

## Interferon- $\gamma$

### Rat, Recombinant (rrIFN- $\gamma$ )

Expressed in *E. coli*

Cat. No. CRP0898

Lot. No. (See product label)

#### PRODUCT INFORMATION

**Description:** Interferon-gamma (IFN- $\gamma$ , also known as Type II interferon or immune interferon) is a cytokine produced primarily by T-lymphocytes and natural killer cells. The protein shares no significant homology with IFN- $\beta$  or the various IFN- $\alpha$  family proteins. Mature IFN- $\gamma$  exists as noncovalently-linked homodimers. Human IFN- $\gamma$  is highly species specific and is biologically active only in human and primate cells. IFN- $\gamma$  was originally characterized based on its antiviral activities. The protein also exerts antiproliferative, immunoregulatory and proinflammatory activities and is thus important in host defense mechanisms. IFN- $\gamma$  induces the production of cytokines, upregulates the expression of class I and II MHC antigens, Fc receptor and leukocyte adhesion molecules. It modulates macrophage effector functions, influences isotype switching and potentiates the secretion of immunoglobulins by B cells. IFN- $\gamma$  also augments TH1 cell expansion and may be required for TH1 cell differentiation.

**Amino-Acid Sequence:** 135 aa, non-glycosylated

**M. W. :** 15,600 Da

**Recombinant:** Expressed in *E. coli*

**Purity:** >95% as determined by SDS-PAGE and HPLC.

**Formulation:** Lyophilized from a 0.2 $\mu$ m filtered concentrated (1mg/ml) solution in PBS, pH 7.4.

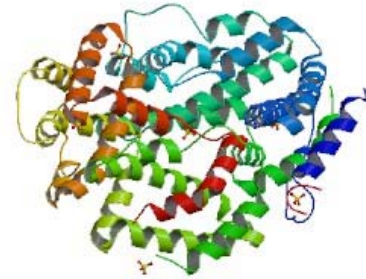
**Specific Activity:** Fully biologically active when compared to standard. The specific activity as determined in a viral resistance assay is less than 0.1 ng/ml, corresponding to a specific activity of 1.0 $\times 10^7$  IU/ mg.

**Endotoxin:** Less than 1EU/mg of rrIFN- $\gamma$  as determined by LAL method.

**Reconstitution:** We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1% BSA to a concentration of 0.1-1.0 mg/ml. Stock solutions should be apportioned into working aliquots and stored at  $\leq 20^\circ\text{C}$ . Further dilutions should be made in appropriate buffered solutions.

**Storage:** This lyophilized preparation is stable for several weeks at 2-8 $^\circ\text{C}$ , but should be kept at -20 $^\circ\text{C}$  for long term storage, preferably desiccated. Upon reconstitution, the preparation is stable for up to one week at 2-8 $^\circ\text{C}$ . For maximal stability, apportion the reconstituted preparation into working Aliquots and store at -20 $^\circ\text{C}$  to -70 $^\circ\text{C}$ . Avoid repeated freeze/thaw cycles.

#### FOR RESEARCH USE ONLY



Interferon gamma, Available structures:  
[1eku](#), [1fq9](#), [1fyh](#), [1hig](#)

#### GENE INFORMATION

**Gene Name:** [lfng](#)

**Synonyms:** IFNG2; lfg; IFN-g; IFN-gamma; Immune Interferon; type II interferon; T cell interferon; MAF; IFNG; IFG; IFI; gamma interferon

**mRNA Refseq:** [NM\\_138880](#)

**Protein Refseq:** [NP\\_620235](#)

**MIM:** [147570](#)

**GeneID:** [25712](#)

**UniProt ID:** P01581

**Chromosome Location:** 7q22

**Pathway:** Cytokine-cytokine receptor interaction; Jak-STAT signaling pathway; Natural killer cell mediated cytotoxicity; Regulation of autophagy; T cell receptor signaling pathway; TGF-beta signaling pathway; Type I diabetes mellitus

**Function:** cytokine activity; interferon-gamma receptor binding

#### REFERENCES

1. Gray PW, Goeddel DV (August 1982). "Structure of the human immune interferon gene". *Nature* 298 (5877): 859-63.
2. Ealick SE, Cook WJ, Vijay-Kumar S, et al (May 1991). "Three-dimensional structure of recombinant human interferon-gamma". *Science (journal)* 252 (5006): 698-702.
3. Thiel DJ, le Du MH, Walter RL, et al (September 2000). "Observation of an unexpected third receptor molecule in the crystal structure of human interferon-gamma receptor complex". *Structure* 8 (9): 927-36.

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