

## LRP2 Protein, Human, Recombinant (mFc)

## General Information

Synonyms:	Low-density lipoprotein receptor-related protein 2;LRP-2;Megalin;LRP2;Glycoprotein 330 (gp330)
Protein Construction:	1186-1389 aa
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P98164
Molecular Weight:	50.8 kDa (predicted)
AA Sequence:	NCTASQFKCASGDKCIGVTNRCDGVFDCSDNSDEAGCPTRPPGMCHSDEFQCQEDGICIPNFWECDGHPDC LYGSDEHNACVPKTCPSSYFHCDNGNCIHRAWLCDRDNDCGDMSDEKDCPTQPFRCPSWQWQCLGHNIC VNLSVVC DGIFDCPNGTDESPLCNGNSCDFNGGCTHECVQEPFGAKCLCPLGFLLANDSKTCE

## QC Testing

Biological Activity:	Activity has not been tested. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 85% as determined by SDS-PAGE.
Endotoxin:	< 1.0 EU/ $\mu$ g of the protein as determined by the LAL method.
Formulation:	If the delivery form is liquid, the default storage buffer is Tris/PBS-based buffer, 5%-50% glycerol. If the delivery form is lyophilized powder, the buffer before lyophilization is Tris/PBS-based buffer, 6% Trehalose, pH 8.0.

## Preparation and Storage

## Reconstitution:

Reconstitute the lyophilized protein in sterile deionized water. The product concentration should not be less than 100  $\mu$ g/mL. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

## Stability &amp; Storage:

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

Multiligand endocytic receptor. Acts together with CUBN to mediate endocytosis of high-density lipoproteins. Mediates receptor-mediated uptake of polybasic drugs such as aprotinin, aminoglycosides and polymyxin B. In

the kidney, mediates the tubular uptake and clearance of leptin. Also mediates transport of leptin across the blood-brain barrier through endocytosis at the choroid plexus epithelium. Endocytosis of leptin in neuronal cells is required for hypothalamic leptin signaling and leptin-mediated regulation of feeding and body weight. Mediates endocytosis and subsequent lysosomal degradation of CST3 in kidney proximal tubule cells. Mediates renal uptake of 25-hydroxyvitamin D3 in complex with the vitamin D3 transporter GC/DBP. Mediates renal uptake of metallothionein-bound heavy metals. Together with CUBN, mediates renal reabsorption of myoglobin. Mediates renal uptake and subsequent lysosomal degradation of APOM. Plays a role in kidney selenium homeostasis by mediating renal endocytosis of selenoprotein SEPP1. Mediates renal uptake of the antiapoptotic protein BIRC5/survivin which may be important for functional integrity of the kidney. Mediates renal uptake of matrix metalloproteinase MMP2 in complex with metalloproteinase inhibitor TIMP1. Mediates endocytosis of Sonic hedgehog protein N-product (ShhN), the active product of SHH. Also mediates ShhN transcytosis. In the embryonic neuroepithelium, mediates endocytic uptake and degradation of BMP4, is required for correct SHH localization in the ventral neural tube and plays a role in patterning of the ventral telencephalon. Required at the onset of neurulation to sequester SHH on the apical surface of neuroepithelial cells of the rostral diencephalon ventral midline and to control PTCH1-dependent uptake and intracellular trafficking of SHH. During neurulation, required in neuroepithelial cells for uptake of folate bound to the folate receptor FOLR1 which is necessary for neural tube closure. In the adult brain, negatively regulates BMP signaling in the subependymal zone which enables neurogenesis to proceed. In astrocytes, mediates endocytosis of ALB which is required for the synthesis of the neurotrophic factor oleic acid. Involved in neurite branching. During optic nerve development, required for SHH-mediated migration and proliferation of oligodendrocyte precursor cells. Mediates endocytic uptake and clearance of SHH in the retinal margin which protects retinal progenitor cells from mitogenic stimuli and keeps them quiescent. Plays a role in reproductive organ development by mediating uptake in reproductive tissues of androgen and estrogen bound to the sex hormone binding protein SHBG. Mediates endocytosis of angiotensin-2. Also mediates endocytosis of angiotensin 1-7. Binds to the complex composed of beta-amyloid protein 40 and CLU/APOJ and mediates its endocytosis and lysosomal degradation. Required for embryonic heart development. Required for normal hearing, possibly through interaction with estrogen in the inner ear.

**Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins**

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