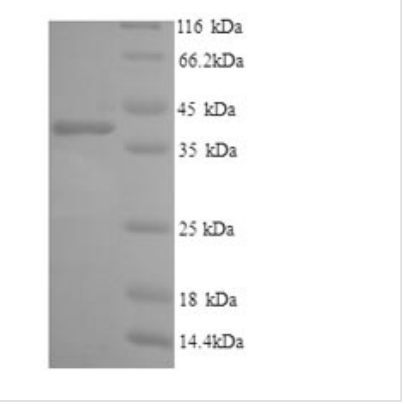
Recombinant Human Interleukin-6 receptor subunit alpha (IL6R), partial

Product Code	CSB-YP011665HU
Relevance	cytokine receptor activity
Abbreviation	Recombinant Human IL6R protein, partial
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.	P08887
Alias	Interleukin 6 receptor, isoform CRA_a
Product Type	Recombinant Protein
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	LAPRRCPAQEVARGVLTSLPGDSVTLTCPGVEPEDNATVHWVLRKPAAGSHP SRWAGMGRRLLLRSVQLHDSGNYSCYRAGRPAGTVHLLVDVPPEEPQLSCF RKSPLSNVVCEWGPRSTPSLTTKAVLLVRKFQNSPAEDFQEPCQYSQESQKF SCQLAVPEGDSSFYIVSMCVASSVGSKFSKTQTFQGCGILQPDPPANITVTAV ARNPRWLSVTWQDPHSWNSSFYRLRFELRYRAERSKTFTTWMVKDLQHHCV IHDAWSGLRHVVQLRAQEEFGQGEWSEWSPEAMGTPWTESRSPPAENEVS TPMQALTTNKDDDNILFRDSANATSLPVQDSSSVPLP
Research Area	Immunology
Source	Yeast
Protein Names	Recommended name: Interleukin-6 receptor subunit alpha Short name= IL-6 receptor subunit alpha Short name= IL-6R subunit alpha Short name= IL-6R-alpha Short name= IL-6RAAlternative name(s): IL-6R 1 Membrane glycopr
Expression Region	20-365aa
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	40.5kDa
Protein Length	Partial
Image	



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

Description

The 6xHis gene is tagged to the gene fragment encoding the 20-365aa of the human IL6 receptor subunit alpha (CD126) to obtain the target gene. The target gene is then amplified via PCR and inserted into expression vectors to create recombinant plasmids. These plasmids are introduced into yeast cells, which are subsequently cultured to express the CD126 protein. Following cultivation, the supernatant is collected and purified using affinity chromatography, producing recombinant human CD126 protein with a purity level exceeding 90% as verified by SDS-PAGE.

Human CD126, also known as IL-6Rα, along with CD130, binds to IL-6, initiating a cascade of intracellular signaling vital for various physiological processes, including immune response, inflammation, and hematopoiesis [1][2]. CD126 is primarily expressed on a variety of cell types, including B cells, T cells, and certain epithelial and hepatocyte cells [3][4]. Its expression is crucial for the activation and differentiation of immune cells, particularly in the context of inflammatory responses. CD126 is involved in the differentiation of Tregs and can influence their suppressive functions [5][6]. The presence of CD126 on Tregs is associated with their ability to respond to IL-6, which can modulate their activity and stability under inflammatory conditions [7].

References:
[1] N. Aziz, Relationship among serum levels of il-6, sil-6r, s gp130 and cd126 on t-cell in hiv-1 infected and uninfected men participating in the los angeles multi-center aids cohort study, Plos One, vol. 18, no. 10, p. e0290702, 2023. https://doi.org/10.1371/journal.pone.0290702
[2] M. Murakami, D. Kamimura, & T. Hirano, Pleiotropy and specificity: insights from the interleukin 6 family of cytokines, Immunity, vol. 50, no. 4, p. 812-831, 2019. https://doi.org/10.1016/j.immuni.2019.03.027
[3] A. Mishra, I. Kemler, & D. Dingli, Preclinical development of cd126 car-t cells with broad antitumor activity, Blood Cancer Journal, vol. 11, no. 1, 2021. https://doi.org/10.1038/s41408-020-00405-z
[4] F. Liu, J. Li, P. Wang, T. Farren, H. Li, X. Hao, et al., Cd126 and targeted therapy with tocilizumab in chronic lymphocytic leukemia, Clinical Cancer Research, vol. 22, no. 10, p. 2462-2469, 2016. https://doi.org/10.1158/1078-0432.ccr-15-1139
[5] L. Zeebroeck, R. Hornero, B. Côrte-R, eal, I. Hamad, T. Meißner, & M. Kleinewietfeld, Fast and efficient genome editing of human foxp3+ regulatory t

cells, Frontiers in Immunology, vol. 12, 2021. https://doi.org/10.3389/fimmu.2021.655122
[6] Y. Chen, Z. Xu, R. Liang, J. Wang, A. Xu, N. Na, et al., Cd4+cd126low/–foxp3+ cell population represents a superior subset of regulatory t cells in treating autoimmune diseases, Molecular Therapy, vol. 28, no. 11, p. 2406-2416, 2020. https://doi.org/10.1016/j.ymthe.2020.07.020
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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.
Shelf Life	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.