

## Product Information

### Anti-Interleukin-1 $\beta$

produced in goat, IgG fraction of antiserum

Catalog Number **I3767**

Storage Temperature  $-20\text{ }^{\circ}\text{C}$

Synonym: Anti-IL-1 $\beta$

### Description

Anti-Interleukin-1 $\beta$  is produced in goat using recombinant mouse IL-1 $\beta$  expressed in *Escherichia coli* as immunogen. The product is purified by Protein G affinity chromatography.

Interleukin-1 (IL-1), originally known as lymphocyte activating factor (LAF), activates T cells and lymphocytes, which then proliferate and secrete interleukin-2.<sup>1</sup> IL-1 is primarily released from stimulated macrophages and monocytes, but also is released from several other cell types,<sup>2</sup> and is thought to play a key role in inflammatory and immune responses.<sup>3</sup> Other synonyms for IL-1 include: endogenous pyrogen (EP), mitogenic protein (MP), helper peak-1 (HP-1), T cell replacing factor III (TRF III or TRF<sub>H</sub>), B cell activating factor (BAF) and B cell differentiation factor (BDF).<sup>4</sup> The two closely related agents, interleukin-1 $\alpha$  (IL-1 $\alpha$ ) and interleukin-1 $\beta$  (IL-1 $\beta$ ) bind to the same cell surface receptor, elicit nearly identical biological responses, and share 25% homology in their amino acid sequence.

### Reagent

Lyophilized from 0.2  $\mu\text{m}$ -filtered solution in phosphate buffered saline containing carbohydrates.

### Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

### Preparation Instructions

To one vial of lyophilized powder, add 1 ml of 0.2  $\mu\text{m}$ -filtered PBS to produce a 1 mg/ml stock solution. If aseptic technique is used, no further filtration should be needed for use in cell culture environments.

### Storage/Stability

Prior to reconstitution, store at  $-20\text{ }^{\circ}\text{C}$ . Reconstituted product may be stored at 2-8  $^{\circ}\text{C}$  for up to one month. For prolonged storage, freeze in working aliquots at  $-20\text{ }^{\circ}\text{C}$ . Avoid repeated freezing and thawing.

### Product Profile

**Neutralization:** Anti-Interleukin-1 $\beta$  is tested for its ability to neutralize the biological activity of rmlL-1 $\beta$  on the mouse T-helper D10.G4.1 cell line.<sup>5</sup> The ND<sub>50</sub> of the antibody is defined as the concentration of antibody resulting in a one-half maximal inhibition of bioactivity of rmlL-1 $\beta$  that is present at a concentration just high enough to elicit a maximum response. In this bioassay, 50 pg/ml rmlL-1 $\beta$  was mixed with various dilutions of antibody in a 96 well plate for 1 hour at 37  $^{\circ}\text{C}$ . After pre-incubation, D10.G4 cells and 1.25  $\mu\text{g/ml}$  concanavalin A were added to the antigen-antibody mixture. The assay mixture was incubated at 37  $^{\circ}\text{C}$  for 72 hours in a humidified CO<sub>2</sub> incubator and pulsed during the final 4 hours with <sup>3</sup>H-thymidine. Cells were harvested onto glass filters and the <sup>3</sup>H-thymidine incorporation into DNA was measured.

The antibody will not neutralize the biological activity of rhIL-1 $\beta$ .

ND<sub>50</sub> = 2-12  $\mu\text{g/ml}$

**Indirect Immunoblotting:** 1-2  $\mu\text{g/ml}$  antibody detects recombinant, mouse IL-1 $\beta$  at  $\leq 2$  ng/lane under reducing and non-reducing conditions.

The antibody shows 25% cross-reactivity with rhIL-1 $\beta$  in immunoblotting. In addition, the antibody shows no cross-reactivity with other cytokines tested.\*

**Endotoxin:**  $<0.1$  EU per 1  $\mu\text{g}$  of antibody (LAL method)

**Sterility:** 0.2  $\mu\text{m}$ -filtered, aseptic fill

## References

1. Gery, I., et al., *J. Exp. Med.*, **136**, 128 (1972).
2. Oppenheim, J., et al., *Immunol. Today*, **7**, 45 (1986).
3. Durum, S., et al., *Ann. Rev. Immunol.*, **3**, 263 (1985).
4. Aarden, L., et al., *J. Immunol.*, **123**, 2928 (1979).
5. Symons, J.A., et al., in "Lymphokines and Interferons, A Practical Approach", Clemens, M., et al., (eds.), IRL Press, Oxford, p. 272 (1987).

SG,PHC,TMS,MAM 06/16-1

\* rhANG, rhAR, rhBTC, rh $\beta$ -NGF, rmC10, rhCNTF, rrCNTF, rhEGF, rhENA-78, rhEPO, rhFGFa, rhFGFb, rhFGF-3, rhFGF-4, rhFGF-5, rhFGF-6, rhFGF-7, rhG-CSF, rhGDNF, rhGM-CSF, rhGM-CSF R $\alpha$ , rmGM-CSF, rhGRO $\alpha$ , rhGRO $\beta$ , rhGRO $\gamma$ , rhHB-EGF, rhHGF, rhI-309, rhIFN- $\gamma$ , rhIGF-I, rhIGF-I R, rhIGF-II, rhIL-1 $\alpha$ , rhIL-1 RI, rhIL-1 RII, rhIL-1 $\alpha$ , rhIL-1 ra, rhIL-2, rhIL-2 sR $\alpha$ , rhIL-2 sR $\beta$ , rhIL-3, rhIL-3 sR $\alpha$ , rmIL-3, rhIL-4, rhIL-4 sR, rmIL-4, rhIL-5, rhIL-5 sR $\alpha$ , rhIL-5 sR $\beta$ , rmIL-5, rhIL-6, rhIL-6 sR, rmIL-6, rhIL-7, rhIL-7 R, rmIL-7, rhIL-8, rhIL-9, rmIL-9, rhIL-10, rmIL-10, rhIL-11, rhIL-12, rhIL-13, rmIL-13, rhIP-10, rmJE, rhLIF, rhLIF R, rmLIF, rhM-CSF, rmM-CSF, rhMCP-1, rhMCP-1 R, rhMidkine, rhMIP-1 $\alpha$ , rmMIP-1 $\alpha$ , rhMIP-1 $\beta$ , rmMIP-1 $\beta$ , rhNT-4, rhOSM, rhPD-ECGF, hPDGF, pPDGF, rhPDGF-AA, rhPDGF-AB, rhPDGF-BB, rhPIGF, rhPTN, rhRANTES, rhSCF, rmSCF, rhsgp130, rhSLPI, hTfR, rhTGF- $\alpha$ , rhTGF- $\beta$ 1, rhTGF- $\beta$ 2, rhTGF- $\beta$ 3, raTGF- $\beta$ 5, rhLAP (TGF- $\beta$ 1), rhLatent TGF- $\beta$ 1, rhTGF- $\beta$  sRII, rhTGF- $\beta$  sRIII, rhTNF- $\alpha$ , rmTNF- $\alpha$  rhTNF- $\beta$ , rhsTNF RI, rhsTNF RII, rhVEGF.