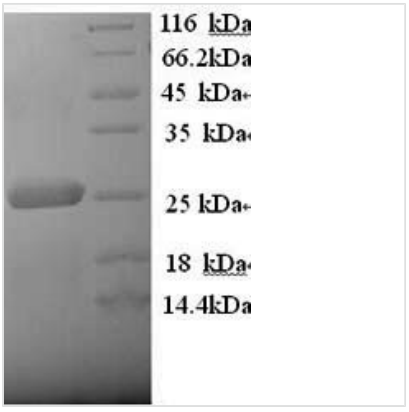
Recombinant Human Low-density lipoprotein receptor-related protein 2 (LRP2), partial

Product Code	CSB-YP013096HU
Relevance	Acts together with cubilin to mediate HDL endocytosis . May participate in regulation of parathyroid-hormone and para-thyroid-hormone-related protein release.
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	P98164
Alias	Glycoprotein 330 ;gp330Megalin
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	NCTASQFKCASGDKCIGVTNRCDGVFDCSDNSDEAGCPTRPPGMCHSDEFQCQEDGICIPNFWECDGHPDCLYGSDEHNACVPKTCPSSYFHCDNGNCIHRAWLCDRDNDCGDMSDEKDCPTQPFRCPSWQWQCLGHNICVNLSVVCDGIFDCPNGTDESPLCNGNSCSDFNGGCTHECVQEPFGAKCLCPLGFLLANDSKTCE
Lead Time	3-7 business days
Research Area	Immunology
Source	Yeast
Gene Names	LRP2
Protein Names	Recommended name: Low-density lipoprotein receptor-related protein 2 Short name= LRP-2 Alternative name(s): Glycoprotein 330 Short name= gp330 Megalin
Expression Region	1186-1389aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 6xHis-tagged
Mol. Weight	24.2kDa
Protein Description	Extracellular Domain
Image	



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

Description

To produce recombinant human low-density lipoprotein receptor-related protein 2 (LRP2) in yeast, the gene encoding the extracellular domain of the human LRP2 protein (1186-1389aa) is co-inserted into an expression vector with an N-terminal 6xHis-tag gene and transformed into yeast cells. The yeast cells are grown under conditions that promote protein expression. After sufficient growth, the cells are lysed to release the recombinant LRP2 protein. The recombinant human LRP2 protein is purified from the cell lysate through affinity chromatography. The purity of the protein is assessed using SDS-PAGE, up to 90%.

The Human LRP2 protein, also known as megalin, is a large transmembrane glycoprotein receptor that plays a crucial role in various physiological processes [1]. It functions as a multifunctional cell surface receptor involved in mediating the uptake of hormones and vitamins bound to carrier proteins, such as vitamin D-binding protein, retinol-binding protein, and sex hormone-binding globulins [2]. LRP2 acts as an auxiliary receptor for sonic hedgehog (SHH) signaling, controlling the internalization and cellular trafficking of SHH complexes [3].

Studies have highlighted the significance of LRP2 in different developmental processes, including cardiac development and neural tube closure. Loss of LRP2 has been associated with heart defects in mice, emphasizing its crucial role in cardiac development [4]. Furthermore, LRP2 has been implicated in neural tube closure, with its deficiency leading to neural tube defects in mouse embryos, a condition that can be prevented by folic acid supplementation [5].

References:
[1] , Megalin-mediated trafficking of mitochondrial intracrines: relevance to signaling and metabolism,, vol. 3, no. 6, 2021. https://doi.org/10.33696/immunology.3.118
[2] E. Kur, N. Mecklenburg, R. Cabrera, T. Willnow, & A. Hammes, Lrp2 mediates folate uptake in the developing neural tube, Journal of Cell Science, 2014. https://doi.org/10.1242/jcs.140145
[3] A. Christ, A. Christa, E. Kur, O. Lioubinski, S. Bachmann, T. Willnowet al., Lrp2 is an auxiliary shh receptor required to condition the forebrain ventral midline for inductive signals, Developmental Cell, vol. 22, no. 2, p. 268-278, 2012. https://doi.org/10.1016/j.devcel.2011.11.023
[4] M. Baardman, M. Zwier, L. Wisse, A. Groot, W. Kerstjens-Frederikse, R. Hofstraet al., Common arterial trunk and in lrp2 knock out mice indicate a crucial

role of lrp2 in cardiac development, Disease Models & Mechanisms, 2016. https://doi.org/10.1242/dmm.022053
[5] J. Sabatino, B. Stokes, & I. Zohn, Prevention of neural tube defects in lrp2 mutant mouse embryos by folic acid supplementation, Birth Defects Research, vol. 109, no. 1, p. 16-26, 2017. https://doi.org/10.1002/bdra.23589

Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL.We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.