Recombinant Human IFN-λ4

Catalog Number: 9165-IF

DESCRIPTION

Source	*E. coli*-derived Ala23-Leu179 with an N-terminal Met Accession # K9M1U5
N-terminal Sequence Analysis	Met, Ala23
Predicted Molecular Mass	18 kDa

SPECIFICATIONS

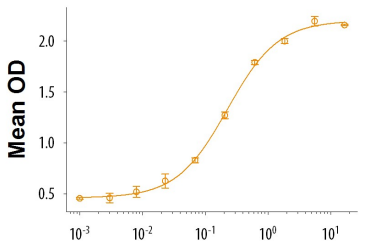
SDS-PAGE	19 kDa, reducing conditions
Activity	Measured in an anti-viral assay using HepG2 human hepatocellular carcinoma cells infected with encephalomyocarditis (EMC) virus. Sheppard, P. *et al.* (2003) Nat. Immunol. **4**:63. The ED_{50} for this effect is 0.2-1.2 µg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>85%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in Citric Acid and CHAPS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 250 µg/mL in water.
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.

DATA

Bioactivity



Recombinant Human IFN-lambda 4 (Catalog # 9165-IF) exhibits anti-viral activity in HepG2 human hepatocellular carcinoma cells infected with encephalomyocarditis (EMC) virus. The ED_{50} for this effect is 0.2-1.2 µg/mL.

BACKGROUND

Interferon-lambda 4 (IFN-λ4) is a secreted, approximately 17 kDa member of the type III interferon family of molecules (1). It is generated by a frameshift mutation based on a TT > ΔG polymorphism (2). The TT allele inactivates expression of IFN-λ4 (2). The ΔG allele is associated with reduced clearance of hepatitis C virus and reduced degranulation of CTL, NK, and NKT cells in the liver during hepatitis (2, 3), although IFN- λ4 itself shows *in vitro* activity against hepatitis C virus (4). IFN-λ4 is expressed in the liver of some chronic hepatitis C patients (5). It signals through a receptor complex containing IL-28 R/IFN-λ R1 and IL-10 Rβ to induce the expression of several interferon stimulated genes (ISG) (2, 4). Alternative splicing generates additional isoforms with large internal deletions or a substituted C-terminal region.

References:

1. Wack, A. *et al.* (2015) Nat. Immunol. **16**:802.
2. Prokunina-Olsson, L. *et al.* (2013) Nat. Genet. **45**:164.
3. Jouvin-Marche, E. *et al.* (2014) J. Infec. Dis. **209**:1907.
4. Hamming, O.J. *et al.* (2013) EMBO J. **32**:3055.
5. Amanzada, A. *et al.* (2013) PLoS One **8**:e84026.

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