

Interleukin-1 Beta

Mouse, Recombinant (rmIL-1β)

Expressed in *E. coli*

Cat. No. CRP0832

Lot. No. (See product label)

PRODUCT INFORMATION

Description: IL-1 is a name that designates two proteins, IL-1α and IL-1β, that are the products of distinct genes, but recognize the same cell surface receptors. IL-1α and IL-1β are structurally related polypeptides that show approximately 25% homology at the amino acid level. Both proteins are produced by a wide variety of cells in response to stimuli such as those produced by inflammatory agents, infections, or microbial endotoxins. The proteins are synthesized as 31 kDa precursors that are subsequently cleaved into proteins with molecular weights of approximately 17.5 kDa. The specific protease responsible for the processing of IL-1β, designated interleukin 1β-converting enzyme (ICE), has been described. Mature human and mouse IL-1β share approximately 75% amino acid sequence identity and human IL-1β has been found to be active on murine cell lines.

Amino-Acid Sequence: 152aa (The sequence of the first five N-terminal amino acids was determined and was found to be Ser-Ala-Pro-Tyr-Thr.), non-glycosylated.

M. W. : 17,400 Da

Recombinant: Expressed in *E. coli*

Purity: >98% as determined by RP-HPLC, FPLC and SDS-PAGE.

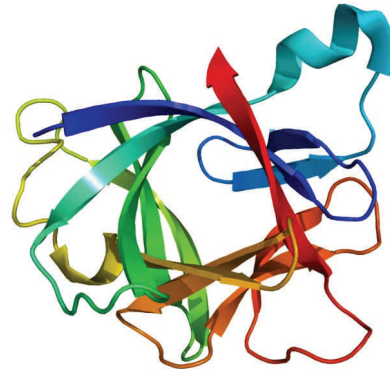
Formulation: Mouse IL-1β was lyophilized after extensive dialysis against PBS.

Specific Activity: The ED50 as determined by the dose-dependant stimulation of mouse D10S cells was found to be less than 0.01 ng/ml, corresponding to a Specific Activity of 1.0×10^9 IU/mg.

Endotoxin: Less than 0.1ng/μg (1 IEU/μg) of IL-1α.

Reconstitution: It is recommended to reconstitute the lyophilized rmIL-1β in sterile 18MΩ-cm H₂O not less than 100μg/ml, which can then be further diluted to other aqueous solutions.

Storage: Lyophilized rmIL-1β although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution rmIL-1β should be stored at 4°C between 2-7 days and for future use below -18°C. For long-term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Aliquot to avoid repeated freeze-thaw cycles.



Crystal structure of IL-1b (PDB 31BI)

GENE INFORMATION

Gene Name: [IL1B](#)

Gene Alias: RP23-384K11.2, IL-1beta, Il-1b

Gene Type: protein coding

mRNA Refseq: [NM_008361.3](#)

Protein Refseq: [NP_032387.1](#)

MIM: [147720](#)

GeneID: [16176](#)

Chromosome Location: 2 73.0 cM

Pathway: Apoptosis; Cytokine-cytokine receptor interaction; Hematopoietic cell lineage; MAPK signaling pathway; Toll-like receptor signaling pathway; Type I diabetes mellitus

Function: cytokine activity; growth factor activity; interleukin-1 receptor binding

REFERENCES

1. Huisig MO, Stet RJ, et al. The molecular evolution of the interleukin-1 family of cytokines; IL-18 in teleost fish. *Dev. Comp. Immunol.* 2004; 28 (5): 395–413
2. Sims JE, Nicklin MJ, et al. A new nomenclature for IL-1-family genes. *Trends Immunol.* 2001; 22 (10): 536–537
3. Dunn E, Sims JE, et al. Annotating genes with potential roles in the immune system: six new members of the IL-1 family. *Trends Immunol.* 2001; 22 (10): 533–536

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