Recombinant Human LDL R

Catalog Number: 2148-LD/CF

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived Ala22-Arg788, with a C-terminal 6-His tag Accession # Q59FQ1
N-terminal Sequence Analysis	Ala22 & Asp193
Predicted Molecular Mass	85.6 kDa & 66.8 kDa

SPECIFICATIONS

SDS-PAGE	125-140 kDa & 95-110 kDa, reducing conditions
Activity	Measured in a competitive binding assay. When human LDL is immobilized at 1 µg/mL (100 µL/well), Recombinant Human LDL R inhibits 50% binding of biotinylated recombinant human LDL R (0.5 µg/mL) at the concentration range of 0.4-2 µg/mL
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>90%, by SDS-PAGE under reducing conditions and visualized by silver stain.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100 µg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 3 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

The low density lipoprotein receptor (LDL R) is the founding member of the LDL R family of widely expressed cell surface scavenger receptors (1-5). Members of the family are endocytic receptors, but can also co-regulate adjacent cell-surface signaling molecules (3, 4). Many proteins in the LDL R family are cleaved by extracellular proteases to release soluble forms to the circulation, and many of these soluble forms are active (1, 6). Mature LDL R is a 120-160 kDa (depending on glycosylation) type I transmembrane glycoprotein that contains cysteine-rich complement-like repeats (class A LDL domains), calcium-binding EGF repeats, and β-propeller structures (class B LDL repeats) in the extracellular domain (ECD) (1-7). A membrane-proximal Ser/Thr-rich region shows extensive O-linked glycosylation (4, 8). A cytoplasmic NPxY motif links the LDL R to clathrin pits for endocytosis, and binds to select adaptor proteins (1, 4, 8). The human LDL R ECD shares 78%, 76%, 81% and 82% aa sequence identity with mouse, rat, bovine, and porcine LDL R, respectively. LDL R is constitutively and widely expressed. Its class A LDL domains near the N-terminus bind apoB and apoE, the apolipoproteins of low- and very low-density lipoproteins (LDL and VLDL), respectively (1, 2, 4, 9). Hepatocyte LDL R is responsible for endocytosis and clearing of most plasma LDL cholesterol (2, 9). At the low pH of the endocytic vesicle, it dissociates, allowing degradation of LDL and recycling of LDL R to the cell surface (1, 4). Lack of LDL R expression or function causes familial hypercholesterolemia (FH) (4, 9, 10). The protease PCSK9 (proprotein convertase subtilisin/kexin type 9) can also cause increased plasma cholesterol by promoting LDL R degradation rather than recycling to the cell surface (10-12). Soluble forms of approximately 140 kDa and 28 kDa are reported to be released by phorbol esters or interferons, respectively (6, 7)

References:

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