

Recombinant human IL-1 β (CHO)

Mammalian cell-expressed human interleukin 1 beta (IL-1 β)

Cat. code: rcyc-hil1b, rcyc-hil1b-5

<https://www.invivogen.com/cytokines-human-il1b-recombinant-protein>

For research use only

Version 25A10-MM

PRODUCT INFORMATION

Contents

Recombinant human IL-1 β (CHO) is provided as a lyophilized powder and is available in two quantities:

- **rcyc-hil1b**: 10 μ g
- **rcyc-hil1b-5**: 50 μ g (5 x 10 μ g)

Note: This product is sterile filtered prior to lyophilization.

- 1.5 ml endotoxin-free water for rcyc-hil1b and rcyc-hil1b-5

Storage and stability

- Recombinant human IL-1 β (CHO) is shipped at room temperature. Upon receipt it should be immediately stored at -20°C. Lyophilized product is stable for 12 months at -20°C.

- Upon resuspension, prepare aliquots of recombinant human IL-1 β (CHO) and store at 4°C for 1 week or at -20°C to -80°C for 12 months.

Note: Avoid repeated freeze-thaw cycles.

Quality control

- Purity: \geq 95% (SDS-PAGE)
- Endotoxin level: \leq 0.1 EU/ μ g (LAL assay)
- The biological activity has been confirmed using **HEK-Blue™ IL-1 β cells** (see validation data sheet available on our website).

Characteristics

- Alternative name: IL1F2, interleukin 1 beta
- Source: Mammalian; Chinese hamster ovary (CHO) cells
- Molecular mass: \sim 17.3 kDa (SDS PAGE)
- Carrier-free
- UniProt ID: P01584
- Protein sequence: Ala117-Ser269
- Mature, active form of IL-1 β
- Formulation: Recombinant human IL-1 β (CHO) was lyophilized from a 0.2 μ m filtered 20 mM Sodium Phosphate, 150 mM NaCl, and 5% saccharose buffer solution (pH 7).
- Solubility: 100 μ g/ml in water

APPLICATIONS

- Cellular assays
- Cell culture
- ELISA

PRODUCT DESCRIPTION

Interleukin 1 beta (IL-1 β) is a secreted pro-inflammatory cytokine that participates in the generation of systemic and local responses to infection and injury^{1,2}. IL-1 β derives from a proprotein that is produced by activated macrophages and cleaved by caspase 1³. The resulting mature IL-1 β is secreted and binds to the IL-1RI receptor inducing MyD88-mediated intracellular signaling. Subsequently, this leads to the activation of the transcription factor NK- κ B and the production of inflammatory cytokines, such as IL-6 and IL-8⁴.

InvivoGen's recombinant human interleukin-1 beta (hIL-1 β) is intended for use in cell culture applications. It is produced in Chinese hamster ovary (CHO) cells. Production of recombinant proteins in mammalian cells ensures protein glycosylation and *bona fide* 3D structure. Of note, glycosylation stabilizes proteins against physicochemical instabilities.

1. **Dinarello C., 2009.** Immunological and inflammatory functions of the interleukin-1 family. *Annu. Rev. Immunol.* 27:519-550. 2. **Sims J. & Smith D., 2010.** The IL-1 family: regulators of immunity. *Nat Rev Immunol.* 10(2):89-102. 3. **O'Neill L., 2008.** The interleukin-1 receptor/Toll-like receptor superfamily: 10 years of progress. *Immunol. Rev.* 226, 10-18. 4. **Weber A. et al., 2010.** Interleukin-1 (IL-1) pathway. *Sci Signal.* 3(105):cm1.

METHODS

Preparation of stock solution (100 μ g/ml):

1. Add 100 μ l endotoxin-free water (provided) to 10 μ g of recombinant hIL-1 β (CHO) and mix gently by pipetting until completely resuspended.
2. Use immediately or prepare aliquots and store at 4°C for 1 week or at -20°C to -80°C for 12 month. Avoid freeze-thaw cycles.
3. Further dilutions can be prepared in the appropriate aqueous buffer, such as cell culture medium containing serum.

RELATED PRODUCTS

Product	Cat. Code
Recombinant human IL-1 β (<i>E.coli</i>)	rcyc-hil1b
HEK-Blue™ IL-1 β cells	hkb-il1bv2
Anti-human IL-1 β mlgG1	mabg-hil1b-3

TECHNICAL SUPPORT

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