

Background

LDL receptor-related protein 1 (LRP-1), also known as CD91 and the α 2-macroglobulin receptor, is a type I membrane protein in the LDL receptor superfamily. It is expressed on neurons, hepatocytes, adipocytes, vascular smooth muscle cells, fibroblasts, keratinocytes, macrophages, and megakaryocytes. LRP-1 is important for the clearance of a large number of circulating molecules involved in fatty acid metabolism and complexes of serine proteases with their inhibitors (1 - 4). LRP-1 also associates directly or through intracellular scaffold proteins with other membrane associated proteins on the same cell. This allows LRP-1 to modulate the activity or internalization of PDGF R β , NMDA receptor subunits, TGF- β receptors, Frizzled-1, various integrins, and the prion protein PrP^c. Human LRP-1 is an N-glycosylated and sialylated molecule that is cleaved in the Golgi to produce an 85 kDa transmembrane β chain and a 515 kDa α chain that associates noncovalently with the β chain but does not itself cross the membrane (11, 12). The α chain of LRP-1 contains 31 LDLR class A repeats, 34 LDLR class B repeats, and 22 EGF-like repeats (13). The LDLR domains are clustered in four regions throughout the protein (13). Cluster IV (aa 3332 - 3779) contains eleven LDLR class A repeats (14). Within this region, human LRP-1 shares 99% aa sequence identity with mouse and rat LRP-1. A shed soluble form of LRP-1 circulates in the serum and retains ligand binding properties (15). Cluster IV contains binding sites for Apolipoprotein E, LPL, and LRPAP/RAP, α 2-macroglobulin, Coagulation Factor VIII light chain, Lactoferrin, PAI-1, tPA-PAI-1 complexes, Pro-uPA, and TFPI (14).

References:

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Description

Source	Chinese Hamster Ovary cell line, CHO-derived		
	Human LRP1-C4 (Ser3332 - Asp3779) Accession # Q07954	IEGRMD	Human IgG ₁ (Pro100 - Lys330)
	N-terminus		C-terminus
N-terminal Sequence Analysis	Ser3332		
Structure / Form	Disulfide-linked homodimer		
Predicted Molecular Mass	76.7 kDa		

Specifications

SDS-PAGE	110 - 120 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When rhLRP-1C4/Fc Chimera is immobilized at 50 ng/mL, 100 μ L/well, the concentration of rhLRPAP that produces 50% of the optimal binding response is found to be approximately 0.5 - 2.5 ng/mL.
Endotoxin Level	<1.0 EU per 1 μ g 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 μ m filtered solution in PBS. See Certificate of Analysis for details.

Preparation and Storage

Reconstitution	Reconstitute at 100 μ g/mL in PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> ● 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.

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