

Product Information

Interferon- γ , mouse recombinant, expressed in *E. coli*

Catalog Number **I4777**
Storage Temperature -20°C

Synonym: IFN- γ

Product Description

Interferon- γ is a cytokine consisting of 134 amino acid residues. The *E. coli* expressed protein forms a disulfide-linked homodimer with a molecular mass of ~ 15.6 kDa.^{1,2} The overall structure is a globular dimer with flattened elliptical shaped subunits. Six α -helices are held together by short non-helical sequences and there are no β -sheets.³ In naturally occurring IFN- γ , the N-terminal amino acids, Cys-Tyr-Cys, are removed during post translational modification.³

IFN- γ is produced primarily by CD4+ and CD8+ T lymphocytes and NK cells, and shares minimal homology with IFN- β or IFN- α proteins.^{1,3,4} The mouse IFN- γ amino acid sequence is $\sim 40\%$ homologous with human IFN- γ .^{1,3} In general, IFN- γ is highly specific showing no cross reactivity between species.^{1,3}

Historically, IFN- γ has been recognized for its antiviral, antiproliferative, immunoregulatory, and proinflammatory activities.⁴ It induces the production of other cytokines, upregulates the expression of Class I and II MHC antigens, Fc receptor, and leukocyte adhesion molecules.⁵ IFN- γ modulates macrophage effector functions, influences isotype switching, and potentiates the secretion of immunoglobulins by B cells.^{4,5} IFN- γ also augments TH1 cell expansion and may be required for differentiation.⁴

The product is lyophilized from a $0.2\ \mu\text{m}$ filtered, aseptically filled buffered solution.

Purity: $\geq 98\%$ (SDS-PAGE and HPLC)

Recombinant IFN- γ has been tested in a proliferation assay using murine WEHI-279 cells.

Endotoxin level: $<0.1\ \text{ng}/\mu\text{g}$ [1 EU (endotoxin units) per $1\ \mu\text{g}$].

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

Reconstitute the vial contents to a stock concentration of $1\ \text{mg}/\text{ml}$ with $5\text{--}10\ \text{mM}$ sodium phosphate, pH 8.0. Further dilutions should be made into RPMI with 10% FCS or 5% HSA and stored at $2\text{--}8^{\circ}\text{C}$ for up to 1 week. For extended storage, freeze in working aliquots at -20°C .

Storage/Stability

Store the product at -20°C . It remains active for a few weeks at room temperature.

The reconstituted solution should be stored in working aliquots at -20°C . Repeated freezing and thawing are not recommended.

References

1. Gray, P.W., and Goeddel, D.V., Proc. Natl. Acad. Sci. USA, **80**, 5842-5846 (1983).
2. Vogel, S.N. et al., Infect. Immunol., **38**, 681-685 (1982).
3. The Cytokine Facts Book, Callard, R., and Gearing, A., eds., Academic Press (San Diego, CA: 1994) pp. 157-158.
4. Martindale: The Extra Pharmacopoeia, 31st ed., Reynolds, J.E.F., ed., Royal Pharmaceutical Society (London, UK: 1996) pp. 653-658.
5. Antibodies: A Laboratory Manual, Harlow, E., and Lane, D., eds., (Cold Spring Harbor Laboratory, Cold Spring Harbor, NY: 1988) pp. 38-39.

ADM,KAA,MAM 02/11-1

Sigma brand products are sold through Sigma-Aldrich, Inc.

Sigma-Aldrich, Inc. warrants that its products conform to the information contained in this and other Sigma-Aldrich publications. Purchaser must determine the suitability of the product(s) for their particular use. Additional terms and conditions may apply. Please see reverse side of the invoice or packing slip.