

Product Data Sheet

Cat # LDLD45-S

Human lipoprotein deficient serum

Size: 50 mg

Apolipoproteins are proteins that bind to fats (lipids). They form lipoproteins, which transport dietary fats through the bloodstream. Dietary fats are digested in the intestine and carried to the liver. Fats are also synthesized in the liver itself. Fats are stored in fat cells (adipocytes). Fats are metabolized as needed for energy in the skeletal muscle, heart, and other organs and are secreted in breast milk. Apolipoproteins also serve as enzyme co-factors, receptor ligands, and lipid transfer carriers that regulate the metabolism of lipoproteins and their uptake in tissues.

Apolipoprotein B (APOB) is the primary apolipoprotein of low-density lipoproteins (LDL or "bad cholesterol"), which is responsible for carrying cholesterol to tissues. While it is unclear exactly what functional role APOB plays in LDL, it is the primary apolipoprotein component and is absolutely required for its formation. What is clear is that the APOB on the LDL particle acts as a ligand for LDL receptors in various cells throughout the body (i.e. less formally, APOB "unlocks" the doors to cells and thereby delivers cholesterol to them). Through a mechanism that is not fully understood, high levels of APOB can lead to plaques that cause vascular disease (atherosclerosis), leading to heart disease. There is considerable evidence that levels of APOB are a better indicator of heart disease risk than total cholesterol or LDL. However, primarily for practical reasons, cholesterol, and more specifically, LDL-cholesterol, remains the primary lipid target and risk factor for atherosclerosis.

Apolipoprotein B is the dominant protein constituent of LDL. The concentration of Apo B in normal plasma is 90 mg per 100 ml. Two forms of Apo B exist: Apo B-100 and Apo B-48. The first is found in VLDL and LDL and is produced by the liver. The second is found in chylomicrons and originates in the intestine. Human ApoB (protein accession #PA04114; 4509 aa, chromosome 2).

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;

Product Specification

Protein Conc 35 mg/ml

SOURCE: Fresh human plasma. Tested negative for HBsAg and antibodies to HIV-I, HIV-II and Hepatitis C.

BACKGROUND: Lipoprotein deficient serum is isolated from fresh human serum by isopycnic ultracentrifugation at the lower and upper density limits of the specified density range. Density adjustments are performed with solid KBr..

QUALITY ASSURANCE: Protein determined by the Pierce BCA method with BSA as the standard. Purity of each preparation is verified by agarose gel electrophoresis using Fat Red 7B staining for lipid.

FORMAT: Dulbecco's PBS, pH 7.0. Filtered through a 0.22 micron filter. Not guaranteed sterile.

Storage & Stability: This product should be aliquoted and stored frozen (-20°C or -80°C). If particulates are present upon thawing, centrifuge for 15 minutes at 10000RPM. Filtration may be necessary. The shelf life of Lipoprotein Deficient Serum is estimated to be 6-12 months when stored at -80°C.

Usage:
This item is for LABORATORY RESEARCH USE ONLY.

LDLD45-S

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