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IFN g Human

IFN-Gamma Human Recombinant
CYK0195

Product Overview

Name	IFN g Human
Description	
IFN-Gamma Human Recombinant	
Accession (Primary)	P01579
Synonyms	
Immune IFN, type II IFN, T cell IFN, MAF, IFNG, IFG, IFI, IFN-gamma.	
Introduction	
IFN-gamma produced by lymphocytes activated by specific antigens or mitogens. IFN-gamma, in addition to having antiviral activity, has important immunoregulatory functions, it is a potent activator of macrophages, and has antiproliferative effects on transformed cells and it can potentiate the antiviral and antitumor effects of the type I IFNs.	
Source	
Escherichia Coli.	
Physical Appearance	
Sterile Filtered White lyophilized (freeze-dried) powder.	
Formulation	
The protein was lyophilized from a 0.2 μm filtered concentrated solution in PBS pH 4.6.	
Stability	
Lyophilized IFN gamma although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution IFN-gamma 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.	
Purity	
Greater than 98.0% as determined by: (a) Analysis by RP-HPLC. (b) Analysis by SDS-PAGE.	
Amino acid sequence	
MQDPYVKEAE NLKKYFNAGH SDVADNGTLF LGILKNWKEE SDRKIMQSQI VSFYFKLFKN FKDDQSIQKS VETIKEDMNV KFFNSNKKKR DDFEKLTNYS VTDLNVQRKA IHELIQVMAE LSPAAKTGKR KRSQMLFQGR RASQ.	
Biological Activity	
The specific activity as determined in a viral resistance assay is < 0.05 ng/ml, corresponding to a specific activity of 2.0 x 10,000,000 IU/mg.	

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Solubility

It is recommended to reconstitute the lyophilized IFN-gamma in sterile distilled water or 20mM AcOH not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Background

IFN-gamma Human About IFN-gamma Human: IFN-gamma, often known as interferon gamma (and originally known as immune interferon), is a soluble, dimerized cytokine that is the only interferon in the type II class. Besides its primary function in preventing the spread of the vesicular stomatitis virus, interferon gamma release assays are extensively employed in the diagnosis of tuberculosis. IFN-gamma, encoded by the IFNG gene in humans, controls immunological responses by cell signaling, particularly through the JAK-STAT pathway. Subsequently, interferon gamma plays a crucial role in cancer immunotherapy by preventing tumor growth, managing immune defenses against pathogens and monitoring cells activity. In this article we will delve into the science behind IFN-gamma and explain its significance in biomedical research. Description: IFN-gamma Human Recombinant is a single non-glycosylated, polypeptide chain containing 144 amino acids and having a molecular mass of 17kDa that its original source is Escherichia Coli. This product appears as a sterile-filtered white lyophilized powder, ensuring purity and stability. Its formulation involves lyophilization from a filtered concentrated solution in PBS (pH 4.6). Its purity is determined both by analysis by RP-HPLC and SDS-PAGE and is therefore greater than 98%. In terms of stability, lyophilized IFN gamma is stable at room temperature for three weeks. However, it is preferable to store it desiccated below -18°C. In any case, you should prevent freeze thaw cycles. Additionally, reconstitution of IFN-gamma is recommended in sterile distilled water or 20mM AcOH, maintaining a concentration of at least 100 µg/ml. Protein Function: Interferon gamma is a key player in immune control. It is a protein that plays a major role in complex cell signaling networks. The JAK-STAT pathway, which is essential for immunological regulation, is triggered by IFN-gamma through its interaction with the heterodimeric receptor. IFN-gamma's ability to regulate inflammation, apoptosis, cytokine signaling, and cell proliferation through protein mediated signaling skills is crucial for maintaining immune vigilance and response mechanisms. The incorporation of IFN-gamma into our product is validated by protein quantitation using two independent methods: UV spectroscopy and RP-HPLC. Applications and Usage: IFN-gamma Human is tailored for laboratory research, serving as a vital tool in elucidating immune mechanisms, exploring antiviral features, and unraveling tumor suppressor functions. Safety Information: IFN-gamma Human is only intended to be used in laboratory research, in line with safety protocols. It emphasizes adherence to ethical and regulatory norms and is not designed for use as household chemicals, pharmaceuticals, agricultural goods, or food additives.

References

1.Title:Candida albicans abrogates the expression of IFN-G-inducible protein-10 in human keratinocytes. Publication:Article first published online: 18 JUL 2008DOI: 10.1111/j.1574-695X.2008.00457.x Link: IFN g prospec publication 2. Title: Augments Cytokine-Induced Nitric Oxide Production in Human Alveolar Epithelial Cells Publications: Antimicrobial agents and chemotherapy 50.1 (2006): 396-398 Link: IFN g Human prospec publication 3.Title: Selective Activation of Human Dendritic Cells by OM-85 through a NF-kB and MAPK Dependent Pathway Publications: PloS one 8.12 (2013): e82867 Link: IFN-Gamma prospec publication 4.Title: A New Strategy to Induce

Effective Antitumour Response In Vitro and In Vivo Publications: Scandinavian journal of immunology 68.3 (2008): 287-296 Link: IFN-Gamma Human prospec publication 5.Title: Capture of Tumor Cell Membranes by Trogocytosis Facilitates Detection and Isolation of Tumor-Specific Functional CTLs Publication: Cancer research 68.6 (2008): 2006-2013. Link: IFN-gamma prospec publication 6. Title: Curcumin induces maturation-arrested dendritic cells that expand regulatory T cells in vitro and in vivo Publication: Clinical & Experimental Immunology 162.3 (2010): 460-473. Link: IFNG prospec publication

Protein content

Protein quantitation was carried out by two independent methods: 1. UV spectroscopy at 280 nm using the absorbency value of 0.640 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-g as a Reference Standard.

Precautions

IFN g Human is for research use only and not for use in diagnostic or therapeutic procedures.

Target Information: (P01579)

Background

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References for protein:

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