Interferon-γ, human (hIFN-γ)

Recombinant (E. coli)
Solution, filtered through 0.2 μm pore size membrane

Cat. No. 11 040 596 001 100,000 U (1 ml)

1. What this Product Does

Contents
100,000 U/ml in 0.1 M phosphate buffer saline (PBS) (pH 7.0), 2.5% sucrose (w/v), and 2.5% human serum albumin (HSA) (w/v), filtered through 0.2 μm pore size membrane.

Storage and Stability
Stable at −15 to −25°C until the expiration date printed on the label.
Avoid repeated freezing and thawing.

Application
Human interferon-γ (hIFN-γ) can be used to investigate IFN-γ activities in human cell systems.

2. How to Use this Product

Recommended Method of Dilution
Dilute the concentrated IFN-γ solution (100,000 U/ml) with PBS or culture medium containing 1 mg/ml (0.1%) BSA (or HSA) or 1 – 10% serum.

3. Additional Information on this Product

How this Product Works
IFN-γ is produced by T-lymphocytes stimulated by antigen or by T-cell mitogens (4). Under denaturing conditions, recombinant human IFN-γ has a molecular weight of 17,100 Da. Under nondenaturating conditions the molecular weight values range from 32,000 to 73,000 Da indicating that recombinant human IFN-γ exists as a dimer or higher oligomers (5). A broad range of biological activities has been attributed to IFN-γ (e.g. the establishment of the antiviral state, immunoregulatory functions, antiproliferative effects) (4, 9).

IFNs are defined solely in terms of their antiviral activity, however, IFN-γ can also inhibit cell growth. The anti-proliferative effects of IFN-γ are superior to those of either IFN-α or IFN-β. Growth inhibition is dependent on cell type, dose, and length of exposure. One of IFN-γ’s primary functions might be as an immunoregulatory agent: IFN-γ induces MHC antigens on many cells, Fc-receptors on monocytes and macrophages, IL-2 receptors on T-cells, enhances activity of macrophages, polymorphonuclear leukocytes, T-lymphocytes, and NK-cells (MAF), and is also involved in the regulation of B-cells (6–9).

Preparation
Recombinant human interferon-γ (hIFN-γ) is produced in E. coli and purified by standard chromatographic techniques.

Primary Structure
The primary structure of recombinant human IFN-γ (143 amino acids) is identical to that of natural human IFN-γ (146 amino acids), but recombinant IFN-γ has three amino acids less and is not glycosylated (1-3).

Specific Activity/EC₅₀:
>2 × 10⁶ U/mg, <0.05 ng/ml (hIFN-γ, NIH, reference standard, Gg 23-901-530), at least the same specific activity (EC₅₀) compared to the indicated standard is guaranteed.

The biological activity of this product may vary in different in vitro applications. Determine the optimal concentration range for specific applications.

References

Changes to previous version
• Editorial changes

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