

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 ED₅₀ for this effect is 5-25 ng/mL.

Endotoxin Level <0.10 EU per 1 μ g of the protein by the LAL method.

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

Formulation Lyophilized from a 0.2 μ m filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 100 μ g/mL in PBS containing at least 0.1% human or bovine serum albumin.

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- λ 2; IFN- λ 2), IL-28B/IFN- λ 3, and IL-29/IFN- λ 1 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 R β and IL-28 R α /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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