ALPHA DIAGNOSTIC INTERNATIONAL

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Product Data Sheet

Cat # LDLO17-N-1 Human Plasma low density lipoprotein (Dil-O-LDL) Oxidized & Dil-labeled, purified **Size:** 100 ug

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).

Each native LDL particle contains a single apolipoprotein B-100molecule (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 1500esterified cholesterol molecules. 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.

Oxidized-LDL may play an important part in the atherogenic process in vivo. Ox-LDL generated by a variety of means, including copper mediated oxidation, and has been used in hundreds of published studies. The chemical composition of the Ox-LDL has been demonstrated to vary with the degree of oxidation. Oxidized lipids, such as oxidized phospholipids and oxysterols, and oxidized protein adducts increase with increasing time and degree of oxidation of LDL. Each of these classes of chemical components can have a multitude of different effects on each of the cell types in the artery wall.

Dil-Ac-LDL, Acetylated Low Density Lipoprotein, labeled with 1,1'-dioctadecyl — 3,3,3',3'-tetramethyl-indocarbocyanine perchlorate, labels both vascular endothelial cells and macrophages. It can be used to identify and/or isolate these cells from mixed cell populations. When cells are labeled with Dil-Ac-LDL, the lipoprotein is degraded by lysosomal enzymes and the Dil(fluorescent probe) accumulates in the intracellular membranes. Labeling cells with Dil-Ac-LDL has no effect on cell viability. Pure cultures of vascular endothelial cells can be isolated from complex primary cultures using fluorescent activated cell sorting based on their increased metabolism of the Dil-Ac-LDL. Contaminating cell types (fibroblasts, smooth muscle, pericytes, epithelial cells) are not labeled. Macrophages can be differentiated from mixed cell populations (including endothelial cells) because they are more Dil-Ac-LDL, Acetylated Low Density Lipoprotein, labeled with 1,1'-dioctadecyl — 3,3,3',3'-tetramethyl-indocarbocyanine perchlorate, labels both vascular endothelial cells and macrophages. It can be used to identify and/or isolate these cells from mixed cell populations. When cells are labeled with Dil-Ac-LDL, the lipoprotein is degraded by lysosomal enzymes and the Dil(fluorescent probe) accumulates in the intracellular membranes. Labeling cells with Dil-Ac-LDL has no effect on cell viability. Pure cultures of vascular endothelial cells can be isolated from complex primary cultures using fluorescent activated cell sorting based on their increased metabolism of the Dil-Ac-LDL. Contaminating cell types (fibroblasts, smooth muscle, pericytes, epithelial cells) are not labeled. Macrophages can be differentiated from mixed cell populations (including endothelial cells) because they are more

Source of Antigen and Antibodies

Purified LDL-oxidized is labeled with fluorescent probe, Dil. Dil-Ac-DL is refloated by ultracentifugation (1.19-1.063g/cc)/ The resultant product is dialyzed aginst PBs, pH 7.4, 0.3mM EDTA, and sterile filtered. Cons is typically 200 ug/ml or 100 ug/0.5 ml. Absorbance ratio: Dil/Protein=555nm/280nm=5.1

Storage: Store at 4oC. Stable for 3 months. Do not Freeze.
Shipping: 4oC for solutions and room temp for lyophilized items.

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

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,
LDLI314-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
LIPI17-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,
AP0A11-S Anti-Human Plasma Apolipoprotein A-I protein antiserum
APOAl2-A Anti-Human Apolipoprotein A-I protein IgG, aff pure
AP0A13-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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