

**BACKGROUND:**

Interleukin-1beta (IL-1 $\beta$ ) is a proinflammatory 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 and having a molecular weight of 17.4 kDa.

**Cat. No.:**  
 RP1167AF

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

**AA Sequence:**

MAPVRSLNCT	LRDSQQKSLV	MSGPYELKAL
HLQGQDMEQQ	VVFSMSFVQG	EESNDKIPVA
LGLKEKNLYL	SCVLKDDKPT	LQLESVDPKN
YPKKKMEKRF	VFNKIEINNK	LEFESAQFPN
WYISTSQAEN	MPVFLGGTKG	GQDITDFTMQ
FVSS		

**TECHNICAL INFO**

**Source:**  
*E. coli*

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

**Formulation:**  
 10 mM sodium phosphate, pH 7.5

**Stability:**  
 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 0.1 mg/mL, which can be further diluted into other aqueous solutions.

**Protein Content and Purity determined by:**

- UV spectroscopy at 280 nm.
- RP-HPLC calibrated against a known standard.
- Quantitation against a known standard via reducing and non-reducing SDS-PAGE gels.

**Endotoxin Level:**  
 Endotoxin level, as measured by LAL analysis, is <0.01ng/ug or <0.1EU/ug.

**Biological Activity:**  
 The activity is measured by dose-dependent D10S cell proliferation, with Bioactivity Acceptance Criteria ED50 at 12 pg/mL.

**Animal Component-Free**  
 This product is produced with no animal derived raw products. All processing and handling employs animal free equipment and animal free protocols.

