



## User Manual

**Interferon- $\lambda$ 1/IL-29 (IFN- $\lambda$ 1/IL-29) (Human)**

**Cat. No. HEILP-29013**

**Description:**

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.

**Source:**

*Escherichia coli*

**Unit:**

1 mg

**Reconstitution:**

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1% BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at  $< -20^{\circ}\text{C}$ . Further dilutions should be made in appropriate buffered solutions.

**Formulation:**

Lyophilized from a 0.2  $\mu\text{m}$  filtered concentrated solution in PBS, pH 7.4.

**Storage:**

This lyophilized preparation is stable at 2-8°C, but should be kept at -20°C for long term storage, preferably desiccated. Upon reconstitution, the preparation is stable for up to one week at 2-8°C. For maximal stability, apportion the reconstituted preparation into working aliquots and store at -20°C to -70°C. Avoid repeated freeze/thaw cycles.

**Molecular Weight:**

Approximately 19.8 kDa, a single non-glycosylated polypeptide chain containing 181 amino acids.

**Endotoxin:**

Less than 1 EU/μg of IFN-λ1/IL-29 as determined by LAL method.

**Usage:**

This material is offered by Cyagen Biosciences for research, laboratory or further evaluation purposes. FOR RESEARCH USE ONLY. NOT INTENDED FOR ANY ANIMAL OR HUMAN THERAP EUTIC OR DIAGNOSTIC USE.

**Biological Activity:**

The ED50 determined by an anti-viral assay using human HepG2 cells infected with encephalomyocarditis is less than 5 ng/mL, corresponding to a specific activity of  $> 2.0 \times 10^5$  IU/mg.

**Physical Appearance:**

Sterile filtered white lyophilized (freeze-dried) powder.

**AA Sequence:**

GPVPTSKPTT TGKGCHIGRF KSLSPQELAS FKKARDALEE SLKLKNWSCS

SPVFPGNWDL RLLQVRERPV ALEAELALT LKVLEAAAGPA LEDVLDQPLH  
TLHHILSQLQ ACIQPQPTAG PRPRGRLHHW LHRLQEAPKK ESAGCLEASV  
TFNLFRLLTR DLKYVADGNL CLRTSTHPES T

**Purity:**

> 97% by SDS-PAGE and HPLC analyses.

Material Safety Data Sheets (MSDSs) are available upon request.

The Certificate of Analysis (COA), which provides detailed quality control information for each product, is also available at the Cyagen website.

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