

MOUSE INTERLEUKIN-28B/INTERFERON-LAMBDA 3, CARRIER FREE

Product Number: 12821-1

Lot Number:

Size: 25 µg

Description: Mouse Interleukin-28B/Interferon-lambda 3, Carrier Free

Source: A DNA sequence encoding the mature mouse IL-28B/IFN-λ3 (Asp 20 - Val 193) [Kotenko, S.V. et al., 2003, *Nat. Immunol.* 4(1):69 - 77] was expressed in *E. coli*.

Form: Lyophilized

Buffer: Phosphate-buffered saline (PBS)

Reconstitution: It is recommended that sterile PBS be added to the vial to prepare a stock solution of no less than 100 µg/mL.

Endotoxin: < 1 EU/µg

Molecular Weight: The 175 amino acid residue methionyl form of recombinant mouse IL-28B has a predicted molecular mass of approximately 19.7 kDa.

Purity: > 95%

Synonyms: Mu IL-28B; Mu IFN-λ3

Accession #: NP_796370

Assays Used to Measure Bioactivity: Human HepG2 cells infected with encephalomyocarditis virus [Sheppard, P. et al., 2003, *Nature Immunol.* 4:63]. The ED₅₀ for this effect is typically 7.5 - 37.5 ng/mL.

Shipping Conditions: Wet Ice

Physical State of Product During Shipping: Lyophilized

Special Conditions/Comments: After receipt, this product should be kept at -70 °C or below for retention of full activity. Upon reconstitution, this cytokine can be stored under sterile conditions at 2 °C to 8 °C for one month or at -20 °C to -70 °C in a manual defrost freezer for three months without detection loss of activity. Avoid repeated freeze-thaw cycles. For more information on protein handling, visit the PBL website at www.interferonsource.com.

Product Information: Human IL-28A, IL-28B, and IL-29, also named interferon- λ 2 (IFN- λ 2), IFN- λ 3, and IFN- λ 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 type I IFN family (15 - 19% aa sequence identity).¹⁻³ The genes encoding these three cytokines are localized to chromosome 19 and each is composed of multiple exons. The exon organization of these genes is also found in the IL-10 family genes but is distinct from the type I IFNs, which are encoded within a single exon, 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 β (IL-10 R β) and a novel IL-28 receptor α (IL-28 R α , also known as IFN- λ R1). Ligand binding to the receptor complex induces Jak kinase activation and STAT1 and STAT2 tyrosine phosphorylation. The phosphorylated STAT1 and STAT2 complex with IFN-regulatory factor 9 (IRF-9) to form the IFN-stimulated regulatory factor 3 (ISGF-3) transcription factor complex that is translocated to the nucleus. ISGF-3 binds to the IFN-stimulated response element (ISRE) present in the regulatory regions of the target genes. Mouse IL-28B cDNA encodes a 193 amino acid (aa) residue precursor protein with a putative 15 aa signal peptide. It shares 61%, 62% and 52% aa sequence identity with human IL-28A, human IL-28B and human IL-29, respectively.

References

1. Vilcek, J., 2003, *Nature Immunol.* 4:8 - 9.
2. Sheppard, P. et al., 2003, *Nature Immunol.* 4:63 - 68.
3. Kotenko, S.V. et al., 2003, *Nature Immunol.* 4:69 - 77.

For further product information visit www.interferonsource.com

Authorization

Released by: _____

Date:

This Product is for RESEARCH USE ONLY and is not for sale or use in any commercial kit or for use in the preparation of any commercial antibody. NOT FOR DIAGNOSTIC OR THERAPEUTIC USE, OR USE IN HUMANS.