

**ChemWhat Technical Data Sheet (TDS)**

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<b>Catalog Number:</b>	146-06
<b>Source:</b>	<i>Escherichia coli</i> .
<b>Molecular Weight:</b>	Approximately 15.5 kDa, a single non-glycosylated polypeptide chain containing 134 amino acids.
<b>Quantity:</b>	20 $\mu$ g/100 $\mu$ g/1000 $\mu$ g
<b>AA Sequence:</b>	QGTLIESLES LKNYFNSSSM DAMEGKSLLL DIWRNWQKDG NTKILESQII SFYLRLEFEVL KDNQAISNNI SVIESHLITN FFSNSKAKKD AFMSIAKFEV NNPQIQHKAV NELIRVIHQL SPESSLRKRK RSRC
<b>Purity:</b>	> 97 % by SDS-PAGE and HPLC analyses.
<b>Biological Activity:</b>	Fully biologically active when compared to standard. The ED <sub>50</sub> as determined by an anti-viral assay using murine L929 cells infected with encephalomyocarditis (EMC) virus is less than 0.1 ng/ml, corresponding to a specific activity of > 1.0 $\times$ 10 <sup>7</sup> IU/mg.
<b>Physical Appearance:</b>	Sterile Filtered White lyophilized (freeze-dried) powder.
<b>Formulation:</b>	Lyophilized from a 0.2 $\mu$ m filtered concentrated solution in 1 $\times$ PBS, pH 7.4, 1 mM DTT, 5 % Trehalose and 0.05 % Tween-80.
<b>Endotoxin:</b>	Less than 0.1 EU/ $\mu$ g of rRtIFN- $\gamma$ as determined by LAL method.
<b>Reconstitution:</b>	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 $\leq$ -20 $^{\circ}$ C . Further dilutions should be made in appropriate buffered solutions.
<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 <math>^{\circ}</math>C as supplied.</li><li>● 1 month, 2 to 8 <math>^{\circ}</math>C under sterile conditions after reconstitution.</li><li>● 3 months, -20 to -70 <math>^{\circ}</math>C under sterile conditions after reconstitution.</li></ul>
<b>Usage:</b>	<b>ChemWhat Limited in UK offers this branded product for research, development or further evaluation purposes. NOT FOR HUMAN USE.</b>

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***Rat Interferon-gamma***

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. It shares high sequence identity with murine IFN- $\gamma$  (86 %). 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. Additionally, IFN- $\gamma$  augments TH1 cell expansion and may be required for TH1 cell differentiation.