

Cytokines

Human Recombinant IFN- α 2A

Interferon-alpha 2A



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Catalog # 78076
78076.1

20 μ g
100 μ g

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- α 2 is the most potent IFN- α used in fundamental research and in most clinical applications. The best known IFN- α 2 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 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 form of IFN- α 2A and 2B has implications in the treatment of Hepatitis C (Foster et al.).

Product Information

Alternative Names: IFN-alpha 2, IFNA2, IFNA2a
Accession Number: P01563
Amino Acid Sequence: MCDLPQTHSL GSRRTLMLLA QMRKISLFSC LKDRHDFGFP QEEFGNQFQK AETIPVLHEM IQQIFNLFST KDSSAAWDET LLDKFYTELY QQLNDLEACV IQGVGVETETP LMKEDSILAV RKYFQRITLY LKEKKYSPCA WEVVRAEIMR SFSLSTNLQE SLRSKE
Predicted Molecular Mass: 19.4 kDa
Species: Human
Cross Reactivity: Cow
Formulation: Lyophilized from a sterile filtered aqueous solution containing 0.1% trifluoroacetic acid.
Source: E. coli

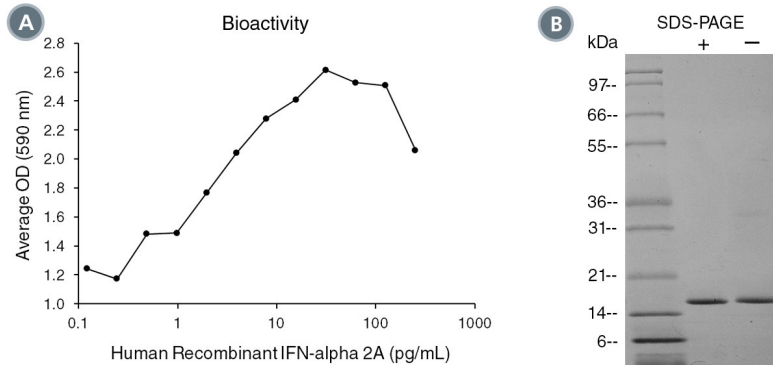
Specifications

Activity: The specific activity is $\geq 2 \times 10^8$ units/mg ($EC_{50} \leq 5$ pg/mL) as determined in a viral challenge assay using EMC virus on A549 cells.
Purity: ≥ 95 %
Endotoxin Level: Measured by kinetic limulus amoebocyte lysate (LAL) analysis and is ≤ 1 EU/ μ g 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. Resuspend the product in sterile water containing 0.1% bovine serum albumin (BSA) to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. Store at 2 - 8°C for up to 1 month or at -20°C to -80°C for up to 3 months. Avoid repeated freeze-thaw cycles. NOTE: If reconstituted product will be used immediately BSA is not required.

Data



(A) The biological activity of Human Recombinant IFN-alpha 2A was measured with A549 cells exposed to the encephalomyocarditis (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 example above is 3.6 pg/mL. (B) 1 µg of Human Recombinant IFN-alpha 2A was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant IFN-alpha 2A 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, please visit our website at www.stemcell.com/cytokines or contact us at techsupport@stemcell.com.

References

- Chang N-H et al. (2015) Interferon- α induces altered transitional B cell signaling and function in Systemic Lupus Erythematosus. *J Autoimmun* 58: 100–10.
- Foster GR. (2010) Pegylated interferons for the treatment of chronic hepatitis C: pharmacological and clinical differences between peginterferon-alpha-2a and peginterferon-alpha-2b. *Drugs* 70(2): 147–65.
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- Paul F et al. (2015) IFNA2: The prototypic human alpha interferon. *Gene* 567(2): 132–7.
- von Gabain A et al. (1990) Three human interferon-alpha 2 subvariants disclose structural and functional differences. *Eur J Biochem* 190(2): 257–61.

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