

DESCRIPTION

Source	<i>E. coli</i> -derived human IFN-gamma protein Gln24-Gln166, with a N-terminal Met Accession # CAA31639.1
N-terminal Sequence Analysis	Met
Structure / Form	Biotinylated via Amines
Predicted Molecular Mass	16.9 kDa

SPECIFICATIONS

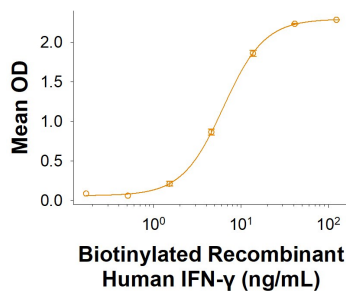
SDS-PAGE	14-20 kDa, under reducing conditions.
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human IFN-γ R1/CD119 (Catalog # 673-IR/CF) is immobilized at 3 μg/mL (100 μL/well), Biotinylated Recombinant Human IFN-γ (Catalog # BT285) binds with an ED ₅₀ of 3.00-27.0 ng/mL.
Endotoxin Level	<0.10 EU per 1 μg of the protein by the LAL method.
Purity	>90%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Supplied as a 0.2 μm filtered solution in Sodium Succinate, Mannitol and Tween® 80. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile, deionized water.
Shipping	The product is shipped with dry ice or equivalent. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> • 6 months from date of receipt, -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after opening. • 3 months, -20 to -70 °C under sterile conditions after opening.

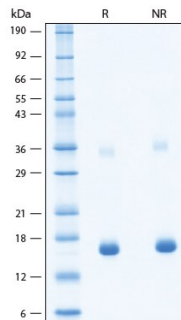
DATA

Binding Activity



Biotinylated Recombinant Human IFN-γ Protein Binding Activity. When Recombinant Human IFN-γ R1/CD119 (Catalog # 673-IR/CF) is immobilized at 3 μg/mL (100 μL/well), Biotinylated Recombinant Human IFN-γ Protein (Catalog # BT285) binds with an ED₅₀ of 3.00-27.0 ng/mL.

SDS-PAGE



Biotinylated Recombinant Human IFN-γ Protein SDS-PAGE. 2 μg/lane of Recombinant Human IFN-gamma Biotinylated Protein (Catalog # BT285) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 14-20 kDa.

BACKGROUND

Interferon-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).

References:

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3. Gray, P.W. and D.V. Goeddel (1982) Nature **298**:859.
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