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Products	Human IFN-α2b, research grade. Recombinant human interferon α2b.								
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20	130-093-875								
100	130-093-876								
1000	130-108-967								
Biological activity	The ED ₅₀ is ≤5 pg/mL corresponding to an activity of ≥2×10 ⁸ U/mg. Note: The ED ₅₀ is determined by a viral resistance assay using bovine kidney MDBK cells.								
Primary structure	Single, non-glycosylated polypeptide chain (166 amino acid residues).								
Molecular mass	19.4 kDa.								
Source	Produced in <i>E. coli</i> .								
Product format	Lyophilized from a filtered (0.2 µm) buffer solution.								
Stabilizer	None.								
Purity	>95% as determined by SDS-PAGE analysis.								
Endotoxin level	Low endotoxin (<1.0 EU/µg cytokine) as determined by Limulus Amebocyte Lysate (LAL) assay.								
Storage	Lyophilized Human IFN-α2b, research grade should be stored at -20 °C. The expiration date is indicated on the vial label. Upon reconstitution aliquots should be stored at -20 °C or below. Avoid repeated freeze-thaw cycles.								
Reconstitution	It is recommended to reconstitute lyophilized Human IFN-α2b, research grade with deionized sterile-filtered water to a final concentration of 0.1–1.0 mg/mL in a minimal volume of 100 µL. Further dilutions should be prepared with 0.1% bovine serum albumin (BSA) or human serum albumin (HSA) in phosphate-buffered saline.								

1.1 Background information

Interferon alpha (IFN-α) cytokines belongs together with IFN-β to the type I interferon family, and is part of a cluster of proteins sharing more than 95% homology. IFN-α proteins are produced by several leukocytes, especially plasmacytoid dendritic cells, and share with all type I IFNs the same dimeric receptor (IFN-α R1/R2). IFN-α proteins induce a broad innate response to viral infections, but can also show immunomodulatory activities. IFN-α plays also a role in induction of fever and modulation of pain, by affecting the thermosensitivity of the hypothalamus and inducing prostaglandin-E2 release. An increased expression of IFN-α at tumor site favors dendritic cell activation and cytotoxic activity. IFN-α is usually produced as recombinant protein in two variants: IFN-α2a and IFN-α2b.

1.2 Applications

Human IFN-α2b can be used for a variety of applications, including:

- Culture of myeloid and lymphoid cells in studies of anti-viral immune response.
- Investigation of tumor cell growth and modulation of autoimmunity.
- Study of intracellular signal transduction via activation of IFN type I receptor.

Optimal concentration for a specific application should be determined by a dose-response experiment.

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