

#### DESCRIPTION

**Source** *E. coli*-derived mouse IFN-epsilon protein  
Leu22-Pro192, with N-terminal Met and C-terminal 6-His tag  
Accession # Q80ZF2

**N-terminal Sequence Analysis** Met

**Predicted Molecular Mass** 21 kDa

#### SPECIFICATIONS

**SDS-PAGE** 20 kDa, reducing conditions

**Activity** Measured in an anti-viral assay using L-929 mouse fibroblast cells infected with encephalomyocarditis (EMC) virus. Vogel, S.N. *et al.* (1982) Infect. Immunol. **38**:681.  
The ED<sub>50</sub> for this effect is 6.00-60.0 ng/mL.

**Endotoxin Level** <0.10 EU per 1 µg of the protein by the LAL method.

**Purity** >75%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.

**Formulation** Lyophilized from a 0.2 µm filtered solution in Citric Acid and CHAPS with BSA as a carrier protein. See Certificate of Analysis for details.

#### PREPARATION AND STORAGE

**Reconstitution** Reconstitute at 100 µg/mL in water.

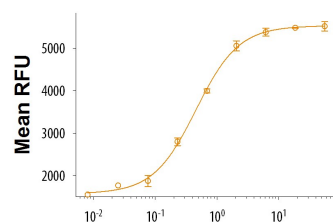
**Shipping** The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

**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.

#### DATA

##### Bioactivity



**Recombinant Mouse IFN-epsilon Protein Bioactivity**  
Recombinant Mouse IFN-epsilon (Catalog # 9147-ME) demonstrates anti-viral activity in L-929 mouse fibroblast cells infected with encephalomyocarditis (EMC) virus. The ED<sub>50</sub> for this effect is 6.00-60.0 ng/mL.

#### BACKGROUND

Interferon-epsilon (IFN-ε) is a secreted, approximately 18 kDa member of the type I interferon family of molecules (1). Mature mouse IFN-ε shares 55% amino acid sequence identity with human and rat IFN-ε, respectively. IFN-ε signals through IFN-α/β R1 and IFN-α/β R2 and contributes to TNF-α induced signaling (2, 3). It is constitutively expressed in epithelial cells lining the lung, intestines, testes, and female reproductive tract, and it is further up-regulated in the uterus by estrogen (2-6). IFN-ε provides mucosal barrier protection against the pathogens Chlamidia and Herpes simplex virus 2 (2). It induces B cell activation and the attraction of CD8<sup>+</sup> T cells to sites of virus infection (5, 7).

#### References:

1. Wijesundara, D.K. *et al.* (2014) Front. Immunol. **5**:412.
2. Fung, K.Y. *et al.* (2013) Science **339**:1088.
3. Matsumiya, T. *et al.* (2007) J. Immunol. **179**:4542.
4. Demers, A. *et al.* (2014) J. Leukoc. Biol. **96**:1101.
5. Xi, Y. *et al.* (2012) Mucosal Immunol. **5**:610.
6. Hermant, P. *et al.* (2013) PLoS One **8**:e71320.
7. Day, S.L. *et al.* (2008) J. Immunol. **180**:7158.