

**DESCRIPTION**

**Source** Human embryonic kidney cell, HEK293-derived  
Val26-Val200  
Accession # Q8IZJ0

**N-terminal Sequence Analysis** Val26 & Val28

**Predicted Molecular Mass** 20 kDa

**SPECIFICATIONS**

**SDS-PAGE** 20-23 kDa, reducing conditions

**Activity** Measured in an anti-viral assay using HepG2 human hepatocellular carcinoma cells infected with encephalomyocarditis (EMC) virus. Sheppard, P. *et al.* (2003) *Nat. Immunol.* **4**:63.  
The ED<sub>50</sub> for this effect is 5-25 ng/mL.

**Endotoxin Level** <0.10 EU per 1 µg of the protein by the LAL method.

**Purity** >95%, by SDS-PAGE with silver staining.

**Formulation** Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

**PREPARATION AND STORAGE**

**Reconstitution** Reconstitute at 100 µg/mL in PBS.

**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.

**BACKGROUND**

IL-28A (Interferon-λ2; IFN-λ2), IL-28B/IFN-λ3, and IL-29/IFN-λ1 are type III interferons which are distantly related to IL-10 family and type I IFN family cytokines (1-3). Mature human IL-28A is an approximately 22-25 kDa protein that shares 66% amino acid (aa) sequence identity with mouse and rat IL-28A and shows cross-species activity (4). It shares 96% and 70% aa sequence identity with human IL-28B and IL-29, respectively. Type III interferons are upregulated in response to viral infection, and they act predominantly on epithelial cells through a receptor complex that contains IL-10 Rβ and IL-28 Rα/IFN-γ R1 (4-6). Type III IFNs function as anti-viral molecules and induce the upregulation of MHC class I antigen (4, 5, 7). IL-28A promotes the Th1 polarization of dendritic cells in the airway (e.g. production of IL-12 p70 and IFN-γ) and inhibits Th2 and Th17 mediated inflammation (8). In the liver, however, the IL-28A induced Th1 cytokine response contributes to inflammation in T cell mediated hepatitis (9). IL-28A additionally exhibits anti-tumor activity, in part by enhancing IL-12 dependent anti-tumor CTL responses *in vivo* (10-12). In contrast, it is up-regulated in invasive bladder cancer where it promotes tumor cell migration (13).

**References:**

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