

Recombinant Human IFN-gamma Protein

Catalog No.: RP01038

Recombinant

5 Publications

Sequence Information

Species	Gene ID	Swiss Prot
Human	3458	P01579-1

Tags

No tag

Synonyms

IFNG;IFG;IFI

Product Information

Source

E. coli

Purification

≥ 95 % as determined by SDS-PAGE; ≥ 95 % as determined by HPLC.

Calculated MW Observed MW

16.78 kDa

17 kDa

Endotoxin

< 0.1 EU/μg of the protein by LAL method.

Formulation

Lyophilized from a 0.22 μm filtered solution of PBS, pH 7.4. Contact us for customized product form or formulation.

Reconstitution

Centrifuge the vial before opening. Reconstitute to a concentration of 0.1-0.5 mg/mL in sterile distilled water. Avoid vortex or vigorously pipetting the protein. For long term storage, it is recommended to add a carrier protein or stabilizer (e.g. 0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose), and aliquot the reconstituted protein solution to minimize free-thaw cycles.

Background

Interferon-gamma (IFN-gamma) is a secreted protein which belongs to the type II interferon family. Recombinant Human IFN-gamma is a 16.8 kDa protein containing 143 amino acid residues. IFN-gamma is produced by a variety of immune cells under inflammatory conditions, notably by T cells and NK cells. IFN-gamma, in addition to having antiviral activity, has important immunoregulatory functions. Interferon-gamma is a central regulator of the immune response and signals via the Janus Activated Kinase (JAK)-Signal Transducer and Activator of Transcription (STAT) pathway.

Basic Information

Description

Recombinant Human IFN-gamma Protein is produced by *E. coli* expression system. The target protein is expressed with sequence (Gln24-Gln166) of human Interferon Gamma (Accession #NP_000610.2).

Bio-Activity

1. Measured by its binding ability in a functional ELISA. Immobilized Human FNGR1/CD119 at 1 μg/mL (100 μL/well) can bind Human IFNG with a linear range of 0.98-1.97 ng/mL. 2. Measured in a cytotoxicity assay using HT-29 cells. The ED₅₀ for this effect is 0.74-2.96 ng/mL, corresponding to a specific activity of 3.38×10⁵~1.35×10⁶ units/mg. 3. Flow cytometry: 1X10⁶ A549 cells treated with IFN-γ (RP01038, 1 ng/mL) were surface-stained with PE Rabbit IgG isotype control (A24172, 5 μL/Test, left) or PE Rabbit anti-Human PD-L1/CD274 mAb (A26692, 5 μL/Test, right). 4. Flow cytometry: 1X10⁶ NCI-H460 cells treated with IFN-γ (RP01038, 1 ng/mL) were surface-stained with PE Rabbit IgG isotype control (A24172, 5 μL/Test, left) or PE Rabbit anti-Human PD-L1/CD274 mAb (A26692, 5 μL/Test, right).

Storage

Store at -20°C. Store the lyophilized protein at -20°C to -80 °C up to 1 year from the date of receipt.

After reconstitution, the protein solution is stable at -20°C for 3 months, at 2-8°C for up to 1 week.

Avoid repeated freeze/thaw cycles.

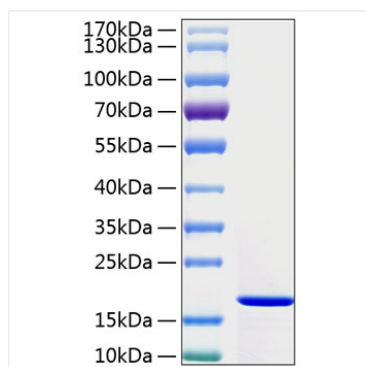
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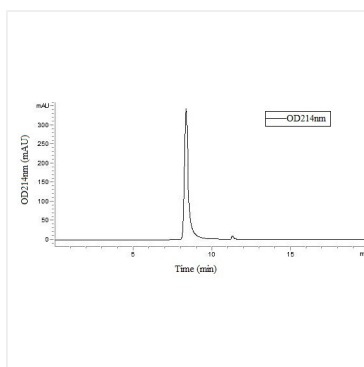
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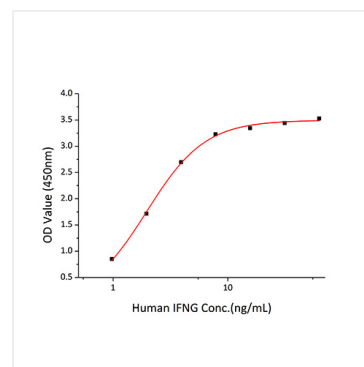
Validation Data



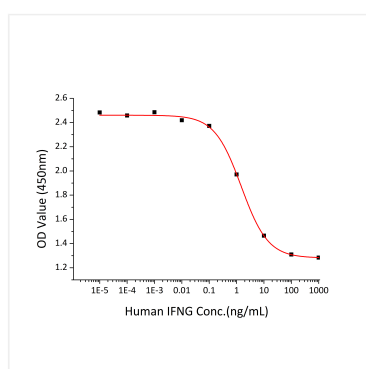
Recombinant Human IFN-gamma Protein was determined by SDS-PAGE under reducing conditions with Coomassie Blue.



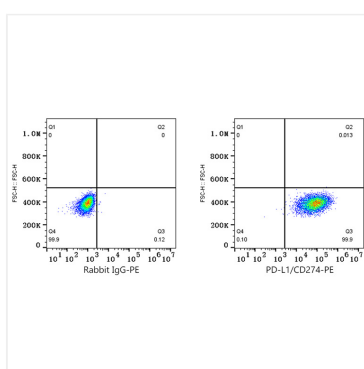
The purity of Recombinant Human IFN-gamma Protein is greater than 95% as determined by SEC-HPLC.



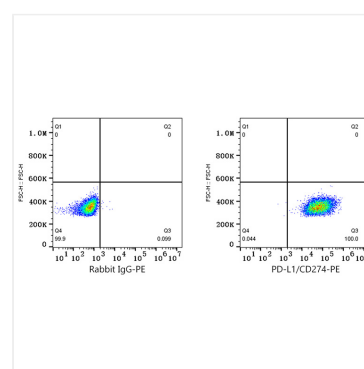
Immobilized Human FNGR1/CD119 at 1 $\mu\text{g/mL}$ (100 $\mu\text{L/well}$) can bind Human IFNG with a linear range of 0.98-1.97ng/mL.



Recombinant Human IFN-gamma induces cytotoxicity in the HT-29 cells. The ED_{50} for this effect is 0.74-2.96 ng/mL, corresponding to a specific activity of $3.38 \times 10^5 \sim 1.35 \times 10^6$ units/mg.



Flow cytometry: 1×10^6 A549 cells treated with IFN- γ (RP01038, 1 ng/mL) were surface-stained with PE Rabbit IgG isotype control (A24172, 5 $\mu\text{L/Test}$, left) or PE Rabbit anti-Human PD-L1/CD274 mAb (A26692, 5 $\mu\text{L/Test}$, right)



Flow cytometry: 1×10^6 NCI-H460 cells treated with IFN- γ (RP01038, 1 ng/mL) were surface-stained with PE Rabbit IgG isotype control (A24172, 5 $\mu\text{L/Test}$, left) or PE Rabbit anti-Human PD-L1/CD274 mAb (A26692, 5 $\mu\text{L/Test}$, right)