

## IL-1beta Protein, Mouse

Cat. No.:	HY-P70437
Synonyms:	Interleukin-1 Beta; IL-1 Beta; Il1b
Species:	Mouse
Source:	E. coli
Accession:	P10749(V118-S269)
Gene ID:	16176
Molecular Weight:	Approximately 16.0 kDa

### PROPERTIES

AA Sequence	V P I R Q L H Y R L    R D E Q Q K S L V L    S D P Y E L K A L H    L N G Q N I N Q Q V I F S M S F V Q G E    P S N D K I P V A L    G L K G K N L Y L S    C V M K D G T P T L Q L E S V D P K Q Y    P K K K M E K R F V    F N K I E V K S K V    E F E S A E F P N W Y I S T S Q A E H K    P V F L G N N S G Q    D I I D F T M E S V    S S
Biological Activity	Measured in a proliferation assay using CTLL-2 cells. The ED <sub>50</sub> for this effect is 2.524 pg/mL, corresponding to a specific activity is 3.96×10 <sup>8</sup> units/mg.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 µm filtered solution of 50 mM Tris-HCl, 50 mM NaCl, pH 8.0.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH <sub>2</sub> O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

### DESCRIPTION

Background	IL-1 beta Protein is a potent pro-inflammatory cytokine that was initially discovered as the major endogenous pyrogen. It has various effects on immune cells, such as inducing prostaglandin synthesis, activating neutrophils, promoting T-cell activation and cytokine production, stimulating B-cell activation and antibody production, and increasing fibroblast proliferation and collagen production. IL-1 beta Protein also plays a role in promoting the differentiation of Th17 cells and works synergistically with IL12 to induce the synthesis of IFNG by Th1 cells. Moreover, it contributes to angiogenesis by
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inducing VEGF production in collaboration with TNF and IL6. IL-1 beta Protein is involved in the transduction of inflammation downstream of pyroptosis, where its mature form is specifically released into the extracellular environment through the gasdermin-D (GSDMD) pore. It exists as a monomer and interacts with MEFV, as well as integrins ITGAV:ITGBV and ITGA5:ITGB1, which are required for IL1B signaling. IL-1 beta Protein also interacts with the cargo receptor TMED10 and HSP90AB1 and HSP90B1, which facilitate the translocation of cargo into the ERGIC.

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**Caution: Product has not been fully validated for medical applications. For research use only.**

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