

## IL-1 beta Protein, Rat (His)

Cat. No.:	HY-P7097A
Synonyms:	rRtIL-1 $\beta$ ; Catabolin; IL1F2; IL-1 beta; IL1B
Species:	Rat
Source:	E. coli
Accession:	Q5BKB0 (V117-S268)
Gene ID:	24494
Molecular Weight:	Approximately 19 kDa

### PROPERTIES

AA Sequence	<p>V P I R Q L H C R L    R D E Q Q K C L V L    S D P C E L K A L H    L N G Q N I S Q Q V</p> <p>V F S M S F V Q G E    T 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</p> <p>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 T K V    E F E S A Q F P N W</p> <p>Y I S T S Q A E H R    P V F L G N S N G R    D I V D F T M E P V    S S</p>
Biological Activity	Measured in a cell proliferation assay using D10.G4.1 mouse helper T cells. The ED <sub>50</sub> for this effect is 3.285 ng/mL, corresponding to a specific activity is 3.044×10 <sup>5</sup> units/mg.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 $\mu$ m filtered solution of PBS, 300 mM NaCl, pH 7.4.
Endotoxin Level	<1 EU/ $\mu$ g, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 $\mu$ g/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 initially discovered as a major endogenous pyrogen. It induces various inflammatory responses, including prostaglandin synthesis, neutrophil activation, T-cell activation and cytokine production, B-cell activation and antibody production, and fibroblast proliferation and collagen production. It also promotes Th17 differentiation of T-cells and synergizes with IL12 to induce IFNG synthesis from Th1 cells. IL-1 beta Protein plays a role in angiogenesis by inducing VEGF production in synergy with TNF and IL6. Additionally, it is involved in the
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transduction of inflammation downstream of pyroptosis, where its mature form is specifically released into the extracellular space through the gasdermin-D (GSDMD) pore. IL-1 beta Protein exists as a monomer and interacts with MEFV.

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## REFERENCES

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[1]. Stapp JM, et al. Recombinant rat IL-1beta and IL-6 synergistically enhance C3 mRNA levels and complement component C3 secretion by H-35 rat hepatoma cells. Cytokine. 2005 Apr 21;30(2):78-85.

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

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