

IFN-lambda 3/IL-28B Protein, Mouse (HEK293, His)

Cat. No.:	HY-P74851
Synonyms:	Interferon lambda-3; IFN-lambda-3; IL-28B; IL-28C; ZCYTO22
Species:	Mouse
Source:	HEK293
Accession:	Q8CGK6 (M1-V193)
Gene ID:	338374
Molecular Weight:	Approximately 21.1 kDa

PROPERTIES

Biological Activity	Measured in antiviral assay using HepG2 cells infected with vesicular stomatitis virus and the ED ₅₀ is typically 16-178.4 ng/mL.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4. Normally 5% - 8% trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background

IFN-lambda 3 (IL-28B) is a member of the Type-III interferon family. Human IFN-lambda 2 shares 61.98% common aa identity with mouse. IFN-lambda 2 is produced particularly by dendritic cells (DCs), when following viral or bacterial infection^[3]. IFN-lambda 3 mediates effects by a heterodimeric receptor complex comprising IFNλ receptor 1 (IFNLR1) and IL-10 receptor subunit-β (IL-10RB). When binding to the receptor complex, Jak1 and Tyk2 will be activated, and leads to subsequent tyrosine phosphorylation of the IFN-λR1 (intracellular domain, Tyr406 and Tyr343, Tyr517), and activation of STAT1 and STAT2. Activated STAT1 and STAT2 together with IRF-9 (p48) form a trimeric transcription factor complex (ISGF3). The formed ISGF3 complexes then translocate to the nucleus and promotes the production of IFN-stimulated genes (ISGs) such as IRF7, MX1, and OAS1^[2].

IFN-lambda 3 has antiviral antitumour and immunomodulatory activities^[1]. IFN-lambda 3 ameliorates experimental allergic asthma via enhancing NK cell polarization^[4].

REFERENCES

- [1]. Lopusná K, et al. Interferons lambda, new cytokines with antiviral activity. *Acta Virol.* 2013;57(2):171-9.
- [2]. Donnelly RP, et al. Interferon-lambda: a new addition to an old family. *J Interferon Cytokine Res.* 2010 Aug;30(8):555-64.
- [3]. Witte K, et al. IL-28A, IL-28B, and IL-29: promising cytokines with type I interferon-like properties. *Cytokine Growth Factor Rev.* 2010 Aug;21(4):237-51.
- [4]. Metwally M, et al. IFNL3 genotype is associated with pulmonary fibrosis in patients with systemic sclerosis. *Sci Rep.* 2019 Oct 16;9(1):14834.
- [5]. Yoshimoto K, et al. Interleukin-28B acts synergistically with cisplatin to suppress the growth of head and neck squamous cell carcinoma. *J Immunother.* 2011 Mar;34(2):139-48.
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