

## Recombinant Murine Interferon-lambda 3/Interleukin-28B (rMuIFN-λ3/IL-28B)

**ChemWhat Technical Data Sheet (TDS)** 

Catalog Number:

126-08B

Source:

Escherichia coli.

Molecular Weight:

Approximately 19.6 kDa, a single non-glycosylated polypeptide chain containing 174 amino acids.

Quantity:

 $5 \mu g / 20 \mu g / 1000 \mu g$ 

AA Sequence:

 ${\tt DPVPRATRLP\ VEAKDCHIAQ\ FKSLSPKELQ\ AFKKAKGAIE\ KRLLEKDMRC\ SSHLISRAWD}$ 

LKQLQVQERP KALQAEVALT LKVWENINDS ALTTILGQPL HTLSHIHSQL QTCTQLQATA

EPKPPSRRLS RWLHRLQEAQ SKETPGCLED SVTSNLFQLL LRDLKCVASG DQCV

**Purity:** 

> 98 % by SDS-PAGE and HPLC analyses.

**Biological Activity:** 

Fully biologically active when compared to standard. The  $\mathrm{ED}_{50}$  as determined by an anti-viral assay

using human HepG2 cells infected with encephalomyocarditis is less than 30 ng/ml, corresponding to

a specific activity of  $> 3.3 \times 10^4$  IU/mg.

Physical Appearance:

Sterile Filtered White lyophilized (freeze-dried) powder.

Formulation: Endotoxin: Lyophilized from a 0.2  $\mu$ m filtered concentrated solution in PBS, pH 7.4. Less than 1 EU/ $\mu$ g of rMuIFN- $\lambda$ 3/IL-28B as determined by LAL method.

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  $\leq$  -20  $\mathbb C$ . Further dilutions should be made in appropriate buffered solutions.

Shipping:

The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature

recommended below.

Stability & Storage:

Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

12 months from date of receipt, -20 to -70 °C as supplied.

1 month, 2 to 8 °C under sterile conditions after reconstitution.

• 3 months, -20 to -70 °C under sterile conditions after reconstitution.

Usage:

ChemWhat Limited in UK offers this branded product for research, development or further

evaluation purposes. NOT FOR HUMAN USE.

## Murine Interferon-lambda 3/Interleukin-28B

Interferon lambda 3 (IFN-λ3), also named as interleukin 28B (IL28B), is a protein encoded by the IL28B gene. IL28B, IL28A and IL29 are three closely related cytokine genes that form a cytokine gene cluster on a chromosomal region mapped to 19q13. Expression of the cytokines encoded by these three genes can be induced by viral infection. All three cytokines have been shown to interact with a heterodimeric class II cytokine receptor that consists of interleukin 10 receptor beta (IL-10Rβ) and interleukin 28 receptor alpha (IL-28Rα). IFN-λ3 is a cytokine with immune-modulatory activity. It up regulates MHC class I antigen expression and displays potent antiviral activity and antitumor activity, also plays an important role in Toll-like receptor (TLR)-induced antiviral defense and in the antiviral immune defense in the intestinal epithelium. In individuals with chronic hepatitis C, the presence of specific polymorphisms near this gene has been associated with an increased response in treatment for the condition with interferon and ribavirin. The same polymorphisms were also demonstrated at higher frequencies in individuals infected with hepatitis C who cleared the infection spontaneously, compared to those that developed chronic hepatitis from the condition. Murine IFN-λ3 shares 63 % amino acid sequence identity with human IFN-λ3.

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