**DESCRIPTION**

**Source**
Human embryonic kidney cell, HEK293-derived
Ile22-Asn182
Accession # P01575

**N-terminal Sequence Analysis**
Ile22

**Structure / Form**
Monomer

**Predicted Molecular Mass**
20 kDa

**SPECIFICATIONS**

**SDS-PAGE**
30-38 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_{50} for this effect is 1-6 pg/mL.

The specific activity of recombinant Mouse IFN-β is approximately 1.2 x 10^{9} IU/mg, which is calibrated against Murine IFN-β WHO International Standard. The Murine IFN-β WHO International Standard (NR-3079) was obtained through the NIH Biodefense and Emerging Infections Research Resources Repository, NIAID, NIH.

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

**Purity**
>95%, by SDS-PAGE with silver staining.

**Formulation**
Lyophilized from a 0.2 μm filtered solution in PBS and Tween® 80 with BSA as a carrier protein. See Certificate of Analysis for details.

**PREPARATION AND STORAGE**

**Reconstitution**
Reconstitute at 100 μg/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.

**DATA**

**Bioactivity**

![Graph showing recombinant Mouse IFN-β bioactivity](image)

Recombinant Mouse IFN-β (Catalog # 8234-MB) suppresses viral activity using L-929 mouse fibroblast cells infected with encephalomyocarditis (EMC) virus. The ED_{50} for this effect is 1-6 pg/mL.

**SDS-PAGE**

![Image of SDS-PAGE gel](image)

1 μg lane of Recombinant Mouse IFN-beta (Catalog # 8234-MB) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by silver staining, showing bands at 32.7 and 32.9 kDa, respectively.
Interferon beta (IFN-β), also known as fibroblast IFN, is a secreted, approximately 22 kDa member of the type I interferon family of molecules (1). Mature mouse IFN-β shares 75% and 47% amino acid sequence identity with the rat and human proteins, respectively. Fibroblasts are the major producers of IFN-β, but it can also be produced by dendritic cells, macrophages, and endothelial cells in response to pathogens (2). It is transcriptionally regulated by TRAF3, IRF3, IRF7, and NF-κB (3, 4). IFN-β-deficient mice show increased susceptibility to experimental autoimmune encephalomyelitis (EAE), a disease model of human multiple sclerosis (MS) (5). Furthermore, IFN-β has been shown to suppress the Th17 cell response in both MS and EAE and has commonly been used as a treatment for MS (6-10). IFN-β can additionally induce the expression of the anti-inflammatory cytokine IL-10 (11).

References: