GMP Recombinant Human IFN-γ (carrier-free)

Catalog# / Size	570214 / 25 µg 570216 / 100 µg
Other Names	Interferon-γ, Immune interferon, Type II interferon, T cell interferon, Macrophage-activating factor (MAF), IFNG, interferon gamma
Description	Interferon-γ is a potent multifunctional cytokine which is secreted primarily by activated NK cells and T cells. Originally characterized based on anti-viral activities, IFN-γ also exerts anti-proliferative, immunoregulatory, and proinflammatory activities. IFN-γ plays a role in class I antigen presentation pathway by inducing catalytic proteasome subunit replacement with immunoproteasome subunit. IFN-γ can upregulate MHC class I and II antigen expression by antigen-presenting cells.

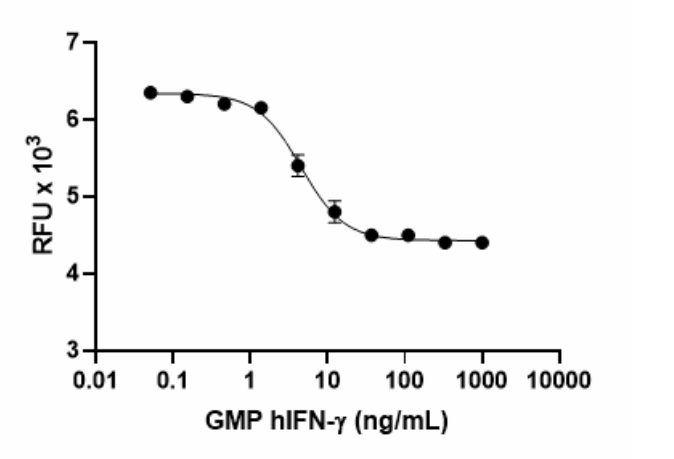
Product Details

Source	Human IFN-γ, amino acids Gln24-Gln166 (Accession # NM_000619) was expressed in *E. coli.*
Molecular Mass	The 144 amino acid N-terminal methionylated recombinant protein has a predicted molecular mass of 16,907 Da. The DTT-reduced protein and the non-reduced protein migrate at approximately 17 kDa by SDS-PAGE.
Purity	> 95%, as determined by Coomassie stained SDS-PAGE
Formulation	0.1 µm filtered protein solution is in 10 mM Sodium succinate, 5% Mannitol, pH 5.
Endotoxin Level	Less than 0.1 EU per µg protein as determined by the LAL method
Concentration	500 µg/mL
Storage & Handling	Unopened vial can be stored between 2°C and 8°C for up to 2 weeks, at -20°C for up to six months, or at -70°C or colder until the expiration date. For maximum results, quick spin vial prior to opening. The protein can be aliquoted and stored at -20°C or colder. Stock solutions can also be prepared at 50 - 100 µg/mL in appropriate sterile buffer, carrier protein such as 0.2 - 1% endotoxin-free BSA or HSA can be added when preparing the stock solution. Aliquots can be stored between 2°C and 8°C for up to one week or stored at -20°C or colder for up to 3 months. **Avoid repeated freeze/thaw cycles.**
Activity	ED_{50} = 1 - 6 ng/mL as determined by the dose-dependent cytotoxicity of human colon cancer cell line HT-29 cells. Deep Blue Cell Viability™ Kit (Cat. No. 424701) is used to measure the proliferation.
Application	Bioassay Cell Culture
Application Notes	BioLegend carrier-free recombinant proteins provided in liquid format are shipped on blue ice. Our comparison testing data indicates that when handled and stored as recommended, the liquid format has equal stability and shelf-life compared to commercially available lyophilized proteins after reconstitution. Our liquid proteins are verified in-house to maintain activity after shipping on blue ice and are backed by our 100% satisfaction guarantee. If you have any concerns, contact us at tech@biolegend.com.
Disclaimer	**GMP Recombinant Proteins.** BioLegend GMP recombinant proteins are manufactured in a dedicated GMP facility and compliant with ISO 13485:2016. For research or *ex vivo* cell processing use. Not for use in diagnostic or therapeutic procedures. Our processes include: • Batch-to-batch consistency • Material traceability • Documented procedures • Documented employee training • Equipment maintenance and monitoring records • Lot-specific certificates of analysis • Quality audits per ISO 13485:2016 • QA review of released products BioLegend GMP recombinant proteins are manufactured and tested in accordance with USP Chapter 1043, Ancillary Materials for Cell, Gene and Tissue-Engineered

Antigen Details

Structure	Homodimer
Distribution	CD8+ and CD4+ T cells, NK cells
Function	Type II interferon produced by immune cells such as T-cells and NK cells that plays crucial roles in antimicrobial, antiviral, and antitumor responses by activating effector immune cells and enhancing antigen presentation. Upregulated by IL-2, FGF-basic, EGF; downregulated by vitamin D3 or DMN; labile at pH2.
Interaction	T cells, B cells, macrophages, NK cells, endothelial cells, fibroblasts
Ligand/Receptor	IFN-γRα (CDw119) dimerized with IFN-γRβ (AF-1)
Bioactivity	Measured by its ability to induce cytotoxicity in human colon cancer cell line HT-29 cells
Cell Type	Embryonic Stem Cells
Biology Area	Cell Biology, Immunology, Innate Immunity, Neuroinflammation, Neuroscience, Stem Cells
Molecular Family	Cytokines/Chemokines
Antigen References	1. Fitzgerald K, et al. Eds. 2001. The Cytokine FactsBook. Academic Press San Diego. 2. De Maeyer E, et al. 1992. Curr. Opin. Immunol. 4:321. 3. Farrar M, et al. 1993. Annu. Rev. Immunol. 11:571. 4. Gray P, et al. 1987. Lymphokines 13:151.
Gene ID	3458

Product Data



GMP recombinant human IFN-γ induces cytotoxicity of human colon cancer cell line HT-29 cells in a dose-dependent manner with an ED_{50} range of 1 - 6 ng/mL.

Symbols Glossary*

Symbol	Meaning	Symbol Title	Symbol No.	Symbol	Meaning	Symbol Title	Symbol No.
REF	Catalog number	Catalogue number	5.1.6		Indicates the need for the user to consult the instructions for use.	Consult instructions for use	5.4.3
	Indicates the temperature limits to which the medical device can be safely exposed.	Temperature limit	5.3.7		Indicates a medical device that needs protection from light sources.	Keep away from sunlight	5.3.2
	Indicates the upper limit of temperature to which the medical device can be safely exposed.	Upper limit of temperature	5.3.6		Indicates the date after which the medical device is not to be used.	Use-by date	5.1.4
	Indicates the medical device manufacturer.	Manufacturer	5.1.1	EC REP	Indicates the authorized representative in the European Community.	Authorized representative in the European Community	5.1.2
LOT	Indicates the manufacturer's batch code so that the batch or lot can be identified.	Batch code	5.1.5	IVD	Indicates a medical device that is intended to be used as an in vitro diagnostic medical device.	*In vitro* diagnostic medical device	5.5.1

* Symbol information is from EN ISO 15223-1:2016 Medical devices – Symbols to be used with medical device labels, labelling and information to be supplied – Part 1: General requirements

8999 BioLegend Way, San Diego, CA 92121 www.biolegend.com
Toll-Free Phone: 1-877-Bio-Legend (246-5343) Phone: (858) 768-5800 Fax: (877) 455-9587