

#### DESCRIPTION

**Source** Mouse myeloma cell line, NS0-derived human IFN-gamma R1/CD119 protein  
Met1-Gly245  
Accession # P15260.1

**N-terminal Sequence Analysis** Glu18 & Gly20

**Predicted Molecular Mass** 25 kDa

#### SPECIFICATIONS

**SDS-PAGE** 40 kDa and 50 kDa, reducing conditions

**Activity** Measured by its ability to inhibit rhIFN- $\gamma$  mediated protection of HeLa human cervical epithelial carcinoma cells to viral lysis. Meager, A. (1987) in Lymphokines and Interferons, a Practical Approach. Clemens, M.J. *et al.* (eds): IRL Press. 129.  
The ED<sub>50</sub> for this effect is 1-3  $\mu$ g/mL in the presence of 2 ng/mL rhIFN- $\gamma$ .

**Endotoxin Level** <1.0 EU per 1  $\mu$ g of the protein by the LAL method.

**Purity** >95%, by SDS-PAGE under reducing conditions and visualized by silver stain.

**Formulation** Lyophilized from a 0.2  $\mu$ m filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

#### PREPARATION AND STORAGE

**Reconstitution** Reconstitute at 500  $\mu$ g/mL in sterile PBS containing at least 0.1% human or bovine serum albumin.

**Shipping** The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

**Stability & Storage** Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

#### BACKGROUND

The high-affinity IFN- $\gamma$  receptor complex is made up of two type I membrane proteins, IFN- $\gamma$  R1 (IFN- $\gamma$  R $\alpha$ ) and IFN- $\gamma$  R2 (IFN- $\gamma$  R $\beta$ ). Both proteins are members of the type II cytokine receptor family and share approximately 52% overall sequence identity. IFN- $\gamma$  R1 is the ligand-binding subunit that is necessary and sufficient for IFN- $\gamma$  binding and receptor internalization. IFN- $\gamma$  R2 is required for IFN- $\gamma$  signaling but does not bind IFN- $\gamma$  by itself. Human IFN- $\gamma$  R1 cDNA encodes a 499 amino acid (aa) residue protein with a 17 aa signal peptide, a 228 aa extracellular domain, a 23 aa transmembrane domain, and a 221 aa intracellular domain. Human and mouse IFN- $\gamma$  R1 share 52% amino acid sequence similarity and bind IFN- $\gamma$  in a species-specific manner. IFN- $\gamma$  R1 is constitutively expressed in most cell types. Soluble IFN- $\gamma$  R1 that binds IFN- $\gamma$  has been detected in biological fluids. The recombinant soluble IFN- $\gamma$  R1 produced at R&D Systems has been shown to bind IFN- $\gamma$  with high affinity and is a potent IFN- $\gamma$  antagonist.

#### References:

1. Bach, E.A. *et al.* (1997) Annu. Rev. Immunol. **15**:563.