



Synonym

IL1B,IL-1BETA,IL1F2,IL-1β

Source

Human IL-1 beta, premium grade(ILB-H4110) is expressed from E. coli cells. It contains AA Ala 117 - Ser 269 (Accession # [P01584-1](#)).

Predicted N-terminus: Met

Human IL-1 beta, premium grade (ILB-H4110), designed for preclinical stage, has the same activity and performance with GMP Human IL-1 beta (GMP-ILBH16), which enables a seamless transition from preclinical development to clinical phases. Premium Grade product offer a cost efficient alternative of GMP Grade products for the early development phase when safety of raw materials is not top priority. By using Premium Grade products in early development phase, you can transition easily into clinical and commercial phase without need to revalidate the raw materials and modify manufacturing process.

Molecular Characterization

**IL-1 beta(Ala 117 - Ser 269)
P01584-1**

This protein carries no "tag".

The protein has a calculated MW of 17.5 kDa. The protein migrates as 18 kDa±3 kDa when calibrated against [Star Ribbon Pre-stained Protein Marker](#) under reducing (R) condition (SDS-PAGE).

Endotoxin

Less than 0.01 EU per µg by the LAL method.

Host Cell Protein

<0.5 ng/µg of protein tested by ELISA.

Host Cell DNA

<0.02 ng/µg of protein tested by qPCR.

Sterility

Negative

Mycoplasma

Negative.

Purity

>95% as determined by SDS-PAGE.

>95% as determined by SEC-HPLC.

Formulation

Lyophilized from 0.22 µm filtered solution in PBS, pH7.4 with trehalose as protectant.

Contact us for customized product form or formulation.

Reconstitution

Please see Certificate of Analysis for specific instructions.

For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.

Storage

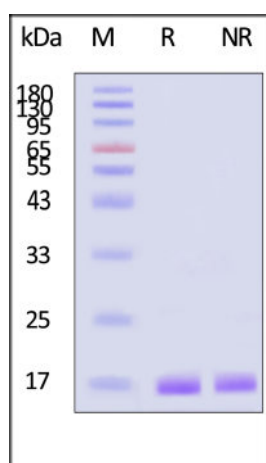
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

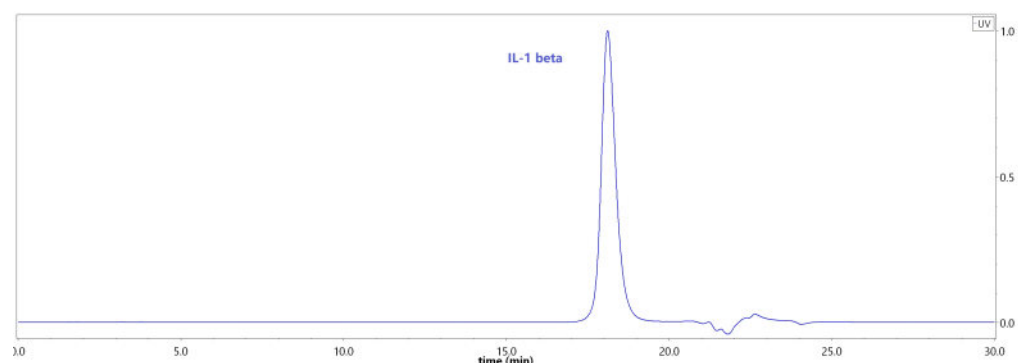
This product is stable after storage at:

- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE



SEC-HPLC



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Human IL-1 beta / IL-1F2 Protein, premium grade

Catalog # ILB-H4110

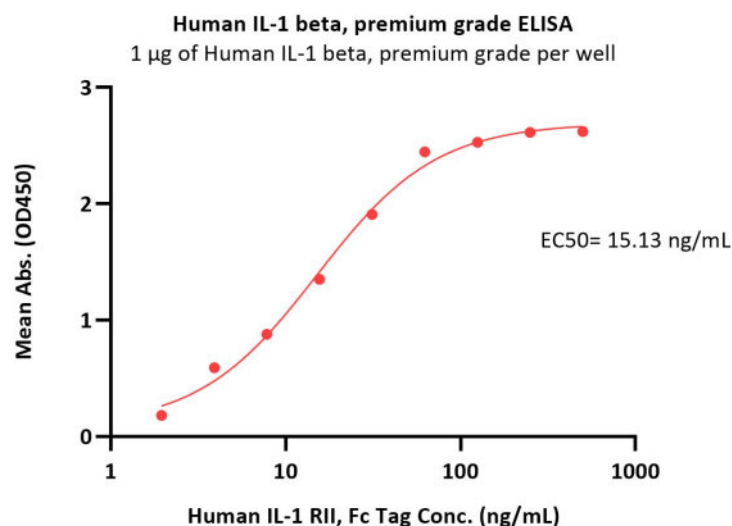


BIOSYSTEMS
Acro

Human IL-1 beta, premium grade on SDS-PAGE under reducing (R) and non-reducing (NR) conditions. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95% (With [Star Ribbon Pre-stained Protein Marker](#)).

The purity of Human IL-1 beta, premium grade (Cat. No. ILB-H4110) was greater than 95% as determined by SEC-HPLC.

Bioactivity-ELISA



Immobilized Human IL-1 beta, premium grade (Cat. No. ILB-H4110) at 10 µg/mL (100 µL/well) can bind Human IL-1 RII, Fc Tag (Cat. No. IL2-H4256) with a linear range of 2-63 ng/mL (QC tested).

Background

Interleukin-1 beta (IL-1 β) is also known as catabolin, is a cytokine protein that in humans is encoded by the IL1B gene. IL-1 β precursor is cleaved by caspase 1 (interleukin 1 beta convertase). Cytosolic thiol protease cleaves the product to form mature IL-1 beta.

IL1 β are structurally related polypeptides that share approximately 21% amino acid (aa) identity in human. Both proteins are produced by a wide variety of cells in response to inflammatory agents, infections, or microbial endotoxins. While IL1 α and IL1 β are regulated independently, they bind to the same receptor and exert identical biological effects.

IL-1 β is a member of the interleukin 1 cytokine family. This cytokine is produced by activated macrophages as a proprotein, which is proteolytically processed to its active form by caspase 1 (CASPI/ICE). This cytokine is an important mediator of the inflammatory response, and is involved in a variety of cellular activities, including cell proliferation, differentiation, and apoptosis. The induction of cyclooxygenase-2 (PTGS2/COX2) by this cytokine in the central nervous system (CNS) is found to contribute to inflammatory pain hypersensitivity. This gene and eight other interleukin 1 family genes form a cytokine gene cluster on chromosome 2.

Clinical and Translational Updates

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