Product Description
Interferon-alpha (IFN-α) is a type I interferon, produced by virus-infected cells, and is released as a soluble factor to initiate antiviral responses (Isaacs & Lindenmann). IFN-α2 is the most potent IFN-α used in fundamental research and in most clinical applications. The best-known IFN-α2 subvariants, 2A and 2B, differ by only one or two amino acids at positions 23 and/or 34 of the mature protein (von Gabain et al.). Type I IFNs exert potent antitumor activity by increasing the cytotoxic activity of NK and T cells, as well as by inhibiting the proliferation of cancer cells (Paul et al.). Additionally, it has been shown that proinflammatory IFN-α modulates the function of B cells in patients with systemic lupus erythematosus (Chang et al.), and pegylated forms of IFN-alpha 2A and 2B have implications in the treatment of hepatitis C (Foster et al.).

Product Information
Alternative Names: IFN-alpha 2, IFNA2, IFNA2b
Accession Number: P01563 (VAR_004012)
Amino Acid Sequence: MCDLPQTHSL GSRRRITMLLL QAQIRSLFSC LKDRHDFGFP QEEFGNQFox AETIPVLMHE IQQIFNLFST KDSSAWDET LLDKFYETLY QQLNLACV IQGVGVTETP LMKEDSLAV RKYFQRTLQY LKEKKYSPCA WEVVRAEIMR SFSLSTNLQG SLRSKE
Predicted Molecular Mass: 19.4 kDa
Species: Human
Cross Reactivity: Not determined
Formulation: Lyophilized from a sterile-filtered aqueous solution containing 0.1% trifluoroacetic acid.
Source: E. coli

Specifications
Activity: The specific activity is ≥ 2 x 10^8 units/mg (EC50 ≤ 5 pg/mL) as determined in a viral challenge assay using encephalomyocarditis (EMC) virus on A549 cells.
Purity: ≥ 95%
Endotoxin Level: Measured by kinetic Limulus amebocyte lysate (LAL) analysis and is ≤ 1 EU/μg protein.

Preparation and Storage
Storage: Store at -20°C to -80°C.
Stability: Stable as supplied for 12 months from date of receipt.
Preparation: Centrifuge vial before opening. Reconstitute the product in sterile water to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex.

OPTIONAL: After reconstitution, if product will not be used immediately, dilute with concentrated bovine serum albumin (BSA) to a final BSA concentration of 0.1%. The effect of storage of stock solution on product performance should be tested for each application. As a general guide, do not store at 2 - 8°C for more than 1 month or at -80°C for more than 3 months. Avoid repeated freeze-thaw cycles.
(A) The biological activity of Human Recombinant IFN-alpha 2B was measured with A549 cells exposed to the EMC virus in a cytopathic effect (CPE) assay. Cell survival was measured using a fluorometric assay method. The EC50 is defined as the effective concentration of the cytokine at which cell survival is at 50% of maximum. The EC50 in the above example is 1.0 pg/mL.

(B) 1 μg of Human Recombinant IFN-alpha 2B was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant IFN-alpha 2B has a predicted molecular mass of 19.4 kDa.

Related Products
For a complete list of cytokines, as well as related products available from STEMCELL Technologies, visit www.stemcell.com/cytokines or contact us at techsupport@stemcell.com.

References