Recombinant human IFN-γ

E. coli expressed human interferon gamma with HSA

Catalog # rcyec-hifng

For research use only, not for diagnostic or therapeutic use

Version # 16I02-MM

PRODUCT INFORMATION

Content:

- 20 µg of recombinant human IFN-γ provided as a white lyophilized powder
- 1.5 ml endotoxin-free water

Storage and stability:

- Recombinant human IFN-γ is shipped at room temperature. Upon receipt it should be stored at -20 °C.
- Upon resuspension, prepare aliquots of recombinant human IFN-γ and store at 4 °C for 1 week or at -20 °C to -80 °C for 12 months.

Note: Avoid repeated freeze-thaw cycles.

Quality control

- Purity greater than 95% as determined by SDS-PAGE
- Endotoxin: Less than 0.1 EU/µg as determined by the LAL method.
- The biological activity has been confirmed using HEK-Blue™ IFN-γ cells (see validation data sheet available on our website).

DESCRIPTION

Interferon gamma (IFN-γ), a Type II interferon, is secreted from CD4+ T-helper 1 (Th1) cells and activated natural killer (NK) cells. It plays a role in activating lymphocytes to enhance anti-microbial and anti-tumor effects[1, 2]. In addition, IFN-γ plays a role in regulating the proliferation, differentiation, and response of lymphocyte subsets. Signaling takes place through a IFN Receptor complex consisting of two alpha chains (Type I receptor) and two beta chains (Type 2 receptor)[3, 4]. Upon phosphorylation by Jak1, Stat1(alpha) transduces the signal into transcriptional events.

Recombinant human IFN-γ produced in *Escherichia coli* is a single, non-glycosylated, polypeptide chain containing 144 amino acids and having a molecular mass of 16879 Daltons. Recombinant human IFN-γ is intended for use in cell culture applications.

1. Shtrichman R. & Samuel CE., 2001. The role of gamma interferon in antimicrobial immunity. Curr Opin Microbiol. 4(3):251-9. **2. Sato A. et al., 2006.** Antitumor activity of IFN-lambda in murine tumor models. J Immunol. 176(12):7686-94. **3. Platanias LC., 2005.** Mechanisms of type-I- and type-II-interferon-mediated signalling. Nat Rev Immunol. 5(5):375-86. **4. Schroder K. et al., 2004.** Interferon-gamma: an overview of signals, mechanisms and functions. J Leukoc Biol. 75(2):163-89.

CHARACTERISTICS

Source: *E. coli*

Molecular mass: ≈ 16.8 kDa

Gene Name: IFNG
Gene ID: 3458
UniProt ID: P01579

Formulation: Recombinant human IFN-γ was lyophilized from a 0.2 µm filtered phosphate buffer solution (pH 7.4) containing human serum albumin (HSA).

Specific Activity: The specific activity was determined in a viral resistance assay using the VSV-WISH assay system (WISH cells infected with vesicular stomatitis virus). The specific activity was found to be greater than 1.5 x 10^7 IU/mg.

Solubility: 100 µg/ml in water

METHOD

Preparation of stock solution (100 µg/ml):

1. Add 200 µl endotoxin-free water (provided) to 20 µg of recombinant human IFN-γ.
2. Mix by pipetting. Do not vortex.
3. Prepare aliquots of recombinant human IFN-γ and store at 4 °C for 1 week or at -20 °C to -80 °C for 12 months. Avoid freeze-thaw cycles.
4. Further dilutions can be prepared in the appropriate aqueous buffer, such as cell culture medium containing serum.

RELATED PRODUCTS

Product	Catalog Code
Anti-hIFN-γ-IgG	maba-hifng-3
HEK-Blue™ IFN-γ Cells	hkb-ifng
HEK-Dual™ IFN-γ Cells	hkd-ifng

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