

Recombinant Human Interleukin-1 beta (IL-1 beta)

Alternate names:	Catabolin, IL-1 beta, IL1 beta, IL1B, IL1F2
Catalog No.:	PA1065
Quantity:	2 µg
Background:	Interleukin-1b is produced by activated macrophages; IL-1b stimulates thymocyte proliferation by inducing IL-2 release, B-cell maturation and proliferation, and fibroblast growth factor activity. IL-1b proteins are involved in the inflammatory response, being identified as endogenous pyrogens, and are reported to stimulate the release of prostaglandin and collagenase from synovial cells.
Uniprot ID:	P01584
NCBI:	NP_000567.1
GeneID:	3553
Species:	Human
Source:	E. coli
Format:	State: Sterile filtered white freeze-dried powder Purity: >98% pure as determined by: (a) Analysis by RP-HPLC. (b) Analysis by SDS-PAGE. Purified by proprietary chromatographic techniques Buffer System: The protein was lyophilized from a concentrated (1 mg/ml) sterile solution containing 50 mM Phosphate buffer, pH 7.1, and 150 mM NaCl. Reconstitution: It is recommended to reconstitute the lyophilized IL-1 beta in sterile 18MΩ-cm H ₂ O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.
Description:	Recombinant Human IL-1 beta produced in E.coli is a non-glycosylated polypeptide chain containing 153 amino acids having a molecular mass of 17000 Dalton. rHuIL-1b is purified by proprietary chromatographic techniques. AA Sequence: The sequence of the first five N-terminal amino acids was found to be: Ala-Pro-Val-Arg-Ser. Biological Activity: Interleukin-1 beta is fully biologically active when compared to standard. Specific Activity: The specific activity as determined in the test of augmentation of lymphocyte proliferation assay using mouse thymus was found to be 2.0 x 10 ⁸ IU/mg. Molecular weight: 17 kDa
Add. Information:	Protein quantitation was carried out by two independent methods: 1. UV spectroscopy at 280 nm using the absorbency value of 0.631 as the extinction coefficient for a 0.1% (1mg/ml) solution. This value is calculated by the PC GENE computer

analysis program of protein sequences (IntelliGenetics).

2. Analysis by RP-HPLC, using a calibrated solution of Recombinant IL-1 beta as a reference standard.

Storage:

Lyophilized IL-1 beta although stable at room temperature for 3 weeks, should be stored desiccated below -20°C.

Upon reconstitution IL-1 beta should be stored at 2-8°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). Avoid repeated freezing and thawing.

Shelf life: one year from despatch.

General Readings:

1. Gershanovich ML, Filatova LV, Ketlinsky SA, Simbirtsev AS. Recombinant human interleukin-1 beta: new possibilities for the prophylaxis and correction of toxic myelodepression in patients with malignant tumors. II. Phase II study of the protective effect of recombinant human interleukin-1 beta on myelodepression induced by chemotherapy in cancer patients. *Eur Cytokine Netw.* 2001 Oct-Dec;12(4):671-5. PubMed PMID: 11781195.
2. Gershanovich ML, Filatova LV, Ketlinsky SA, Simbirtsev AS. Recombinant human interleukin-1 beta: new possibilities for the prophylaxis and correction of toxic myelodepression in patients with malignant tumors. I. Phase I-II clinical trials of recombinant human interleukin-1 beta as a leukopoiesis stimulator in cancer patients receiving combination chemotherapy. *Eur Cytokine Netw.* 2001 Oct-Dec;12(4):664-70. PubMed PMID: 11781194.
3. Chen NN, Wu SG. [Effect of recombinant human interleukin-1 beta on K+ channels of mice bone marrow stromal cells]. *Sheng Li Xue Bao.* 1999 Dec;51(6):637-44. PubMed PMID: 11498933.
4. Abramov VM, Vasiliev AM, Vasilenko RN, Kulikova NL, Kosarev IV, Khlebnikov VS, et al. Structural and functional similarity between *Yersinia pestis* capsular protein Caf1 and human interleukin-1 beta. *Biochemistry.* 2001 May 22;40(20):6076-84. PubMed PMID: 11352744.
5. Iwasaki LR, Haack JE, Nickel JC, Reinhardt RA, Petro TM. Human interleukin-1 beta and interleukin-1 receptor antagonist secretion and velocity of tooth movement. *Arch Oral Biol.* 2001 Feb;46(2):185-9. PubMed PMID: 11163326.

Pictures:

AA Sequence

