Human LDL R Protein, Fc Tag (MALS verified)

Catalog # LDR-H5251

Synonym

LDLR,FH,FHC,LDLCQ2

Source

Human LDL R, Fc Tag(LDR-H5251) is expressed from human 293 cells (HEK293). It contains AA Ala 22 - Arg 788 (Accession # P01130-1).
Predicted N-terminus: Ala 22

Molecular Characterization

LDL R(Ala 22 - Arg 788) P01130-1	Fc(Pro 100 - Lys 330) P01857

This protein carries a human IgG1 Fc tag at the C-terminus.

The protein has a calculated MW of 111.2 kDa. The protein migrates as 120-125 kDa and 140-150 kDa under reducing (R) condition, and 270-330 kDa under non-reducing (NR) condition (SDS-PAGE) due to glycosylation.

Endotoxin

Less than 1.0 EU per μg by the LAL method.

Purity

>95% as determined by SDS-PAGE.

Formulation

Lyophilized from 0.22 μm filtered solution in 50 mM Tris,100 mM Glycine,25 mM Arginine,150 mM NaCl,pH7.5 with trehalose as protectant.

Contact us for customized product form or formulation.

Reconstitution

Please see Certificate of Analysis for specific instructions.

For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.

Storage

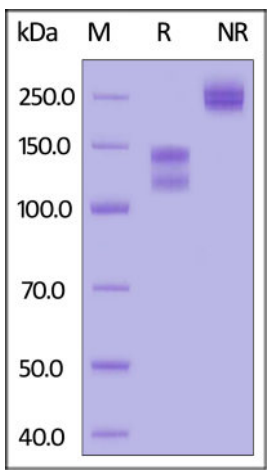
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

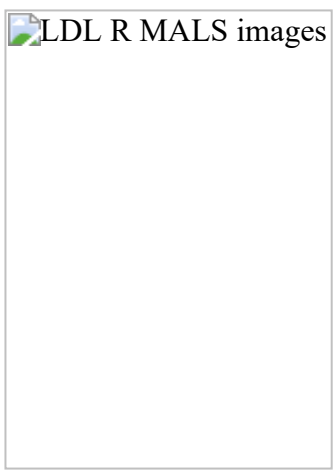
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE



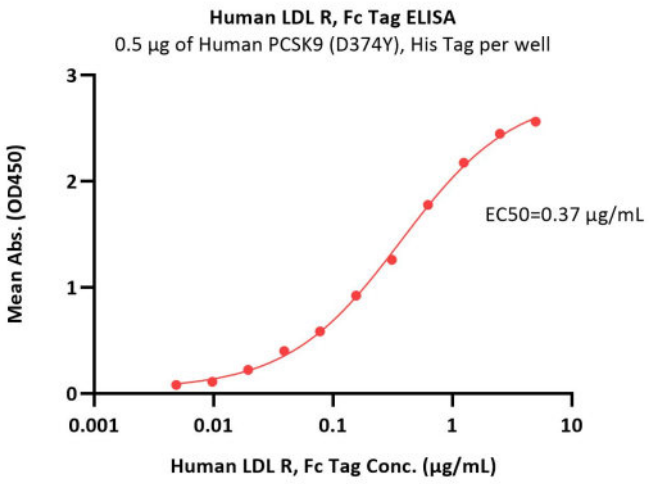
Human LDL R, Fc Tag on SDS-PAGE under reducing (R) and non-reducing (NR) conditions. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95%.

SEC-MALS

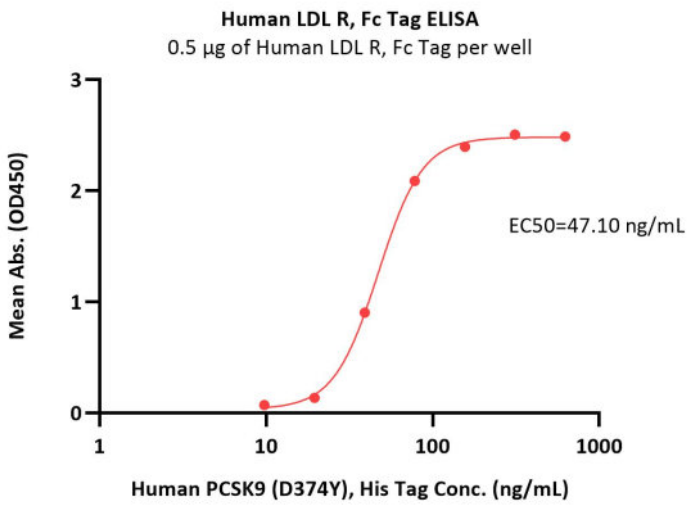


The purity of Human LDL R, Fc Tag (Cat. No. LDR-H5251) is more than 85% and the molecular weight of this protein is around 235-265 kDa verified by SEC-MALS.
Report

Bioactivity-ELISA



Immobilized Human PCSK9 (D374Y), His Tag (Cat. No. PCY-H5225) at 5 μg/mL (100 μL/well) can bind Human LDL R, Fc Tag (Cat. No. LDR-H5251) with a linear range of 0.005-1.25 μg/mL (QC tested).



Immobilized Human LDL R, Fc Tag (Cat. No. LDR-H5251) at 5 μg/mL (100 μL/well) can bind Human PCSK9 (D374Y), His Tag (Cat. No. PCY-H5225) with a linear range of 10-78 ng/mL (Routinely tested).

Background

Low-Density Lipoprotein (LDL) Receptor is 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). It belongs to the Low density lipoprotein receptor gene family. 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 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.

Clinical and Translational Updates