

DESCRIPTION

Source *E. coli*-derived
Gln24-Gln166 with an N-terminal Met
Accession # CAA31639
Based on MALDI-TOF mass spectrometric analysis, truncation of four amino acid residues from the C-terminus may be observed in the recombinant protein preparation.

N-terminal Sequence Analysis Met

Predicted Molecular Mass 16.9 kDa

SPECIFICATIONS

SDS-PAGE 17 kDa and 16 kDa, reducing conditions

Activity Measured in anti-viral assays using HeLa human cervical epithelial carcinoma cells infected with encephalomyocarditis (EMC) virus. Meager, A. (1987) in *Lymphokines and Interferons, a Practical Approach*. Clemens, M.J. *et al.* (eds): IRL Press. 129.
The ED₅₀ for this effect is typically 0.15-0.75 ng/mL.

Endotoxin Level <1.0 EU per 1 μ g of the protein by the LAL method.

Purity >97%, by SDS-PAGE under reducing conditions and visualized by silver stain.

Formulation Lyophilized from a 0.2 μ m filtered solution in Sodium Succinate, Mannitol and Tween® with BSA as a carrier protein. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 200 μ g/mL in sterile PBS containing at least 0.1% human or bovine serum albumin.

Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

* Tween is a registered trademark of ICI Americas.

BACKGROUND

Interferon- γ (IFN- γ), also known as type II or immune interferon, exerts a wide range of immunoregulatory activities and is considered to be the prototype proinflammatory cytokine (1, 2). Mature human IFN- γ exists as a non-covalently linked homodimer of 20 - 25 kDa variably glycosylated subunits (3). It shares 90% amino acid (aa) sequence identity with rhesus IFN- γ , 59% - 64% with bovine, canine, equine, feline, and porcine IFN- γ , and 37% - 43% with cotton rat, mouse, and rat IFN- γ . IFN- γ dimers bind to IFN- γ RI (α subunits) which then interact with IFN- γ RII (β subunits) to form the functional receptor complex of two α and two β subunits. Inclusion of IFN- γ RII increases the binding affinity for ligand and the efficiency of signal transduction (4, 5). IFN- γ is produced by a variety of immune cells under inflammatory conditions, notably by T cells and NK cells (6). It plays a key role in host defense by promoting the development and activation of Th1 cells, chemoattraction and activation of monocytes and macrophages, up-regulation of antigen presentation molecules, and immunoglobulin class switching in B cells. It also exhibits antiviral, antiproliferative, and apoptotic effects (6, 7). In addition, IFN- γ functions as an anti-inflammatory mediator by promoting the development of regulatory T cells and inhibiting Th17 cell differentiation (8, 9). The pleiotropic effects of IFN- γ contribute to the development of multiple aspects of atherosclerosis (7).

References:

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