Recombinant Human LDLR, C13&N15-labeled

Cat. No. LDLR-241H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human LDLR MS Standard Protein, C13 and N15-labeled (LDLR, Heavy Labeled) Ala 22 - Arg 788 (Accession # NP_000518.1) was produced in human 293 cells (HEK293).
Species	Human
Source	HEK293
ProteinLength	22-788 a.a.
Description	Low-Density Lipoprotein (LDL) Receptor, also known as LDLR, FH, FHC, LDLCQ2, and is a mosaic protein of ~840 amino acids (after removal of signal peptide) that mediates the endocytosis of cholesterol-rich LDL. It is a cell-surface receptor that recognizes the apoprotein B100 which is embedded in the phospholipid outer layer of LDL particles. The receptor also recognizes the apoE protein found in chylomicron remnants and VLDL remnants (IDL). [1] It belongs to the Low density lipoprotein receptor gene family.[2] LDL receptor complexes are present in clathrin-coated pits (or buds) on the cell surface, which when bound to LDL-cholesterol via adaptin, are pinched off to form clathrin-coated vesicles inside the cell. This allows LDL-cholesterol to be bound and internalized in a process known as endocytosis and prevents the LDL just diffusing around the membrane surface. This occurs in all nucleated cells (not erythrocytes), but mainly in the liver which removes ~70% of LDL from the circulation. Synthesis of receptors in the cell is regulated by the level of free intracellular cholesterol; if it is in excess for the needs of the cell then the transcription

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	of the receptor gene will be inhibited. LDL receptors are translated by ribosomes on the endoplasmic reticulum and are modified by the Golgi apparatus before travelling in vesicles to the cell surface. LDL is directly involved in the development of atherosclerosis, due to accumulation of LDL-cholesterol in the blood. Atherosclerosis is the process responsible for the majority of cardiovascular diseases.[3-4]
Form	Lyophilized from 0.22 μm filtered solution in PBS, pH7.4. Normally Mannitol or Trehalose are added as protectants before lyophilization.
Molecular Mass	LDLR, Heavy Labeled, fused with 6×His tag at the C-terminus, has a calculated MW of 86 kDa. The predicted N-terminus is Ala22 or Asp193. DTT-reduced Protein migrates as 95-110 kDa &125-140 kDa due to glycosylation.
Endotoxin	Less than 1.0 EU per μg of the LDLR, Heavy Labeled by the LAL method.
Purity	>90% as determined by SDS-PAGE.
Storage	Avoid repeated freeze-thaw cycles.No activity loss was observed after storage at:In lyophilized state for 1 year (4oC-8oC); After reconstitution under sterile conditions for 1 month (4oC-8oC) or 3 months (-20oC to -70oC).

GENE INFORMATION

Gene Name	LDLR low density lipoprotein receptor [Homo sapiens]
Official Symbol	LDLR
Synonyms	LDLR; low density lipoprotein receptor; low-density lipoprotein receptor; familial hypercholesterolemia; LDL receptor; low-density lipoprotein receptor class A domain-containing protein 3; FH; FHC; LDLCQ2;

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Gene ID	3949
mRNA Refseq	NM_000527
Protein Refseq	NP_000518
MIM	606945
UniProt ID	P01130
Chromosome Location	19p13.2
Pathway	Bile secretion, organism-specific biosystem; Bile secretion, conserved biosystem; Chylomicron-mediated lipid transport, organism-specific biosystem; DNA damage response (only ATM dependent), organism-specific biosystem; Endocytosis, organism-specific biosystem; Endocytosis, conserved biosystem; Hepatitis C, organism-specific biosystem;
Function	calcium ion binding; glycoprotein binding; low-density lipoprotein receptor activity; protein binding; receptor activity; very-low-density lipoprotein particle receptor activity;

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