



## User Manual

**Interferon- gamma (IFN- $\gamma$ ) (Rat)**

**Cat. No. REIFP-01011**

**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.

**Source:**

*Escherichia coli*

**Unit:**

20  $\mu$ g

**Reconstitution:**

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in 10 mM HAc to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at  $< -20^{\circ}\text{C}$ . Further dilutions should be made in appropriate buffered solutions.

**Formulation:**

Lyophilized from a 0.2  $\mu$ m filtered concentrated solution in PBS, pH 7.4.

**Storage:**

This lyophilized preparation is stable 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°C to -70°C. Avoid repeated freeze/thaw cycles.

**Molecular Weight:**

Approximately 15.6 kDa, a single non-glycosylated polypeptide chain containing 134 amino acids.

**Endotoxin:**

Less than 1 EU/μg of IFN-γ as determined by LAL method.

**Usage:**

This material is offered by Cyagen Biosciences for research, laboratory or further evaluation purposes. FOR RESEARCH USE ONLY. NOT INTENDED FOR ANY ANIMAL OR HUMAN THERAP EUTIC OR DIAGNOSTIC USE.

**Biological Activity:**

The ED50 determined by an anti-viral assay using murine L929 cells infected with encephalomyocarditis (EMC) virus is less than 3 ng/mL, corresponding to a specific activity of  $> 3.3 \times 10^5$  IU/mg.

**Physical Appearance:**

Sterile filtered white lyophilized (freeze-dried) powder.

**AA Sequence:**

QGTVIESLES LKNYFNSSSM DAMEGKSLLL DIWRNWQKDG NTKILESQII  
SFYLRLFEVL KDNQAISNNI SVIESHLITN FFSNSKAKKD AFMSIAKFEV NNPQVQHKAV  
NELIRVIHQL SPESSLRKRK RSRC

**Purity:**

> 97% by SDS-PAGE and HPLC analyses.

Material Safety Data Sheets (MSDSs) are available upon request.

The Certificate of Analysis (COA), which provides detailed quality control information for each product, is also available at the Cyagen website.

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