests. Purified protein (mol wt 2,300 kda) displayed single arc by IEP against antisera to whole human serum. single arc by IEP against antisera to whole human serum. Essentially free of other plasma lipoproteins and chylomicrons as determined by electrophoresis using a SPIFE Vis Cholesterol gel kit for

lipids and Coomassie Blue for proteins. >=95% of total lipoprotein content by electrophoresis.

It is supplied in PBS, pH 7.5 and 0.001% EDTA. A suitable anti-bacteriostatic agent can be added if required (0.1% azide or 0.02% thimerosal). **Store at 2-4°C and do not freeze.**

### Suggested Applications:

Antigen in ELISA and Western blots

**References:** Segrest JP (2001) J. Lipid Res. 42, 1346-1347; Sniderman AD (2003) Clin. Biochem. 36, 499-504; Knott C (1986) Nucl. Acid. Res. 14, 7501-7503; Chen SH (1986) JBC 261, 12918-12922; law SW (1985) PNAS 82, 8340-8344;

All items are for in vitro research use only.

### Related items

Catalog#	ProdDescription
Rabbit-Poly	APOA11-S Anti-Human Plasma
Apolipoprotein A-I protein antiserum	
Rabbit-Poly	APOA12-A Anti-Human
Apolipoprotein A-I protein IgG, aff pure	
Rabbit-Poly	APOA13-A Anti-Mouse
Apolipoprotein A-I protein IgG, aff pure	
APOA15-N-100	Apolipoprotein A-I, Human Plasma, HDL
Goat-PolyAPOA21-A	Anti-Human Apolipoprotein A-II
protein IgG, aff pure	
APOA25-N-100	Apolipoprotein A-II, Human Plasma, HDL
APOA45-N-100	Apolipoprotein A-IV, Human Plasma, HDL
Goat-PolyAPOB21-A	Anti-Human Apolipoprotein B IgG,
APOB21-C	Human Apolipoprotein B protein control for WB
APOB25-N-100	Apolipoprotein B, Human Plasma, LDL
Rabbit-Poly	APOC11-A Anti-Human
Apolipoprotein C-I IgG, aff pure	
APOC15-N-100	Human Apolipoprotein C-I protein control for WB
APOC15-N-100	Apolipoprotein C-I, Human Plasma, VLDL
Rabbit-Poly	APOC21-S Anti-Human Plasma
Apolipoprotein C-II antiserum	
Rabbit-Poly	APOC22-A Anti-Human
Apolipoprotein C-II IgG, aff pure	
APOC25-N-50	Apolipoprotein C-II, Human Plasma, VLDL
Rabbit-Poly	APOC32-A Anti-Human
Apolipoprotein C-III IgG, aff pure	
APOC35-N-50	Apolipoprotein C-III, Human Plasma, VLDL
Goat-PolyAPOE11-S	Anti-Human ApoE protein antiserum #1
Mouse-Mono	APOE12-M Monoclonal Anti-Human
ApoE protein IgG #2	
Rabbit-Poly	APOE13-A Anti-Human Plasma
Apolipoprotein E (ApoE) IgG, aff pure	
APOE15-R	Human Purified plasma Apolipoprotein E protein
APOE25-R	Recombinant Purified Human Apolipoprotein E2 protein
Rabbit-Poly	APOE31-S Anti-Human
ApoE3APOE35-R	Recombinant Purified Human Apolipoprotein E3 protein
APOE36-R	Recombinant (E coli) Purified
LIPL18-N	130612A

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