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# Certificate of Analysis and Data Sheet

## Recombinant Human Interferon-alpha 2a

**Catalog No.**  
228-10817

**Source**  
*Escherichia Coli.*

### **Synonyms**

Leukocyte interferon, B cell interferon, Type I interferon, IFNA2, IFN- $\alpha$  2a.

### **Introduction**

IFN-alpha is produced by macrophages and has antiviral activities. Interferon stimulates the production of two enzymes: protein kinase and an oligoadenylate synthetase.

### **Description**

Interferon Alpha Human 2a Recombinant produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 165 amino acids and having a molecular mass of 19241 Dalton.

The Interferon-a 2a gene was obtained from human leukocytes.

The IFN-A 2a is purified by proprietary chromatographic techniques.

### **Physical Appearance**

Sterile Filtered White lyophilized (freeze-dried) powder.

### **Formulation**

Lyophilized without additives.

### **Purity**

Greater than 98.0% as determined by both

(a) Analysis by RP-HPLC.

(b) Analysis by SDS-PAGE.

### **Biological Activity**

The specific activity as determined in a viral resistance assay using bovine kidney MDBK cells was found to be  $2.7 \times 10^8$  IU/mg.

### **Solubility**

It is recommended to reconstitute the lyophilized Interferon-alpha 2a in sterile 18M $\Omega$ -cm H<sub>2</sub>O not less than 100 $\mu$ g/ml, which can then be further diluted to other aqueous solutions.

Reconstitute at 0.1 mg/ml with 5mM NaAcetate, pH-6.

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



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### ***Stability***

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

For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

Please prevent freeze-thaw cycles.

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

The sequence of the first five N-terminal amino acids was determined and was found to be Cys-Asp-Leu-Pro-Gln, conforming to the sequence of native human IFN- $\alpha$ .

N-terminal methionine has been completely removed enzymatically.

### ***Protein content***

Protein quantitation was carried out by two independent methods

1. UV spectroscopy at 280 nm using the absorbency value of 0.924 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 calibrated solution of IFN- $\alpha$  2a as a Reference Standard.

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