Epoto Biotech

南京艾璞拓生物科技有限公司

Recombinant Human IFN-gamma, Tag Free

Catalog Number: HF-2016

General Information

Synonyms	Human IFNG; IFNgamma; IFN-gamma; Immune interferon; interferon gamma
Accession #	CAA31639
Source	Human embryonic kidney cell, HEK293-derived human IFN-gamma protein
	Gln24-Gln166
Predicted Moleucular weight	16.8 kDa

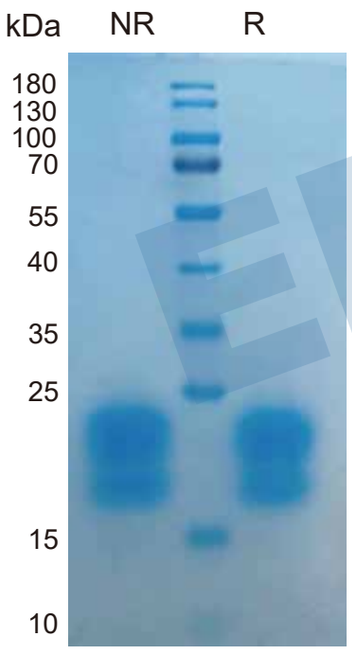
Components and Storage

Formulation	Solution protein.
	Dissolved in sterile PBS buffer to a concentration of 0.2 mg/mL.
	This solution can be diluted into other aqueous buffers. Centrifuge the vial prior to opening.
Storage and Stability	Avoid repeated freeze-thaw cycles.
	It is recommended that the protein be aliquoted for optimal storage.
	12 months from date of receipt, -20 to -70 °C as supplied.
Shipping	Shipping with dry ice

Quality

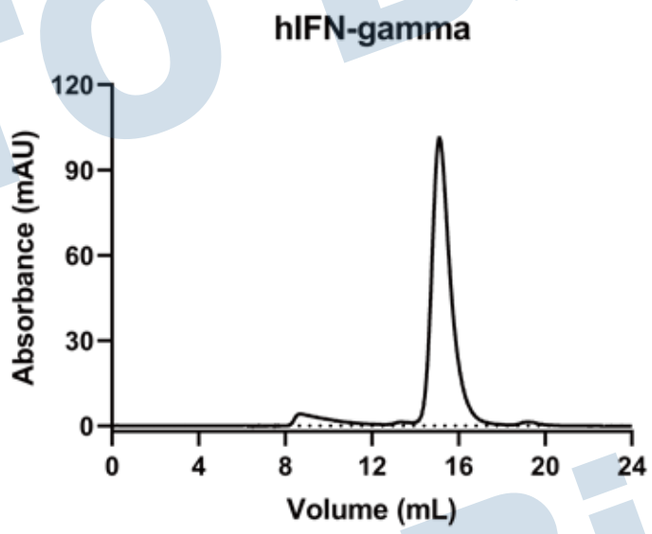
Purity	> 95%, determined by SDS-PAGE
Endotoxin Level	<0.010 EU per 1 ug of the protein by the LAL method
Activity	Measured in anti-viral assays using HeLa human cervical epithelial carcinoma cells infected with encephalomyocarditis virus.
	The EC50 for this effect is 0.10-0.70 ng/mL.

SDS-PAGE



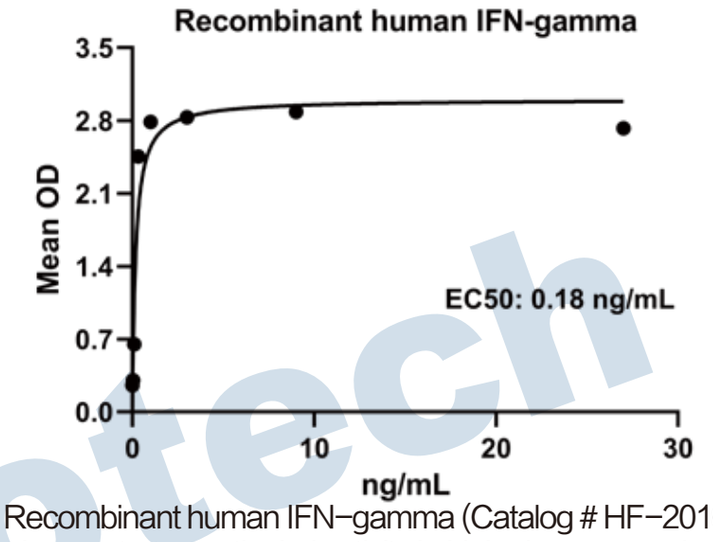
4ug/lane protein was resolved with SDS-PAGE under non-reducing (NR) and reducing (R) conditions and visualized by Coomassie Blue staining.

Gel filtration



Size-exclusion chromatography of recombinant human IFN-gamma protein (280 nm absorbance)

Bioactivity



Recombinant human IFN-gamma (Catalog # HF-2016) demonstrates anti-viral activity in HeLa human cervical epithelial carcinoma cells infected with encephalomyocarditis (EMC) virus.

Background

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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