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

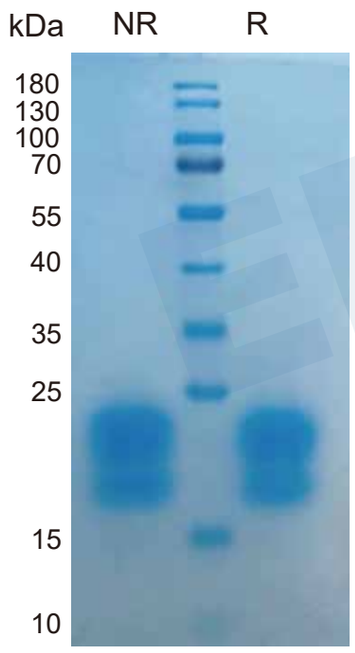
Components and Storage

Formulation	Solution protein.
	Dissolved in sterile PBS buffer.
	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

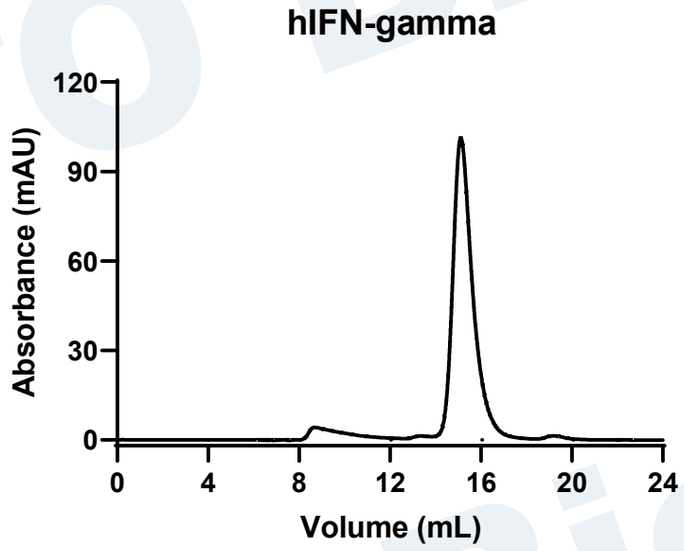
Purity	> 95%, determined by SDS-PAGE
Endotoxin Level	<0.010 EU per 1 ug of the protein by the LAL method
Activity	Measured in anti-viral assays using HeLa human cervical epithelial carcinoma cells infected with encephalomyocarditis virus.
	The EC50 for this effect is 0.10-0.70 ng/mL.

SDS-PAGE



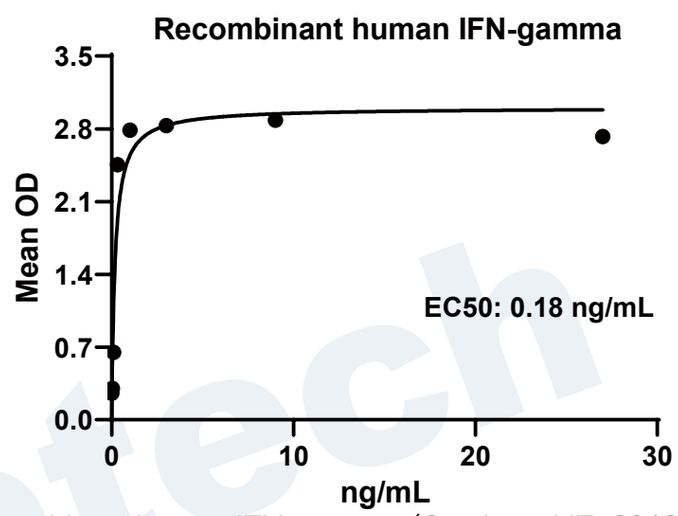
4ug/lane protein was resolved with SDS-PAGE under non-reducing (NR) and reducing (R) conditions and visualized by Coomassie Blue staining.

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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