

Epoto Biotech Recombinant Human IL28B/IFN-lambda 3, Tag Free

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Catalog Number: HF-1028B

General Information

Synonyms	interleukin-28B; IFN-lambda 3; IL28B; IL-28B; IL28C; interferon, lambda 3
Accession #	AAN28264
Source	Human embryonic kidney cell, HEK293-derived human IL-28B/IFN-lambda 3 protein
	Arg30-Val200
Predicted Molecular weight	19.6 kDa

Components and Storage

Formulation	Solution protein.
	Dissolved in sterile PBS buffer.
	This solution can be diluted into other aqueous buffers. Centrifuge the vial prior to opening.

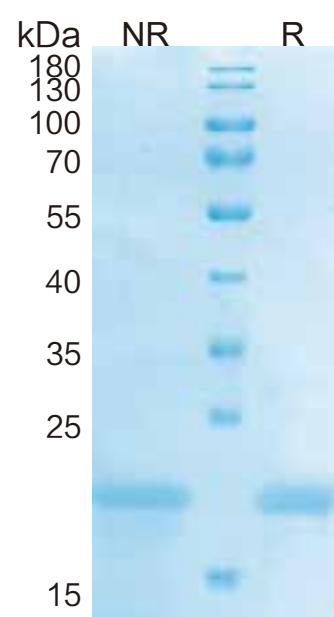
Storage and Stability	Avoid repeated freeze-thaw cycles.
	It is recommended that the protein be aliquoted for optimal storage.
	12 months from date of receipt, -20 to -70 °C as supplied.

Shipping	Shipping with dry ice.
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Quality

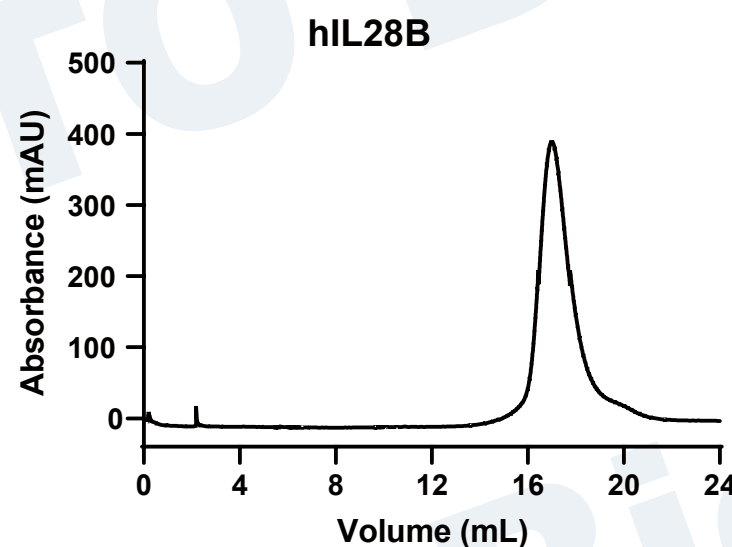
Purity	> 95%, determined by SDS-PAGE
Endotoxin Level	<0.010 EU per 1 ug of the protein by the LAL method
Activity	Measured in an anti-viral assay using HepG2 human hepatocellular carcinoma cells infected with encephalomyocarditis (EMC) virus.
	The EC50 for this effect is 0.1-0.5 ng/mL.

SDS-PAGE



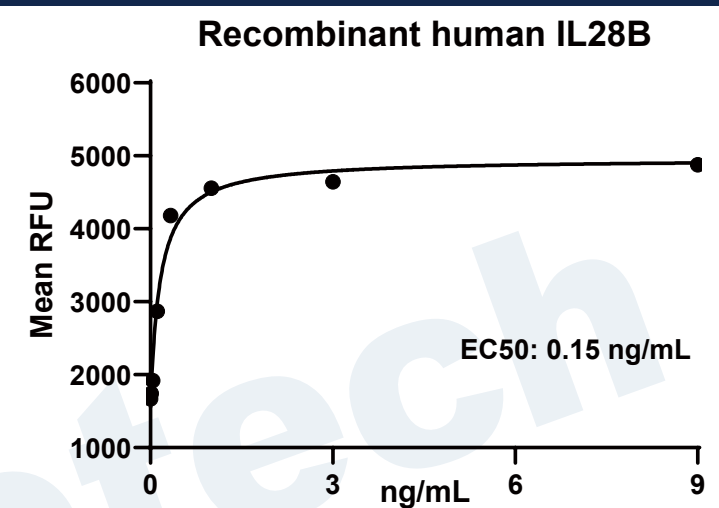
4 ug/lane protein was resolved with SDS-PAGE under non-reducing (NR) and reducing (R) conditions and visualized by Coomassie Blue staining.

Gel filtration



Size-exclusion chromatography of recombinant human IL28B protein (280 nm absorbance)

Bioactivity



Recombinant human IL28B (Catalog # HF-1028B) anti-viral activity using HepG2 human hepatocellular carcinoma cells infected with encephalomyocarditis (EMC) virus.

Background

Interleukin-28B (also named interferon-lambda 3, IFN-lambda 3), IL-28A (IFN-lambda 2) and IL-29 (IFN-lambda 1) are type III interferons that are class II cytokine receptor ligands (1-4). They are distantly related to members of the IL-10 family and type I IFN family (1-4). Human IL-28B cDNA encodes a 200 amino acid (aa) protein with a 25 aa signal peptide and a 175 aa mature protein that lacks N-glycosylation sites. Mature human IL-28B shares 64% and 75% aa sequence identity with mouse and canine IL-28B, respectively, and is active across species (5). Human IL-28B shares 94% and 69% aa identity with human IL-28A and IL-29, respectively (4). Type III interferons are widely expressed, but are mainly produced by antigen presenting cells in response to viruses and double-stranded RNA that interact with Toll-like receptors or RIG-1 family helicases (2-6). They signal through a widely expressed receptor that is a heterodimer of the IL-10 receptor beta (IL-10 R beta) and IL-28 receptor alpha (IL-28 R alpha; also called IFN-lambda R1) (2, 3, 7, 9). Interaction of either type I or type III IFNs with their receptors activates similar pathways, including JAK tyrosine kinase activation, STAT phosphorylation and formation of the IFN-stimulated regulatory factor 3 (ISGF-3) transcription factor complex (1-3). Both type I and III IFNs induce anti-viral activity and up-regulate MHC class I antigen expression (2-6). Cell lines responsive to type III IFNs are also responsive to type I IFNs, but in general, higher concentrations of type III IFNs are needed for similar in vitro responses (8). In vivo, however, type III IFNs enhance levels of IFN-gamma in serum, suggesting that the robust anti-viral activity of type III IFNs may stem in part from activation of the immune system (5, 7). Anti-proliferative and antitumor activity in vivo has also been shown for type III IFNs (9-11).

Reference

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