

**DESCRIPTION**

<b>Source</b>	<i>E. coli</i> -derived His23-Cys155, with an N-terminal Met Accession # NP_032363
<b>N-terminal Sequence Analysis</b>	Met
<b>Predicted Molecular Mass</b>	15.6 kDa

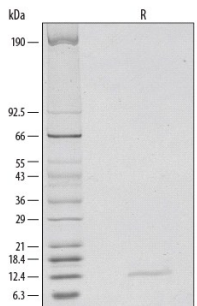
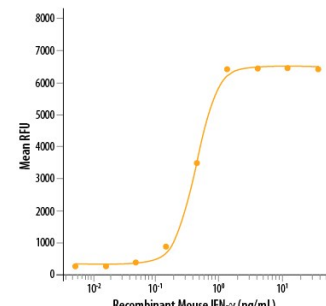
  

<b>SDS-PAGE</b>	11-12 kDa, reducing conditions
<b>Activity</b>	Measured in an anti-viral assay using L-929 mouse fibroblast cells infected with encephalomyocarditis (EMC) virus. Vogel, S.N. <i>et al.</i> (1982) Infect. Immunol. <b>38</b> :681. The ED <sub>50</sub> for this effect is typically 0.3-0.9 ng/mL.
<b>Endotoxin Level</b>	<0.10 EU per 1 $\mu$ g of the protein by the LAL method.
<b>Purity</b>	>97%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
<b>Formulation</b>	Lyophilized from a 0.2 $\mu$ m filtered solution in Sodium Succinate, Mannitol, Tween® 80 and TCEP with Trehalose. See Certificate of Analysis for details.

**PREPARATION AND STORAGE**

<b>Reconstitution</b>	Reconstitute at 100 $\mu$ g/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 3 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

**DATA**

<p><b>SDS-PAGE</b></p>  <p>1 <math>\mu</math>g/lane of Recombinant Mouse IFN-<math>\gamma</math> was resolved with SDS-PAGE under reducing (R) conditions and visualized by silver staining, showing a single band at 11-12 kDa.</p>	<p><b>Bioactivity</b></p>  <p>Recombinant Mouse IFN-<math>\gamma</math> (Catalog # 485-MI/CF) demonstrates anti-viral activity in L-929 mouse fibroblast cells infected with encephalomyocarditis (EMC) virus. The ED<sub>50</sub> for this effect is typically 0.3-0.9 ng/mL.</p>
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**BACKGROUND**

Interferon-gamma (IFN- $\gamma$ ), also known as type II or immune interferon, exerts a wide range of immunoregulatory activities and is considered to be the prototype proinflammatory cytokine (1, 2). Mature mouse IFN- $\gamma$  exists as a noncovalently linked homodimer of 20-25 kDa variably glycosylated subunits (3). It shares 86% amino acid sequence identity with rat IFN- $\gamma$  and 38%-44% with bovine, canine, cotton rat, equine, feline, human, porcine, and rhesus IFN- $\gamma$ . IFN- $\gamma$  dimers bind to IFN- $\gamma$  RI (alpha subunits) which then interact with IFN- $\gamma$  RII (beta subunits) to form the functional receptor complex of two  $\alpha$  and two  $\beta$  subunits. Inclusion of IFN- $\gamma$  RII increases the binding affinity for ligand and the efficiency of signal transduction (4, 5). IFN- $\gamma$  is produced by a variety of immune cells under inflammatory conditions, notably by T cells and NK cells (6). It plays a key role in host defense by promoting the development and activation of Th1 cells, chemoattraction and activation of monocytes and macrophages, up-regulation of antigen presentation molecules, and immunoglobulin class switching in B cells. It also exhibits antiviral, antiproliferative, and apoptotic effects (6, 7). In addition, IFN- $\gamma$  functions as an anti-inflammatory mediator by promoting the development of regulatory T cells and inhibiting Th17 cell differentiation (8, 9). The pleiotropic effects of IFN- $\gamma$  contribute to the development of multiple aspects of atherosclerosis (7).

**References:**

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