

**DESCRIPTION**

**Source** Chinese Hamster Ovary cell line, CHO-derived  
Met22-Asn187  
Accession # P01574

**N-terminal Sequence Analysis** Met22 & Ser23

**Predicted Molecular Mass** 20 kDa

**SPECIFICATIONS**

**SDS-PAGE** 20-26 kDa, reducing conditions

**Activity** Measured in anti-viral assays using HeLa human cervical epithelial carcinoma cells infected with encephalomyocarditis (EMC) virus. 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 typically 5-30 pg/mL.  
The specific activity of Recombinant Human IFN- $\beta$  is approximately 2.8 x 10<sup>8</sup> IU/mg, which is calibrated against human IFN- $\beta$  WHO International Standard (NIBSC code: 00/572).

**Endotoxin Level** <0.10 EU per 1  $\mu$ g of the protein by the LAL method.

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

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

**PREPARATION AND STORAGE**

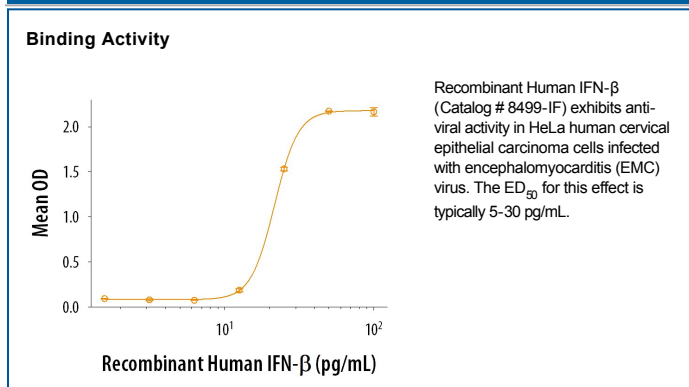
**Reconstitution** Reconstitute at 200  $\mu$ g/mL in sterile water.

**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**



**BACKGROUND**

Interferon beta (IFN- $\beta$ ), also known as fibroblast IFN, is a secreted, approximately 22 kDa member of the type I interferon family of molecules (1). Mature human IFN- $\beta$  shares 47% and 46% amino acid sequence identity with the mouse and rat proteins, respectively. Fibroblasts are the major producers of IFN- $\beta$ , but it can also be produced by dendritic cells, macrophages, and endothelial cells in response to pathogen exposure (2). It is transcriptionally regulated by TRAF3, IRF3, IRF7, and NF- $\kappa$ B (3, 4). Following secretion, IFN- $\beta$  signals through the heterodimeric IFN- $\alpha/\beta$  Receptor and activates the JAK/STAT signaling pathway (5-8). IFN- $\beta$ -deficient mice show increased susceptibility to experimental autoimmune encephalomyelitis (EAE), a disease model of human multiple sclerosis (MS) (9). Furthermore, IFN- $\beta$  has been shown to suppress the Th17 cell response in both MS and EAE and has commonly been used as a treatment for MS (10-14).

**References:**

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