



**Recombinant Human IL-1 $\beta$**   
(Interleukin-1 beta)

Catalog Number: 100-167  
Accession Number: P01584

**Specifications and Uses:**

**Alternate Names:** Catabolin, LAF, EP, LEM, MCF

**Description:**

Interleukin-1 beta (IL-1 $\beta$ ) is a pro-inflammatory cytokine produced in response to inflammatory agents by a variety of cells, including monocytes, macrophages, and dendritic cells (DCs). IL-1 $\beta$  and IL-1 $\alpha$  are two distinct and independently regulated gene products that comprise IL-1 and signal through the Type 1 IL-1 receptor (IL-1R1). Although IL-1 $\alpha$  is cell associated and IL-1 $\beta$  is secreted, they have nearly identical biological activity in that they induce adhesion molecule expression on epithelial cells, control fever induction, and play a role in arthritis and septic shock. Signaling activated by the IL-1R1 promotes these activities through a MYD88 signaling pathway similar to those associated with Toll receptors. Recombinant human IL-1 $\beta$  is a non-glycosylated protein, containing 153 amino acids, with a molecular weight of 17.4 kDa.

**Source:** *E.coli*

**Physical Appearance:** Sterile filtered white lyophilized (freeze-dried) powder.

**Formulation and Stability:**

Recombinant human IL-1 $\beta$  is lyophilized from 10 mM Na<sub>2</sub>PO<sub>4</sub>, pH 7.5.

Lyophilized product is very stable at -20°C. Reconstituted material should be aliquoted and frozen at -20°C. It is recommended that a carrier protein (0.1% HSA or BSA) is added for long term storage.

**Reconstitution:**

Centrifuge vial before opening. When reconstituting the product, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution. It is recommended to reconstitute the lyophilized product with sterile water at a concentration of 0.1 mg/mL, which can be further diluted into other aqueous solutions.

**Protein Content and Purity (typically  $\geq$  97%) determined by:**

HPLC, Reducing and Non-reducing SDS-PAGE, UV spectroscopy at 280 nm

**Endotoxin Level:**

Measured by kinetic LAL analysis and is typically  $\leq$  1 EU/ $\mu$ g protein.

**Biological Activity:**

The activity is determined by the stimulation of D10S.G4.1 cells and is typically less than 12 pg/mL.

**AA Sequence:**

APVRSLNCTL RDSQQKSLVM SGPYELKALH LQGQDMEQQV VFSMSFVQGE ESNDKIPVAL GLKEKNLYLS  
CVLKDDKPTL QLESVDPKNY PKKKMEKRFV FNKIEINNKL EFESAQFPNW YISTSQAENM PVFLGGTKGG  
QDITDFTMQF VSS

**THIS PRODUCT IS FOR RESEARCH USE ONLY AND IS NOT FOR USE IN HUMANS!**

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