

Product Information

SILu™Prot IFNG, Interferon gamma, human recombinant, expressed in HEK cells SIL MS Protein Standard, ¹³C- and ¹⁵N-labeled

Catalog Number **MSST0039**

Storage Temperature $-20\text{ }^{\circ}\text{C}$

Synonyms: IFN-gamma, Immune interferon, IFN γ

Product Description

SILu™Prot IFNG is a recombinant, stable isotope-labeled human IFNG which incorporates [¹³C₆, ¹⁵N₄]-Arginine and [¹³C₆, ¹⁵N₂]-Lysine. Expressed in human 293 cells, it is designed to be used as an internal standard for bioanalysis of IFNG in mass spectrometry. SILu™Prot IFNG is a homodimer consisting of 138 amino acids, with a calculated molecular mass of 16.4 kDa. It contains no tags.

Interferon gamma (IFN γ) is a dimerized soluble cytokine that is the only member of the type II class of interferons.¹ IFN γ is secreted by T helper cells (specifically, T_h1 cells), cytotoxic T cells (T_c cells), and natural killer (NK) cells.¹ When combined with other inflammatory cytokines, evaluating the levels of IFN γ can be used as a diagnostic tool in patients with breast cancer² or benign prostatic hyperplasia.³ A recent study evaluated the effect of a cancer vaccine given to patients with colorectal cancer, on the levels of plasma pro-inflammatory cytokines (including IFN γ). The study **concluded patients** achieving stable disease showed increasing levels of plasma inflammatory cytokines.⁴

Each vial contains $\geq 10\text{ }\mu\text{g}$ of SILu™Prot IFNG standard, lyophilized from a solution of phosphate buffered saline. Vial content was determined by the Bradford method using BSA as a calibrator. The correction factor from the Bradford method to Amino Acid Analysis is 90% for this protein.

Identity: Confirmed by peptide mapping

Purity: $\geq 95\%$ (SDS-PAGE)

Heavy amino acid incorporation efficiency: $\geq 98\%$ (MS)

UniProt: P01579

Sequence Information

QDPYVKEAENLKKYFNAGHSDVADNGTLFLGILKNW
KEESDRKIMQSQIVSFYFKLFKNFKDDQSIQKSVETIK
EDMNVKFFNSNKKKRDDFEKLTNYSVTDLNVQRKAIH
ELIQVMAELSPAAKTGKRKRSQMLFRG

Precautions and Disclaimer

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

Preparation Instructions

Briefly centrifuge the vial before opening. It is recommended to reconstitute the protein in sterile ultrapure water to a final concentration of $100\text{ }\mu\text{g/mL}$.

Storage/Stability

Store the lyophilized product at $-20\text{ }^{\circ}\text{C}$. The product is stable for at least 2 years as supplied. After reconstitution, it is recommended to store the protein in working aliquots at $-20\text{ }^{\circ}\text{C}$.

References

1. Gray, P.W., and Goeddel, D.V., Structure of the human immune interferon gene. *Nature*, **298**, 859–863 (1982).
2. Baskic, D., Evaluation of inflammatory biomarkers as helping diagnostic tool in patients with breast cancer. *Cancer Biomark.*, **14**, 401-408 (2014).
3. Schenk, J.M. et al., Biomarkers of Systemic Inflammation and Risk of Incident, Symptomatic Benign Prostatic Hyperplasia: Results From the Prostate Cancer Prevention Trial. *Am. J. Epidemiol.*, **171**, 571–582 (2010).
4. Burgdorf, S.K. et al., Changes in cytokine and biomarker blood levels in patients with colorectal cancer during dendritic cell-based vaccination. *Acta Oncol.*, **48**, 1157-1164 (2009).

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Legal Information

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