Recombinant Human IFN-γ Protein

Product Name

Recombinant Human IFN-γ Protein

Size/Catalog Number

200μg / GMP-TL105-0200

Product Information

Synonyms: Interferon-gamma, Interferon-γ, Immune interferon

Accession: Uniprot P01579

Expressed Region: Gln24-Gln166

Tag: C-terminal 6×His-tag

Expression system: HEK293 cells

Predicted Molecular Weight: 17.6 kDa

Purity: > 90% as determined by SDS-PAGE

Endotoxin: < 0.1 EU per 1 μg of protein (LAL method).

Activity: Determined by its ability to inhibit the proliferation of HT-29 cells, the corresponding specific activity is ≥ 1.0×10^7 IU/mg.

Form： Lyophilized from sterile 20mM phosphate-buffered saline (PBS), pH 7.4, normally containing 6–8% (w/v) mannitol as protectant.

Background

IFN-γ is a pleiotropic cytokine secreted by antigen/mitogen-activated T cells and natural killer (NK) cells, which enhances MHC class II expression on antigen-presenting cells (APCs) via the JAK-STAT signaling pathway to synergistically promote T/B lymphocyte activation and antibody-dependent cellular cytotoxicity (ADCC), bidirectionally modulating immune responses and accelerating immune complex clearance. Concurrently, it suppresses hepatic stellate cell (HSC) activation and fibrogenesis by inhibiting the TGF-β/Smad pathway while activating matrix metalloproteinases (MMPs) for collagen degradation. This lyophilized high-purity recombinant human IFN-γ, produced via mammalian cell expression system with multi-step chromatographic purification, serves as a critical culture component in cell therapy manufacturing. It potentiates the antitumor activity of engineered T cells through Th1 polarization, enhances immunological synapse formation by upregulating MHC-I/II molecules on target cells, and suppresses regulatory T cell (Treg) differentiation, thereby improving the effector persistence and tumor-targeted cytotoxicity of cell therapy products.

Stability & Storage

Lyophilized powder: Stable for 12 months at -80°C or 6 months at -20°C when stored in the original sealed container under desiccant.

Reconstitution: Dissolve in sterile Water for Injection, 0.9% NaCl, or PBS (pH 7.4) maintaining final concentration ≥100 μg/mL to prevent adsorption.

Handling: Aliquot to avoid repeated freeze-thaw cycles.

References

1. Wang Y, Dai H, Li H, Lv H, Wang T, Fu X, Han W. Growth of human colorectal cancer SW1116 cells is inhibited by cytokine-induced killer cells. Clin Dev Immunol. 2011;2011:621414.

2. Sangiolo D, Mesiano G, Carnevale-Schianca F, Piacibello W, Aglietta M, Cignetti A. Cytokine induced killer cells as adoptive immunotherapy strategy to augment graft versus tumor after hematopoietic cell transplantation. Expert Opin Biol Ther. 2009 Jul;9(7):831-40.

Intended Us

For research and manufacturing purposes only.