

Rev03  
Update: Dec,14,2021

**DATASHEET**

# IFN- $\lambda$ 1, Human

Cat. No.: Z02742

## Product Introduction

<b>Species</b>	Human
<b>Protein Construction</b>	<b>IFN-<math>\lambda</math>1 (Gly20-Thr200)</b> Accession # Q8IU54
<b>Purity</b>	> 97% as analyzed by SDS-PAGE > 97% as analyzed by HPLC
<b>Endotoxin Level</b>	< 1 EU/ $\mu$ g of protein by LAL method
<b>Biological Activity</b>	Fully biologically active when compared to standard. The ED <sub>50</sub> as determined by an anti-viral assay using human HepG2 cells infected with encephalomyocarditis is less than 5.0 ng/ml, corresponding to a specific activity of > 2.0 $\times$ 10 <sup>5</sup> IU/mg.
<b>Expression System</b>	E. coli
<b>Theoretical Molecular Weight</b>	19.8 kDa
<b>Formulation</b>	Lyophilized from a 0.2 $\mu$ m filtered solution in PBS, pH 7.4.
<b>Reconstitution</b>	It is recommended that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute the lyophilized powder in sterile distilled water or aqueous buffer containing 0.1% BSA to a concentration of 0.1-1.0 mg/ml.
<b>Storage &amp; Stability</b>	Upon receiving, this product remains stable for up to 6 months at -70°C or -20°C. Upon reconstitution, the product should be stable for up to 1 week at 4°C or up to 3 months at -20°C. Avoid repeated freeze-thaw cycles.

## Background

**Target Background :** IL-28A, IL-28B, and IL-29, also named interferon- $\lambda$ 2 (IFN- $\lambda$ 2), IFN- $\lambda$ 3, and IFN- $\lambda$ 1, respectively, are newly identified class II cytokine receptor ligands that are distantly related to members of the IL-10 family (11-13% aa sequence identity) and the type I IFN family (15-19% aa sequence identity). The expression of IL-28A, B, and IL-29 is induced by virus infection or double-stranded RNA. All three cytokines exert bioactivities that overlap those of type I IFNs, including antiviral activity and up-regulation of MHC class I antigen expression. The three proteins signal through the same heterodimeric receptor complex that is composed of the IL-10 receptor  $\beta$  (IL-10 R $\beta$ ) and a novel IL-28 receptor  $\alpha$  (IL-28 R $\alpha$ , also known as IFN- $\lambda$ R1). Ligand binding to the receptor complex induces Jak kinase activation and STAT1 and STAT2 tyrosine phosphorylation.

**Synonyms :** Interferon- $\lambda$ 1; IFN $\lambda$ 1

**For laboratory research use only. Direct human use, including taking orally and injection and clinical use are forbidden.**