Human Interferon beta / IFN-beta / IFNB Protein

Catalog Number: **10704-HNAS**

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General Information

Gene Name Synonym:

IFNβ, IFNB1, IFB, IFNB

Protein Construction:

A DNA sequence encoding the human IFNβ (P01574) (Met1-Asn187) was expressed.

Source: Human

Expression Host: CHO Stable Cells

QC Testing

Purity: > 95 % as determined by SDS-PAGE

Bio-Activity

Measured in antiviral assays using WISH human amnion cells infected with vesicular stomatitisvirus (VSV).
The EC50 for this effect is 1-5 pg/mL.

Endotoxin:

< 1.0 EU per μg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 ℃

Predicted N terminal: Met 22

Molecular Mass:

The recombinant human IFNβ consists of 166 amino acids and predicts a molecular mass of 20 KDa. It migrates as an approximately 20-23 KDa band in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile 50mM Hepes, pH 7.0

Normally 5 % - 8 % trehalose and mannitol are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

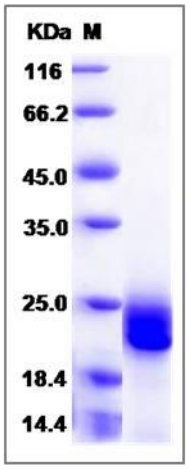
Usage Guide

Storage:

Store it under sterile conditions at -20℃ to -80℃ upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

SDS-PAGE:



Reconstitution:

Detailed reconstitution instructions are sent along with the products.

Protein Description

Interferons (IFNs) are natural glycoproteins belonging to the cytokine superfamily, and are produced by the cells of the immune system of most vertebrates in response to challenges by foreign agents such as viruses, parasites and tumor cells. IFNs are produced by a wide variety of cells in response to the presence of dsRNA, a key indicator of viral infection via a pattern recognition receptor of the innate immune system Toll Like Receptor 3 (TLR 3), and in turn assists the immune response by inhibiting viral replication within host cells, activating natural killer cells and macrophages, increasing antigen presentation to lymphocytes, and inducing the resistance of host cells to viral infection. There are three major classes of IFNs according to the receptor type through which they signal, and the type I IFNs bind to a specific receptor complex known as the IFN-α receptor (IFNAR) consisting of IFNAR1 and IFNAR2 chains. The type I? IFNs present in humans are IFN-α, IFN-β and IFN-ω and IFN-β is produced by fibroblast. In addition to the common antiviral activity, IFN-β also induces increased production of the p53 gene product which promotes apoptosis, and thus has therapeutic effect against certain cancers. Furthermore, IFN-β might play a beneficial role in the development of a chronic progressive CNS inflammation.

References

1. Morikawa K. et al., 1987, J Immunol. 139: 761-6.
2. Sato K. et al., 2001, Eur J Immunol. 31: 3188-46.
3. Takaoka A. et al., 2003, Nature. 424: 516-23.
4. Improta T. et al., 1997, Cytokine. 9: 383-93.
5. Teige I. et al., 2006, J Immunol. 177: 3542-53.