



## PRODUCT DATA SHEET

**Product:** IL-1 $\alpha$  (recombinant human)

**Cat. No.:** BC-270 (10  $\mu$ g)

**Synonyms:**

Interleukin-1 alpha precursor, Hematopoietin-1

**Background:**

IL-1 $\alpha$  is a soluble factor produced by monocytes, macrophages, and other cells, which activates T-lymphocytes and potentiates their response to mitogens or antigens. IL-1 consists of two distinct forms, IL-1 $\alpha$  and IL-1 $\beta$ , which perform the same functions but are distinct proteins. 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.

**Description:**

Recombinant human IL-1 produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 159 amino acids and having a molecular mass of 18,022 Dalton. Recombinant human IL-1 $\alpha$  is purified by proprietary chromatographic techniques.

**Amino Acid Sequence:**

The sequence of the first five N-terminal amino acids was determined to be Ser-Ala-Pro-Phe-Ser.

**Origin:**

Produced in *E. Coli*.

**Format:**

Sterile filtered white powder. Lyophilized from a 1 mg/mL sterile solution containing 20 mM Tris-HCl, pH 8, 5 mM MgCl<sub>2</sub> and 10% glycerol.

**Purity:**

Greater than 98.0% as determined by RP-HPLC, anion-exchange FPLC, reducing and non-reducing SDS-PAGE Silver Stained gel. Dimers and aggregates: less than 1% as determined by SDS-PAGE.

**Endotoxin:**

Less than 0.1 ng/ $\mu$ g (IEU/ $\mu$ g) of recombinant human IL-1 $\alpha$ .

**Reconstitution:**

Reconstitute in sterile 18 M $\Omega$ -cm H<sub>2</sub>O at not less than 100  $\mu$ g/mL, which can then be further diluted to other aqueous solutions.

**Biological Activity:**

Recombinant human IL-1 $\alpha$  is fully biologically active when compared to standards. The ED50 as determined by the dose-dependant stimulation of mouse D10S cells is less than 0.001 ng/mL, corresponding to a Specific Activity of 1 x 10 IU/mg.

**Storage:**

Lyophilized recombinant human IL-1 $\alpha$ , although stable at room temperature for 3 weeks, should be stored desiccated below -18 $^{\circ}$ C. Upon reconstitution recombinant human IL- $\alpha$  should be stored at 4 $^{\circ}$ C between 2-7 days and for future use below -18 $^{\circ}$ C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

**Limitations:**

For *in vitro* research use only. Not for use in diagnostics or in humans.

**Warranty:**

No warranties, expressed or implied, are made regarding the use of this product. KAMIYA BIOMEDICAL COMPANY is not liable for any damage, personal injury, or economic loss caused by this product.