Recombinant Human IFN-gamma

Accession #	CAA31639
Alternate Names	Human IFNG; IFNgamma; IFN-gamma; Immune interferon; interferon gamma
Source	Human embryonic kidney cell, HEK293-derived human IFN-gamma protein
Protein sequence	Gln24-Gln166
M.Wt	16.8 kDa
Appearance	Solution protein.
Stability & Storage	Avoid repeated freeze-thaw cycles. It is recommended that the protein be aliquoted for optimal storage. 3 years from date of receipt, -20 to -70 °C as supplied.
Concentration	0. 2 mg/mL
Formulation	Dissolved in sterile PBS buffer.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. This solution can be diluted into other aqueous buffers.
Biological Activity	Measured in anti-viral assays using HeLa human cervical epithelial carcinoma cells infected with encephalomyocarditis virus. The EC50 for this effect is 0.10-0.70 ng/mL
Shipping Condition	Shipping with dry ice.
Handling	Centrifuge the vial prior to opening.
Usage	For Research Use Only! Not to be used in humans.

Quality Control

Purity	> 95%, determined by SDS-PAGE.
Endotoxin	<0.010 EU per 1 ug of the protein by the LAL method.

Description

Interon-gamma (IFN-gamma), 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-gamma 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-gamma, 59%-64% with bovine, canine, equine, feline, and porcine IFN-gamma, and 37%-43% with cotton rat, mouse, and rat IFN-gamma. IFN-gamma dimers bind to IFN-gamma RI (alpha subunits) which then interact with IFN-gamma RII (beta subunits) to form the functional receptor complex of two alpha and two beta subunits. Inclusion of IFN-gamma RII increases the binding affinity for ligand and the efficiency of signal transduction [4, 5]. IFN-gamma 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-gamma 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-gamma contribute to the development of multiple aspects of atherosclerosis [7].

Reference

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[5]. Krause, C.D. et al. (2000) J. Biol. Chem. 275:22995.

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