

Product Data Sheet

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| <input type="checkbox"/> Cat # VLDLN21-N-1 | Human Plasma very low density lipoprotein (VLDL) native, purified | Size: <input type="checkbox"/> 1 mg |
| <input type="checkbox"/> Cat # VLDLN21-N-5 | Human Plasma very low density lipoprotein (VLDL) native, purified | Size: <input type="checkbox"/> 5 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, including 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).

VLDL is defined as the lipoprotein fraction with the density range of 0.93 to 1.006 g/mL. It is spherical particle and in normal individuals ranges 30 to 80 nm in diameter. The molecular weight is 10 to 8 107. Compare with LDL particles, VLDL particles are heterogeneous in size and composition. VLDL particles can be separated in Sf 20-60 and Sf60-400. VLDL consists of protein 10%, phospholipid 19%, free cholesterol 7%, cholesterol ester 10% and triglycerides 56%. Apolipoprotein contribution% apoB 37 apoC 50 apoE 13 Apo B-48 is the sole constituent apolipoprotein on VLDL. It is presumed that the cholesteryl esters and triglycerides form the hydrophobic core, which is surrounded by a surface coat of apolipoprotein B, free cholesterol and polar phospholipid components oriented toward the aqueous medium.

VLDL is a major transporter of endogenous lipids (cholesterol and its esters, triglycerides and phospholipids). The particles, which range in size from 30 to 80 nm in diameter, are first assembled from apolipoproteins and cholesterol in the liver (see figure at right). Subsequently, maturation of the particles occurs in the bloodstream where additional apolipoproteins and lipids are incorporated. Lipoprotein lipase mediates the removal of triglycerides from the VLDL particles resulting in the formation of intermediate density lipoprotein (IDL) particles with densities ranging from 1.006 to 1.019 g/mL. Maturation of the IDL particles eventually leads to the formation of low density lipoprotein (LDL) particles having a density of 1.019 - 1.063 g/mL.

VLDL levels have been correlated with accelerated rates of atherosclerosis, and are elevated in a number of diseases and metabolic states. Human VLDL Inhibits DNA synthesis in lymphocytes activated by the nonspecific mitogen concanavalin A (Con A). Human VLDL are the next step down from chylomicrons in terms of size and lipid content. It transports endogenous triglycerides, phospholipids, cholesterol and cholesteryl esters. This functions as the body's internal transport mechanism for lipids.

Source of Antigen and Antibodies

Human VLDL (d= <1.006 g/mL) is isolated from human plasma by ultracentrifugation. The purified VLDL is ultrafiltered through a membrane and packaged aseptically under nitrogen. The product is provided in a solution with 154 mM NaCl and 0.34 uM EDTA, at pH 7.2. The protein concentration is 1.0 mg/mL. The purity of the product is assessed by agarose gel electrophoresis. No significant detection of other lipoproteins by agarose gel electrophoresis.

All human derived material has been tested negative for HIV, HCV, and HbSag. Nevertheless, all precautions should be taken and samples be treated as potentially hazardous.

Endotoxin: <0.5 EU/mg of protein

Appearance: Light yellow liquid, slightly turbid.

Store at 2-6oC in a dark place. DO NOT FREEZE.

Shipping: 4oC for solutions.

General References: Knott C (1986) Nucl. Acid Res. 14, 7501-7503; Law SW (1985) PNAS 82, 8340-8344; Hardman DA (1987) Biochem. 26, 5478-5486; Hospattankar AV (1987) BBRC 148, 279-285; Yang C-y (1986) Nature 323, 738-742; Knott TC (1986) Nature 323, 734-738;

*This product is for in vitro research use only.

Related items

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| HDLD31-N-1 Human Plasma high density lipoprotein (HDL) native, purified | |
| LDLA12-N-1 Human Plasma low density lipoprotein (Ac-LDL) Acetylated, purified | |
| LDLA16-N-1 Human Plasma low density lipoprotein (Dil-Ac-LDL) Acetylated & Dillabeled, | |
| LDL1314-N-1 Human Plasma low density lipoprotein (b-LDL) Biotinylated, purified | |
| LDLD15-N-1 Human Plasma low density lipoprotein (dil-LDL) Dil-labeled, purified | |
| LDLN11-A Anti-Human Plasma low density lipoprotein (LDL) native, antiserum | |
| LDLN11-N-1 Human Plasma low density lipoprotein (LDL) native, purified | |
| LDLN11-N-5 Human Plasma low density lipoprotein (LDL) native, purified | |
| LDL013-N-1 Human Plasma low density lipoprotein (o-LDL) Oxidized, purified | |
| LDL017-N-1 Human Plasma low density lipoprotein (Dil-O-LDL) Oxidized & Dil-labeled, | |
| LIPH16-N Lipoproteins, High Density, Human Plasma | |
| LIP117-N Lipoproteins, Intermediate Density, Human Plasma | |
| LIPL18-N Lipoproteins, Low Density, Human Plasma | |
| LIPV19-N Lipoproteins, Very Low Density, Human Plasma | |
| VLDLN21-N-1 Human Plasma very low density lipoprotein (VLDL) native, | |
| APOA11-S Anti-Human Plasma Apolipoprotein A-I protein antiserum | |
| APOAI2-A Anti-Human Apolipoprotein A-I protein IgG, aff pure | |
| APOA13-A Anti-Mouse Apolipoprotein A-I protein IgG, aff pure | |
| APOA15-N-100 Apolipoprotein A-I, Human Plasma, HDL | |
| APOA21-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 | |
| APOB21-A Ant-Human Apolipoprotein B IgG, aff pure | |
| APOB25-N-100 Apolipoprotein B, Human Plasma, LDL | |
| 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 | |
| APOC21-S Anti-Human Plasma Apolipoprotein C-I1 antiserum | |
| APOC22-A Anti-Human Apolipoprotein C-I1 IgG, aff pure | |
| APOC25-N-50 Apolipoprotein C-II, Human Plasma, VLDL | |
| APOC32-A Anti-Human Apolipoprotein C-III IgG, aff pure | |
| APOC35-N-50 Apolipoprotein C-III, Human Plasma, VLDL | |
| APOE11-S Anti-Human ApoE protein antiserum #1 | |
| APOE12-M Monoclonal Anti-Human ApoE protein IgG #2 | |
| APOE13-A Anti-Human Plasma Apolipoprotein E (ApoE) IgG, aff pure | |
| APOE15-R Human Purified native plasma Apolipoprotein E protein | |
| APOE25-R Recombinant Purified Human Apolipoprotein E2 protein | |
| APOE31-S Anti-Human ApoE3 | |
| APOE35-R Recombinant Purified Human Apolipoprotein E3 protein | |
| APOE36-R Recombinant (E coli) Purified | |

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