

**ChemWhat Technical Data Sheet (TDS)**

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<b>Catalog Number:</b>	1F6-06
<b>Source:</b>	<i>Escherichia coli</i> .
<b>Molecular Weight:</b>	Approximately 16.7 kDa, a single non-glycosylated polypeptide chain containing 143 amino acids.
<b>Quantity:</b>	20 $\mu$ g/100 $\mu$ g/1000 $\mu$ g
<b>AA Sequence:</b>	QAAFFKEIEN LKEYFNASNP DVGDDGGLFL DILKNWKEDS DKKIISQIV SFYFKLFENL KDNQVIQKSM DTIKEDLFVK FFNSSTSKLE DFQKLIQIPV NDLKVQRKAI SELIKVMNDL SPKANLRKRK RSQNPFRGRR ALQ
<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 human HeLa cells infected with encephalomyocarditis (EMC) virus is less than 10.0 ng/ml, corresponding to a specific activity of > 1.0 $\times$ 10 <sup>5</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 2 $\times$ PBS, pH 7.4, with 5 % trehalose.
<b>Endotoxin:</b>	Less than 0.1 EU/ $\mu$ g of rEqIFN- $\gamma$ 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 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 $\leq$ -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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***Equine 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. 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. Equine IFN- $\gamma$  shares 73 %~82 % amino acid sequence identity with bovine, canine, feline, and porcine IFN- $\gamma$  and 42 %~64 % with cotton rat, human, murine, rat, and rhesus macaque IFN- $\gamma$ .

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