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Recombinant Human IFN-β

Catalog Number: 8499-IF/CF

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_{50} for this effect is typically 5-30 pg/mL. The specific activity of Recombinant Human IFN-β is approximately 2.8 x 10^8 IU/mg, which is calibrated against human IFN- β WHO International Standard (NIBSC code: 00/572).Standard (NIBSC code: 00/572).
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 Citric Acid and CHAPS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 200 µg/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.

BACKGROUND

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 human IFN-β shares 47% and 46% amino acid sequence identity with the mouse and rat 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 pathogen exposure (2). It is transcriptionally regulated by TRAF3, IRF3, IRF7, and NF-κB (3, 4). Following secretion, IFN-β signals through the heterodimeric IFN-α/β Receptor and activates the JAK/STAT signaling pathway (5-8). IFN-β-deficient mice show increased susceptibility to experimental autoimmune encephalomyelitis (EAE), a disease model of human multiple sclerosis (MS) (9). 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 (10-14).

References:

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