

## IL-1 beta

### Interleukin 1 beta

murine, recombinant, *E. coli*

Cat. No.	Amount
PR-459	10 µg

For *in vitro* use only  
Quality guaranteed for 12 months  
Store at -20°C

### Avoid freeze / thaw cycles

#### Form

Lyophilized.

#### Solubility

It is recommended to reconstitute the lyophilized IL-1  $\beta$  in sterile bidest H<sub>2</sub>O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

#### Activity

ED<sub>50</sub>: < 0.002 ng/ml, corresponding to a specific activity of 5 x 10<sup>9</sup> IU/mg, determined by the dose-dependent stimulation of murine D10S cells.

#### Molecular Weight

17.5 kDa

#### Purity

≥ 95% by SDS-PAGE and RP-HPLC

### Description

Interleukin-1 beta produced in *E. coli* is a non-glycosylated polypeptide chain containing 153 amino acids.

Interleukin 1  $\beta$  (IL-1  $\beta$ ) is a soluble factor produced by monocytes, macrophages, and other cells which activates T-lymphocytes and potentiates their response to mitogens or antigens. Murine macrophages display a transition from IL-1  $\beta$  to IL-1  $\alpha$  production during maturation of monocytes into inflammatory macrophages.

The synthesis of IL-1 can be induced by other cytokines including TNF- $\alpha$ , IFN- $\alpha$ , IFN- $\beta$  and IFN- $\gamma$  and also by bacterial endotoxins, viruses, mitogens, and antigens. In human skin fibroblasts IL-1  $\alpha$  and TNF- $\alpha$  induce the synthesis of IL-1  $\beta$ . In pheochromocytoma cells, NGF induces the synthesis of IL-1.

IL-1  $\beta$  is purified by proprietary chromatographic techniques.

### Selected References:

- Godambe *et al.* (1995) A novel cis-acting element required for lipopolysaccharide-induced transcription of the murine interleukin-1 beta gene. *Mol. Cell. Biol.* **15**:112.
- Godambe *et al.* (1994) Upstream NFIL-6-like site located within a DNase I hypersensitivity region mediates LPS-induced transcription of the murine interleukin-1 beta gene. *J. Immunol.* **153**:143.
- Godambe *et al.* (1994) An NFIL-6 sequence near the transcriptional initiation site is necessary for the lipopolysaccharide induction of murine interleukin-1 beta. *DNA Cell. Biol.* **13**:561.
- Lischwe *et al.* (1993) Escherichia coli: derived murine interleukin-1 beta with N-terminus partially N alpha-acetylated. *Protein Expr. Purif.* **4**:499.
- Newton *et al.* (1993) An ELISA assay for murine interleukin-1 beta. *J. Immunol. Methods.* **161**:257.
- van Oostrum *et al.* (1991) The structure of murine interleukin-1 beta at 2.8 Å resolution. *J. Struct. Biol.* **107**:189.