

## PRODUCT DATA SHEET



Bioworld Technology, Inc.

### Recombinant Rat Interferon- $\gamma$ (rRtFN- $\gamma$ )

Catalog Number: PR3008

Source: Escherichia coli.

Quantity: 20 $\mu$ g/100 $\mu$ g/1.0mg

#### 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.

#### Molecular Weight:

Approximately 15.6 kDa, a single non-glycosylated polypeptide chain containing 135 amino acids.

#### Purity:

>95% by SDS-PAGE and HPLC analyses.

#### Biological Activity:

Measured in an antiviral assay using L929 mouse fibrosarcoma cells infected with encephalomyocarditis (EMC) virus. The ED50 for this effect is typically 1-3 ng/mL, corresponding to a Specific Activity of  $\square$ 3.3 x 10<sup>5</sup> IU/mg.

#### Physical Appearance:

Sterile Filtered White lyophilized (freeze-dried) powder.

#### Formulation:

Lyophilized from a 0.2mm filtered concentrated solution in PBS, pH 7.4.

#### AA Sequence:

M Q G T L I E S L E S L K N Y F N S S S M D A M E G K  
S L L L D I W R N W Q K D G N T K I L E S Q I I S F Y L  
R L F E V L K D N Q A I S N N I S V I E S H L I T N F F S  
N S K A K K D A F M S I A K F E V N N P Q I Q H K A V  
N E L I R V I H Q L S P E S S L R K R K R S R C

#### Endotoxin:

Less than 1EU/mg of rRaIFN- $\gamma$  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 <-20°C. Further dilutions should be made in appropriate buffered solutions.

#### Storage:

This lyophilized preparation is stable at 2-8°C, but should be kept at -20°C for long term storage, preferably desiccated. Upon reconstitution, the preparation is stable for up to one week at 2-8°C. For maximal stability, apportion the reconstituted preparation into working aliquots and store at -20°C to -70°C. Avoid repeated freeze/thaw cycles.

#### Usage:

This material is offered by USA Bioworld biotech for research, laboratory or further evaluation purposes. NOT FOR HUMAN USE. Made in China

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#### Bioworld Technology, Inc.

1660 South Highway 100, Suite 500 St. Louis Park, MN

55416, USA.

Tel: 6123263284

Email: [info@bioworld.com](mailto:info@bioworld.com)

Fax: 6122933841

#### Bioworld technology, co, Ltd.

No 9, weidi road Qixia District Nanjing, 210046, P, R.China.

Tel: 0086-025-86371664

Email: [info@biogot.com](mailto:info@biogot.com)

Fax: 0086-025-86213570