

Human LDL R Protein, premium grade

Catalog # LDR-H5214



BIOSYSTEMS
Acro

Synonyms

LDLR, FH, FHC, LDLCQ2

Source

Human LDL R Protein, premium grade (LDR-H5214) is expressed from human 293 cells (HEK293). It contains AA Ala 22 - Arg 788 (Accession # [P01130-1](#)).

Predicted N-terminus: Ala 22

It is produced under our rigorous quality control system that incorporates a comprehensive set of tests including sterility and endotoxin tests. Product performance is carefully validated and tested for compatibility for cell culture use or any other applications in the early preclinical stage. When ready to transition into later clinical phases, we also offer a custom GMP protein service that tailors to your needs. We will work with you to customize and develop a GMP-grade product in accordance with your requests that also meets the requirements for raw and ancillary materials use in cell manufacturing of cell-based therapies.

Molecular Characterization

LDL R(Ala 22 - Arg 788)
P01130-1

This protein carries no "tag".

The protein has a calculated MW of 84.8 kDa. The protein migrates as 108 kDa $\pm$ 5 kDa and 141 kDa $\pm$ 5 kDa when calibrated against [Star Ribbon Pre-stained Protein Marker](#) under reducing (R) condition (SDS-PAGE) due to glycosylation.

Endotoxin

Less than 0.01 EU per μ g by the LAL method / rFC method.

Sterility

Negative

Mycoplasma

Negative

Purity

>95% as determined by SDS-PAGE.

Formulation

Lyophilized from 0.22 μ m filtered solution in PBS, pH7.4 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.

Shipping and Storage

This product is shipped at ambient temperature.

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

Please avoid repeated freeze-thaw cycles.

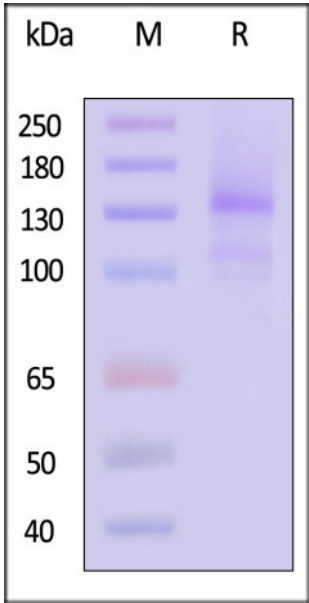
This product is stable after storage at:

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

ACRO Quality Management System

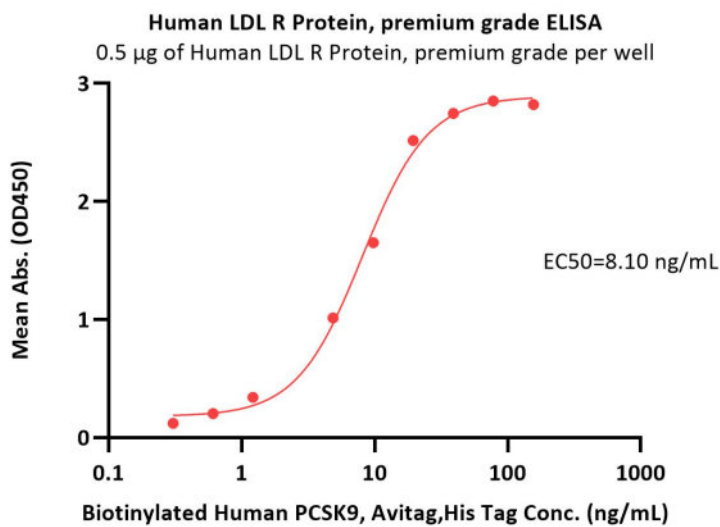
- [QMS\(ISO, GMP\)](#)
- [Quality Advantages](#)
- [Quality Control Process](#)

SDS-PAGE



Human LDL R Protein, premium grade on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95% (With [Star Ribbon Pre-stained Protein Marker](#)).

Bioactivity-ELISA



Immobilized Human LDL R Protein, premium grade (Cat. No. LDR-H5214) at 5 µg/mL (100 µL/well) can bind Biotinylated Human PCSK9, Avitag,His Tag (Cat. No. PC9-H82E7) with a linear range of 0.3-20 ng/mL (QC 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.



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