

For life science research only.  
Not for use in diagnostic procedures.



# Interferon- $\gamma$ , mouse (mIFN- $\gamma$ ) recombinant (*E. coli*)

 **Version: 20**

Content Version: April 2021

**Cat. No. 11 276 905 001**    100,000 U  
20  $\mu$ g, 1 ml

**Store product at  $-15$  to  $-25^{\circ}\text{C}$ .**

<b>1.</b>	<b>General Information</b> .....	<b>3</b>
1.1.	Contents.....	3
1.2.	Storage and Stability.....	3
	Storage Conditions (Product).....	3
1.3.	Application.....	3
<b>2.</b>	<b>How to Use this Product</b> .....	<b>4</b>
2.1.	Before you Begin.....	4
	General Considerations.....	4
	Primary structure.....	4
	Working Solution.....	4
2.2.	Parameters.....	4
	Biological Activity.....	4
	Molecular Weight.....	4
	Purity.....	4
	Specific Activity.....	4
	Specificity.....	4
	Unit Definition.....	4
2.3.	Test Principle.....	5
	How this product works.....	5
	Preparation.....	5
2.4.	Quality Control.....	5
<b>3.</b>	<b>Supplementary Information</b> .....	<b>6</b>
3.1.	Conventions.....	6
3.2.	Changes to previous version.....	6
3.3.	Trademarks.....	7
3.4.	License Disclaimer.....	7
3.5.	Regulatory Disclaimer.....	7
3.6.	Safety Data Sheet.....	7
3.7.	Contact and Support.....	7

# 1. General Information

## 1.1. Contents

Vial / Bottle	Cap	Label	Function / Description	Content
1	red	Interferon- $\gamma$ , mouse (mIFN- $\gamma$ )	<ul style="list-style-type: none"> <li>Solution, filtered through 0.2 <math>\mu</math>m pore size membrane.</li> <li>100,000 U/ml (20 <math>\mu</math>g/ml) in PBS (phosphate buffered saline) and 1 mg/ml BSA (bovine serum albumin).</li> </ul> <p><b>i</b> Purity of BSA: &gt;98%, endotoxin (LAL): &lt;1 EU/mg BSA.</p>	1 bottle, 1 ml

## 1.2. Storage and Stability

### Storage Conditions (Product)

The product is shipped on dry ice.

When stored at  $-15$  to  $-25^{\circ}\text{C}$ , the product is stable through the expiration date printed on the label.

Vial / Bottle	Cap	Label	Storage
1	red	Interferon- $\gamma$ , mouse (mIFN- $\gamma$ )	Store in aliquots at $-15$ to $-25^{\circ}\text{C}$ . <b>⚠ Avoid repeated freezing and thawing.</b>

## 1.3. Application

Recombinant, mouse Interferon- $\gamma$  is a valuable tool for the study of IFN- $\gamma$  (Interferon- $\gamma$ ) actions in mouse model systems.

## 2. How to Use this Product

### 2.1. Before you Begin

#### General Considerations

##### Primary structure

The primary structure of recombinant mouse IFN- $\gamma$  is identical to that of natural mouse IFN- $\gamma$ , (one polypeptide chain, 133 amino acids), however, recombinant mIFN- $\gamma$  lacks the last two amino acids at the C-terminus and is not glycosylated.

##### Working Solution

Dilute the concentrated mIFN- $\gamma$  solution (100,000 U/ml) with PBS or culture medium containing 1 mg/ml (0.1%) BSA, or 1 to 10% serum.

### 2.2. Parameters

#### Biological Activity

The biological activity of this product may vary in different *in vitro* applications. Determine the optimal concentration range for specific applications.

The natural source for IFN- $\gamma$  are T lymphocytes which have been stimulated by antigen or T-cell mitogens. A broad range of biological activities have been attributed to human IFN- $\gamma$ , such as the establishment of the antiviral state, immuno-regulatory functions, and antiproliferative effects. IFNs are defined solely in terms of their antiviral activity. On the other hand, human IFN- $\gamma$  can inhibit cell growth. The antiproliferative effects of human IFN- $\gamma$  are superior to those of either human IFN- $\alpha$  or human IFN- $\beta$ . Growth inhibition is dependent on cell type, dose, and length of exposure. Human IFN- $\gamma$  possesses antitumoral activity for a variety of malignant cells by virtue of its direct effect on cell growth and its immuno-modulatory activity, which might be one of its primary functions. Human IFN- $\gamma$  induces MHC antigens on many cells, Fc-receptors on monocytes and macrophages, and IL-2 receptors on T cells. It also enhances activity of macrophages, polymorphonuclear leukocytes, T lymphocytes and NK-cells (MAF), and is also involved in the regulation of B cells.

#### Molecular Weight

15,000 Da

#### Purity

$\geq 95\%$  pure as determined by SDS-PAGE.

Endotoxin level:  $\leq 10$  EU/ml (LAL).

**i** 1 EU corresponds to 0.1 ng.

#### Specific Activity

$\geq 5 \times 10^6$  U/mg

Inhibition of cytopathic effect of encephalomyocarditis (EMC) virus on L cells (mouse transformed fibroblasts).

#### Specificity

Recombinant Interferon- $\gamma$ , mouse is effective on mouse cells.

#### Unit Definition

The amount of mIFN- $\gamma$  that is required to produce equivalent antiviral activity to that expressed by 1 unit of the NIH IFN- $\gamma$  reference standard (Gg 02-901-533).

## Additional Information on this Product

### 2.3. Test Principle

#### How this product works

The properties of mouse IFN- $\gamma$  are similar in some respects to human IFN- $\gamma$ . Human IFN- $\gamma$  has a strict species specificity and is not active in murine systems. Since many problems related to the physiology and pathology of the IFN-system can best or only studied in the mouse, mouse IFN- $\gamma$  is quite valuable in murine model systems to support the evaluation of the clinical potential of human IFN- $\gamma$ . Furthermore, availability of mouse IFN- $\gamma$  will greatly aid the biological studies of IFN- $\gamma$  action.

#### Preparation

Recombinant, mouse Interferon- $\gamma$  (mIFN- $\gamma$ ), is produced in *E. coli* and purified by standard chromatographic techniques.

### 2.4. Quality Control

For lot-specific certificates of analysis, see section **Contact and Support**.

## 3. Supplementary Information




### 3.1. Conventions

To make information consistent and easier to read, the following text conventions and symbols are used in this document to highlight important information:

#### Text convention and symbols

 *Information Note: Additional information about the current topic or procedure.*

 **Important Note: Information critical to the success of the current procedure or use of the product.**

   etc. Stages in a process that usually occur in the order listed.

   etc. Steps in a procedure that must be performed in the order listed.

\* (Asterisk) The Asterisk denotes a product available from Roche Diagnostics.

### 3.2. Changes to previous version

Layout changes.

Editorial changes.

### 3.3. Trademarks

All product names and trademarks are the property of their respective owners.

### 3.4. License Disclaimer

For patent license limitations for individual products please refer to:

**List of biochemical reagent products.**

### 3.5. Regulatory Disclaimer

For life science research only. Not for use in diagnostic procedures.

### 3.6. Safety Data Sheet

Please follow the instructions in the Safety Data Sheet (SDS).

### 3.7. Contact and Support

To ask questions, solve problems, suggest enhancements or report new applications, please visit our **Online Technical Support Site.**

To call, write, fax, or email us, visit **sigma-aldrich.com**, and select your home country. Country-specific contact information will be displayed.

