

Recombinant Human Interferon-alpha 2beta (rh IFN-alpha 2b)

Synonyms: IFNA, INFA2, MGC125764, MGC125765

Introduction: Interferons are cytokines that are widely known to induce potent anti-viral activity. Interferon- α exerts a variety of other biological effects, including antitumor and immunomodulatory activities and are increasingly used clinically to treat a range of malignancies, myelodysplasias and autoimmune diseases. IFN- α is produced by macrophages and has antiviral activities. Interferon stimulates the production of two enzymes: protein kinase and an oligoadenylate synthetase.

Description: Recombinant human IFN- α 2b produced in E.Coli is a single, non-glycosylated, polypeptide chain containing 166 amino acids and having a molecular mass of 19.4 kDa. The difference between IFN- α 2a and IFN- α 2b is the amino acid present at position 23. IFN- α 2a has a lysine at that position 23 while IFN- α 2b has arginine. The Interferon- α 2b gene was obtained from human leukocytes. The rh IFN- α 2b is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli*.

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: Lyophilized from a concentrated solution in containing 2.3 mg sodium phosphate dibasic and 0.55 mg sodium phosphate monobasic buffer. The aliquots/samples of 1 μ g contain Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rh IFN- α 2b in sterile H₂O not less than 100 μ g/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rh IFN- α 2b although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution rh IFN- α 2b should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

Purity: Greater than 98.0% as determined by RP-HPLC and by SDS-PAGE.

Amino acid sequence:

MCDLPQTHSLGSRRTLMLLAQMRRISLFSCLKDRHDFGFPQEEFGNQFQKAETIPVLHEMIQQIFNLF
STMDSSAAWDETLDDKFKYTELYQQLNDLEACVIQGVGVTTETPLMKEDSILAVRKYFQRITLYLKEKKYSP
CAWEVVRAEIMRSFSLSTNLQESLRSKE

Biological Activity: The specific activity as determined in a viral resistance assay using bovine kidney MDBK cells was found to be 2.6 x 10⁸ IU/mg.

Protein content: Protein quantitation was carried out by two independent methods

1. UV spectroscopy at 280 nm using the absorbency value of 0.924 as the extinction coefficient for a 0.1% (1mg/ml) solution. This value is calculated by the PC GENE computer analysis program of protein sequences (IntelliGenetics).
2. Analysis by RP-HPLC, using a calibrated solution of IFN α 2b as a Reference Standard.

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<i>small</i>	20 μ g	Cat.N°	11343514
<i>medium</i>	100 μ g	Cat.N°	11343516

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