

## LDLR Protein, Human, Recombinant (193D/A, His)

### General Information

|                       |  |
|-----------------------|--|
| Synonyms:             | low density lipoprotein receptor;LDL R;LDL Receptor;FHC;FH;LDLCQ2  |
| Protein Construction: | A DNA sequence encoding the human LDLR (NP_000518.1, with mutation Asp 193 Ala) (Met1-Arg788) was expressed with a polyhistidine tag at the C-terminus. Predicted N terminal: Ala 22 |
| Species:              | Human  |
| Expression Host:      | HEK293 Cells   |
| Accession:            | P01130   |
| Molecular Weight:     | 86.19 kDa (predicted)  |

### QC Testing

|                      |  |
|----------------------|--|
| Biological Activity: | Measured by its binding ability in a functional ELISA. Immobilized human LDLRh at 10 µg/mL (100 µL/well) can bind mPCSK9-mFc, the EC50 of human mPCSK9-mFc is 200-400 ng/mL.   |
| Purity:              | > 95 % as determined by SDS-PAGE.  |
| Endotoxin:           | < 1.0 EU/µg of the protein as determined by the LAL method.  |
| Formulation:         | Lyophilized from a solution filtered through a 0.22 µm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization. |

### Preparation and Storage

#### Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

#### Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

#### Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

LDL Receptor, also known as LDLR, is a mosaic protein that belongs to the Low-density lipoprotein receptor gene family. The low-density lipoprotein receptor (LDLR) gene family consists of cell surface proteins involved in receptor-mediated endocytosis of specific ligands. LDL Receptor consists of 840 amino acids (after removal of signal peptide) and mediates the endocytosis of cholesterol-rich LDL. Low-density lipoprotein (LDL) is normally bound at the cell membrane and taken into the cell ending up in lysosomes where the protein is degraded and the

cholesterol is made available for repression of microsomal enzyme 3-hydroxy-3-methylglutaryl coenzyme A (HMG CoA) reductase, the rate-limiting step in cholesterol synthesis. At the same time, a reciprocal stimulation of cholesterol ester synthesis takes place. LDL Receptor 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.

### Reference

Yamamoto T, et al. (1984) The human LDL receptor: a cysteine-rich protein with multiple Alu sequences in its mRNA. *Cell*. 39(1): 27-38.

Mao B, et al. (2001) LDL-receptor-related protein 6 is a receptor for Dickkopf proteins. *Nature*. 411(6835): 321-5.

Pinson KI, et al. (2000) An LDL-receptor-related protein mediates Wnt signalling in mice. *Nature*. 407(6803): 535-8.

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