

Recombinant Human IFN-alpha 4 Protein

Catalog No.: RP01914 Recombinant

Sequence Information

Species	Gene ID	Swiss Prot
Human	3441	P05014

Tags

C-His

Synonyms

Interferon alpha-4; IFN-alpha-4;
Interferon alpha-4B; Interferon alpha-76;
Interferon alpha-M1;IFNA4

Product Information

Source	Purification
HEK293 cells	> 90% by SDS-PAGE.

Calculated MW	Observed MW
20.22 kDa	15-20 kDa

Endotoxin

< 0.1EU/μg of the protein by LAL method

Formulation

Lyophilized from 0.22 μm filtered solution in PBS (pH 7.4). Normally 8% trehalose is added as protectant before lyophilization.

Reconstitution

Centrifuge the vial before opening. Reconstitute to a concentration of 0.1-0.5 mg/mL in sterile distilled water. Avoid vortex or vigorously pipetting the protein. For long term storage, it is recommended to add a carrier protein or stabilizer (e.g. 0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose), and aliquot the reconstituted protein solution to minimize free-thaw cycles.

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Background

IFN-alpha 4, Produced by macrophages, IFN-alpha have antiviral activities. Interferon stimulates the production of two enzymes: a protein kinase and an oligoadenylate synthetase. The interferons (IFN) are a family of cytokines with potent antiviral, antiproliferative and immunomodulatory properties, and are classified based on their binding specificity to cell surface receptors. The type I IFNs bind to the interferon alpha receptor (IFNAR), which consists of two subunits: IFNAR1 (alpha -subunit) and IFNAR2 (beta -subunit). This binding contributes to TNF-alpha induced signaling. Both the human and mouse genome code for more than a dozen closely related IFN-alpha subtypes and the various IFN-alphas share about 80% sequence homology among them. The mouse IFN-alpha 4 consists of 186 amino acids (aa) including a 24 aa signal peptide and a 162 aa IFN-alpha 4 mature domain. The mature mouse IFN-alpha 4 shares 58% and 76% sequence identity with mature human and rat IFN-alpha 4, respectively. The mouse IFN-alpha 4 reduces the local replication of murine cytomegalovirus in the tibia muscle. mIFN-A4 is a strong activator of Mx gene and was shown to be very effective in reducing splenomegaly.

Basic Information

Description

Recombinant Recombinant Human IFN-alpha 4 Protein is produced by HEK293 cells expression system. The target protein is expressed with sequence (Cys24-Asp189) of Human IFN-alpha 4 (Accession #NP_066546.1) fused with a His tag at the C-terminus.

Bio-Activity

Measured in a cell cytotoxicity assay using TF-1 cells. The ED₅₀ for this effect is 0.26-1.02 ng/mL, corresponding to a specific activity of 9.80×10⁵~3.85×10⁶ units/mg.

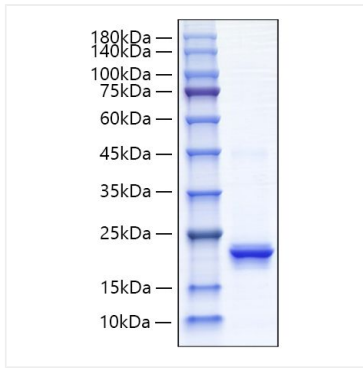
Storage

Store at -20°C. Store the lyophilized protein at -20°C to -80 °C up to 1 year from the date of receipt.

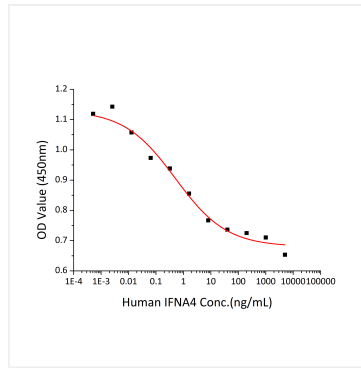
After reconstitution, the protein solution is stable at -20°C for 3 months, at 2-8°C for up to 1 week.

Avoid repeated freeze/thaw cycles.

Validation Data



Recombinant Human IFN-alpha 4 Protein was determined by SDS-PAGE with Coomassie Blue, showing a band at 15-20 kDa.



Recombinant Human IFN-alpha 4 Protein cytotoxicity assay using TF-1 cells. The ED_{50} for this effect is 0.26-1.02 ng/mL, corresponding to a specific activity of $9.80 \times 10^5 \sim 3.85 \times 10^6$ units/mg.