

IL-1 alpha

Human, Recombinant (rHull-1)

Expressed in *E. coli*

Cat. No. CRP0878

Lot. No. (See product label)

PRODUCT INFORMATION

Description: IL-1 alpha is a non-secreted proinflammatory cytokine produced in a variety of cells including monocytes, tissue macrophages, keratinocytes and other epithelial cells. Both IL-1alpha and IL-1beta binds to the same receptor and has similar if not identical biological properties. These cytokines have a broad range of activities including, stimulation of thymocyte proliferation, by inducing IL-2 release, B-cell maturation and proliferation, mitogenic FGF-like activity and the ability to stimulate the release of prostaglandin and collagenase from synovial cells. However, whereas IL-1beta is a secreted cytokine, IL-1alpha is predominantly a cell-associated cytokine.

Amino-Acid Sequence: 159 aa, non-glycosylated

M. W. : 18,000 Da

Recombinant: Expressed in *E. coli*

Purity: >97% by SDS-PAGE and HPLC analyses.

Formulation: Lyophilized from a 0.2mm filtered concentrated (1mg/ml) solution in PBS, pH 7.5.

Biological Activity: Fully biologically active when compared to standard. The ED50 as determined by the dose-dependant stimulation of murine D10S cells is less than 0.001 ng/ml, corresponding to a Specific Activity of 1×10^9 IU/mg.

Endotoxin: Less than 1EU/mg of rHull-1 α as determined by LAL method.

Reconstitution: We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1% BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at $\leq -20^\circ\text{C}$. Further dilutions should be made in appropriate buffered solutions.

Storage: This lyophilized preparation is stable at 2-8°C, but should be kept at -20°C for long term storage, preferably desiccated. Upon reconstitution, the preparation is stable for up to one week at 2-8°C. For maximal stability, apportion the reconstituted preparation into working aliquots and store at -20°C to -70°C . Avoid repeated freeze/thaw cycles.

FOR RESEARCH USE ONLY



Crystal structure of IL-1a ([PDB 2ILA](#)).

GENE INFORMATION

Gene Name: [IL1A](#)

Synonyms: IL-1A, IL1, IL1-ALPHA, IL1F1, IL1A (IL1F1); hematopoietin-1; preinterleukin 1 alpha; pro-interleukin-1-alpha; IL-1 alpha; IL-1 α ; IL1A (IL1F1); Interleukin-1 alpha precursor; interleukin 1, alpha

mRNA Refseq: [NM_000575.3](#)

Protein Refseq: [NP_000566.3](#)

MIM: [147760](#)

GeneID: [3552](#)

Uniprot ID: [P01583](#)

Chromosome Location: 2q14

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

Function: interleukin-1 receptor binding, protein binding, signal transducer activity.

REFERENCES

- Huising MO, Stet RJ, Savelkoul HF, Verburg-van Kemenade BM. The molecular evolution of the interleukin-1 family of cytokines; IL-18 in teleost fish. *Dev. Comp. Immunol.* 2004; 28 (5): 395-413.
- Sims JE, Nicklin MJ, Bazan JF, Barton JL, Busfield SJ, Ford JE, Kastelein RA, Kumar S, Lin H, Mulero JJ, Pan J, Pan Y, Smith DE, Young PR (2001). "A new nomenclature for IL-1-family genes". *Trends Immunol.* 22 (10): 536-537.

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