ROSYSTEMS a biotechne brand

Recombinant Human IFN-alpha-2B

Catalog Number: 11013-IF

DESCRIPTION	
Source	Human embryonic kidney cell, HEK293-derived human IFN-alpha protein Cys24-Glu188 Accession # NP_000596.2
N-terminal Sequence Analysis	Cys24
Predicted Molecular Mass	19 kDa

SPECIFICATIONS	
SDS-PAGE	18-22 kDa, under reducing conditions.
Activity	Measured in anti-viral assays using HeLa human cervical epithelial carcinoma cells infected with encephalomyocarditis (EMC) virus. Meager, A. (1987) in Lymphokines and Interferons, a Practical Approach. Clemens, M.J. <i>et al.</i> (eds): IRL Press. 129. The ED ₅₀ fot this effect is 3.00-60.0 pg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE		
Reconstitution	Reconstitute at 100 μg/mL in PBS.	
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.	
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles.	
	 12 months from date of receipt, -20 to -70 °C as supplied. 	
	1 month, 2 to 8 °C under sterile conditions after reconstitution.	

• 3 months, -20 to -70 °C under sterile conditions after reconstitution.



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BACKGROUND

Interferons (IFN) are a family of cytokines with potent antiviral, antiproliferative and immunomodulatory properties, classified based on their binding specificity to cell surface receptors (1). There are more than a dozen closely related IFN alpha subtypes found in both the human and mouse genome, each sharing about 80% amino acid (aa) sequence homology (2, 3). There are several variants of human IFNA2, IFNA2a, IFNA2b and IFNA2c, which only differ by a few point mutations (4). The extracellular domain (ECD) of mature human IFNA2b shares 59% aa sequence identity with mouse IFNA2. The type I IFNs bind to the interferon alpha receptor (IFNAR), which consists of two subunits: IFNAR1 (alpha -subunit) and IFNAR2 (beta -subunit) (5, 6). While individual IFN alpha subtypes are known to display unique efficacies to viral protection, nothing is known about functions unique to IFNA2 in human physiology. However, IFNA2 has become the representative type I IFN subtype used in basic research and numerous clinical applications (7). Since being first approved for treatment of hairy cell leukemia in 1986, IFNA2b has been approved for the treatment of several malignancies including AIDS-related Kaposi's sarcoma, malignant melanoma and chronic hepatitis B and C (8). More recently, human IFNA2b has been tested as a potential treatment for COVID-19 (9).

References:

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- 7. Paul, F. et al. (2015) Gene. 567:132.
- 8. Kiladjian, J.J. et al. (2008) Leukemia 22:1990.
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