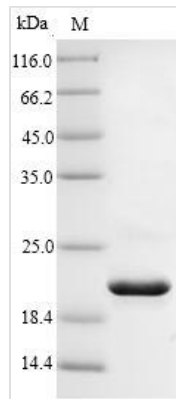




Recombinant Human Interleukin-18 (IL18)

Product Code	CSB-YP614514HU
Relevance	Augments natural killer cell activity in spleen cells and stimulates interferon gamma production in T-helper type I cells.
Abbreviation	Recombinant Human IL18 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.	Q14116
Alias	lbctadekin Interferon gamma-inducing factor
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	YFGKLESKLSVIRNLNDQVLFDQGNRPLFEDMTDSDCRDNAPRTIFIISMYKDS QPRGMAVTISVKCEKISTLSCENKIISFKEMNPPDNIKDTKSDIIFQRSVPGHD NKMQFESSSYEGYFLACEKERDLFKLILKKEDELGDRSIMFTVQNED
Research Area	Immunology
Source	Yeast
Target Names	IL18
Protein Names	Recommended name: Interleukin-18 Short name= IL-18 Alternative name(s): lbctadekin Interferon gamma-inducing factor Short name= IFN-gamma- inducing factor Interleukin-1 gamma Short name= IL-1 gamma
Expression Region	37-193aa
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	20.2kDa
Protein Length	Full Length of Mature Protein
Image	



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

Description

For the production of the recombinant human IL18 protein with an N-terminal 6xHis-tag in yeast, the gene of interest, fused with the N-terminal 6xHis-tag sequence, is cloned into an expression vector and introduced into the yeast cells. The gene of interest codes for the full length of the mature human IL18 (37-193aa). After that, the positive yeast cells are cultured and induced for protein expression. The recombinant IL18 protein is isolated and purified using nickel affinity chromatography from the cell lysate. Its purity is assessed by SDS-PAGE, exceeding 90%.

IL18, also called IFN- γ -inducing factor, is a pleiotropic cytokine that plays a crucial role in regulating both innate and acquired immune responses [1]. Most normal human cells, particularly macrophages and dendritic cells, can produce IL18 [2]. IL18 is an inflammasome-induced proinflammatory cytokine that enhances the activity of T- and NK-cells and stimulates the production of IFN γ [3]. IL18 acts as a proinflammatory and immune regulatory cytokine in different types of cancer[4]. In non-small cell lung cancer, polymorphisms in the IL18 gene have been linked to susceptibility, affecting the activation of natural killer cell cytotoxicity and promoting the Th1 immune response through the alteration of interferon- γ and TNF- α expression [5]. Furthermore, IL18 is involved in inflammatory bowel diseases, with pharmacologic inhibition of IL18 reversing severe enterocolitis, indicating its potential as a therapeutic target for such conditions [6].

References:

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<https://doi.org/10.1186/s13148-023-01426-8>
- [3] A. Menachem, Unleashing natural il18 activity using an anti-il18bp blocker induces potent immune stimulation and antitumor effects, *Cancer Immunology Research*, vol. 12, no. 6, p. 687-703, 2024.
<https://doi.org/10.1158/2326-6066.cir-23-0706>
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[5] C. Dinarello, Novel targets for interleukin 18 binding protein, Annals of the Rheumatic Diseases, vol. 60, no. suppl 3, p. iii18-iii24, 2001.

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[6] C. Dinarello, Targeting interleukin 18 with interleukin 18 binding protein, Annals of the Rheumatic Diseases, vol. 59, no. 90001, p. 17i-20, 2000.

https://doi.org/10.1136/ard.59.suppl_1.i17

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.