Datasheet

Cat. No. PH2020

Recombinant Human IL-28B/IFN-lambda 3

Information

Accession #	AAN28264
Alternate Names	interleukin-28B; IFN-lambda 3; IL28B; IL-28B; IL28C; interferon, lambda 3
Source	Human embryonic kidney cell, HEK293-derived human IL-28B/IFN-lambda 3 protein
Protein sequence	Arg30-Val200
M.Wt	19.6 kDa
Appearance	Solution protein.
Stability & Storage	Avoid repeated freeze-thaw cycles. It is recommended that the protein be aliquoted for optimal storage. 3 years from date of receipt, -20 to -70 °C as supplied.
Concentration	0. 2 mg/mL
Formulation	Dissolved in sterile PBS buffer.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. This solution can be diluted into other aqueous buffers.
Biological 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.
Shipping Condition	Shipping with dry ice.
Handling	Centrifuge the vial prior to opening.
Usage	For Research Use Only! Not to be used in humans.

Quality Control

Purity	> 95%, determined by SDS-PAGE.
Endotoxin	<0.010 EU per 1 ug of the protein by the LAL method.

Description

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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