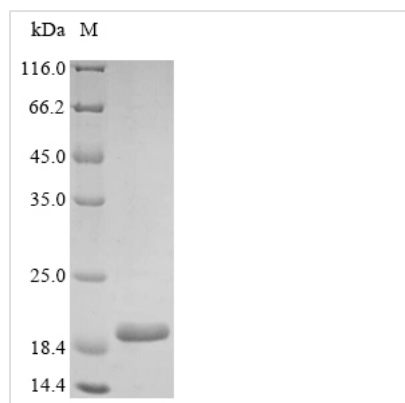




Recombinant Human Interleukin-1 alpha (IL1A)

Product Code	CSB-YP011613HU
Abbreviation	Recombinant Human IL1A protein
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.	P01583
Form	Liquid or Lyophilized powder
Storage Buffer	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.
Product Type	Recombinant Human Interleukin-1 alpha(IL1A)
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	SAPFSFLSNVKYNFMRIIKYEFILNDALNQSIIRANDQYLTAALHNLDEAVKFD MGAYKSSKDDAKITVILRISKTKQLYVTAQDEDQPVLLKEMPEIPKTITGSETNLLF FWETHGTKNYFTSVAHPNLFIAATKQDYWVCLAGGPPSITDFQILENQA
Research Area	Immunology
Source	Yeast
Target Names	IL1A
Expression Region	113-271aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 5°C for up to one week.
Tag Info	N-terminal 6xHis-tagged
Mol. Weight	20.0 kDa
Protein Length	Full Length of Mature Protein

Image



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



Description

The gene coding for the human IL1A protein (113-271aa) was co-cloned into a plasmid vector with the N-terminal 6xHis-tag gene and then introduced into yeast cells for protein expression. After that, the cultured yeast cells are lysed to release the expressed IL1A proteins, which are purified through affinity chromatography. The purity of the recombinant human IL1A protein is over 90% as measured by SDS-PAGE.

The human IL1A protein is a proinflammatory cytokine belonging to the interleukin-1 family, along with IL1B and IL1RN. IL1A participates in various biological processes, including immune responses, inflammation, and cell proliferation. It exerts pleiotropic effects on host reactions and regulates cell functions in both positive and negative ways [1]. IL1A can induce the expression of senescence-associated secretory phenotype (SASP) components [2] and is implicated in inflammatory responses in different tissues, such as the ovarian surface epithelial cells [3].

IL1A plays a crucial role in various diseases and conditions. It has been associated with cancer, where its polymorphisms have been linked to breast cancer risk [5] and its expression can impact survival and recurrence in non-small cell lung cancer patients [4]. IL1A gene polymorphisms have been studied for their association with aggressive periodontitis in periodontal diseases [6].

References:

- [1] K. Eislmayr, A. Bestehorn, L. Morelli, M. Borroni, L. Walle, M. Lamkanfiet al., Nonredundancy of il-1 α and il-1 β is defined by distinct regulation of tissues orchestrating resistance versus tolerance to infection, *Science Advances*, vol. 8, no. 9, 2022. <https://doi.org/10.1126/sciadv.abj7293>
- [2] M. Montes, M. Lubas, F. Arendrup, B. Mentz, N. Rohatgi, S. Tumaset al., The lncrna mir31hg regulates the senescence associated secretory phenotype,, 2020. <https://doi.org/10.21203/rs.3.rs-57840/v1>
- [3] G. Papacleovoulou, H. Critchley, S. Hillier, & J. Mason, Il1 α and il4 signalling in human ovarian surface epithelial cells, *Journal of Endocrinology*, vol. 211, no. 3, p. 273-283, 2011. <https://doi.org/10.1530/joe-11-0081>
- [4] N. Woods, A. Monteiro, Z. Thompson, E. Amankwah, N. Naas, E. Hauraet al., Interleukin polymorphisms associated with overall survival, disease-free survival, and recurrence in non-small cell lung cancer patients, *Molecular Carcinogenesis*, vol. 54, no. S1, 2015. <https://doi.org/10.1002/mc.22275>
- [5] H. Baradaran-Rahimi, M. Radvar, H. Arab, J. Tavakol-Afshari, & A. Ebadian, Association of interleukin-1 receptor antagonist gene polymorphisms with generalized aggressive periodontitis in an Iranian population, *Journal of Periodontology*, vol. 81, no. 9, p. 1342-1346, 2010. <https://doi.org/10.1902/jop.2010.100073>
- [6] K. Kim, J. Noh, M. Bodogai, J. Martindale, P. Pandey, X. Yanget al., Scamp4 enhances the senescent cell secretome, *Genes & Development*, vol. 32, no. 13-14, p. 909-914, 2018. <https://doi.org/10.1101/gad.313270.118>

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.