

Recombinant rat Interferon-gamma

Certificate of Analysis and Data Sheet

➤ Source: E.Coli	➤ Catalog No. CTK-359
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➤ **Background:**

The major interferon produced by mitogenically or antigenically stimulated lymphocytes. It is structurally different from type I interferon and its major activity is immunoregulation. It has been implicated in the expression of class II histocompatibility antigens in cells that do not normally produce them, leading to autoimmune disease. Interferon gamma is produced mainly by T-cells and natural killer cells activated by antigens, mitogens, or alloantigens. It is produced by lymphocytes expressing the surface antigens CD4 and CD8. The synthesis of IFN-gamma is induced, among other things, by Interleukin-2, FGF-basic, and EGF.

➤ **Description :**

Recombinant Rat IFN-gamma produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 135 amino acids and having a molecular mass of 15609 Dalton.
The recombinant rat IFN-g is purified by proprietary chromatographic techniques.

➤ **Physical Appearance:**

Sterile Filtered White lyophilized (freeze-dried) powder.

➤ **Formulation:**

IFN-g was lyophilized from 0.5X PBS pH-7.2.

➤ **Solubility:**

It is recommended to reconstitute the lyophilized Rat Interferon-gamma in sterile 18M Ω -cm H₂O not less than 100 μ g/ml, which can then be further diluted to other aqueous solutions.

➤ **Stability:**

Lyophilized IFN-g although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution IFN-g 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 avoid freeze-thaw cycles.

➤ **Purity:**

Greater than 97.0% as determined by:

(a) Analysis by RP-HPLC.

(b) Anion-exchange FPLC.

(c) Analysis by reducing and non-reducing SDS-PAGE Silver Stained gel.

➤ **Amino acid sequence:**

The sequence of the first five N-terminal amino acids was determined and was found to be Met-Gln-Gly-Tyr-Leu.

➤ **Dimers and aggregates:**

Less than 1% as determined by silver-stained SDS-PAGE gel analysis.

➤ **Biological Activity:**

This Recombinant Rat Interferon gamma is fully biologically active when compared to standard. The specific activity as determined by the cytopathic affect inhibition assay with murine NIH 3T3 cells challenged with EMC virus was < 0.1 ng/ml, corresponding to a specific activity of 1×10^7 Units/mg.

➤ **Endotoxin:**

Less than 0.1 ng/μg (IEU/μg) of IFN-gamma.

➤ **Protein content:**

Protein quantitation was carried out by two independent methods:

1. UV spectroscopy at 280 nm.

2. Analysis by RP-HPLC, using a standard solution of IFN-gamma as a Reference Standard.

➤ **Usage:**

This material is offered for research, laboratory or further evaluation purposes.