



## RayBiotech, Inc.

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# Certificate of Analysis and Data Sheet

## Recombinant Human Interleukin-1 alpha (IL-1a)

**Catalog No.**  
228-10843

**Source**  
*Escherichia Coli.*

### **Synonyms**

Hematopoietin-1, Lymphocyte-activating factor (LAF), Endogenous Pyrogen (EP), Leukocyte Endogenous Mediator (LEM), Mononuclear Cell Factor (MCF), IL-1 alpha, IL1, IL-1A, IL1F1.

### **Introduction**

IL-1 alpha is produced by activated macrophages, stimulates thymocyte proliferation by inducing il-2 release, b-cell maturation and proliferation, and fibroblast growth factor activity. IL1A 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.

### **Description**

Interleukin-1 alpha Human Recombinant produced in E.Coli is single, a non-glycosylated, Polypeptide chain containing 159 amino acids and having a molecular mass of 18022 Dalton.  
The IL-1A is purified by proprietary chromatographic techniques.

### **Physical Appearance**

Sterile Filtered White Lyophilized (freeze-dried) powder.

### **Formulation:**

The protein was lyophilized from a concentrated (1mg/ml) sterile solution containing 20mM Tris-HCL, pH=8, 5mM MgCl<sub>2</sub> and 10% glycerol.

### **Solubility**

It is recommended to reconstitute the lyophilized Interleukin 1 alpha in sterile 18MΩ-cm H<sub>2</sub>O not less than 100μg/ml, which can then be further diluted to other aqueous solutions.

### **Stability**

Lyophilized Interleukin-1 alpha although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution IL-1a should be stored at 4°C between 2-7 days and for future use below -18°C.

Please prevent freeze-thaw cycles.

**The products are furnished for LABORATORY RESEARCH USE ONLY.  
Not for diagnostic or therapeutic use.**



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### ***Purity***

Greater than 98.0% as determined by:

- (a) Analysis by RP-HPLC.
- (b) Analysis by SDS-PAGE.

### ***Amino acid sequence***

SAPFSFLSNVKYNFMRI IKYEFILNDALNQSI IRANDQYLTAALHNLDEAV  
KFDMGAYKSSKDDAKITVILRISK TQLYVTAQDEDQPVLLKEMPEIPKTITG  
SETNLLFFWETHGTKNYFTSVAHPNLF IATKQDYWVCLAGGPPSITDFQILE NQA.

### ***Biological Activity***

The ED50 as determined by the dose-dependant stimulation of murine D10S cells is < 0.001 ng/ml, corresponding to a Specific Activity of 1 x 1,000,000,000 IU/mg.

### ***Protein content***

Protein quantitation was carried out by two independent methods

1. UV spectroscopy at 280 nm using the absorbency value of 1.13 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 standard solution of IL-1 as a Reference Standard.

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