

Product Information

IL28 β human, recombinant, expressed in HEK 293 cells, cell culture tested

Product Number **I1288**
Storage Temperature $-20\text{ }^{\circ}\text{C}$

Synonyms: Interferon lambda-3, IFN-lambda-3, Cytokine Zcyto22, Interleukin-28B, IL-28B

Product Description

Recombinant human IL28 β is expressed in HEK 293 cells with a calculated molecular mass of ~ 20 kDa. This protein is manufactured in human cells using an all-human production system, with fully defined chemical ingredients and with no serum. The human cell expression system allows human-like folding, and often supports better stability of the protein in culture. The protein is produced with no artificial tags.

UniProt: Q8IZI9

IL28 β is a newly-discovered type III interferon, with antiviral, antiproliferative, and immunomodulatory functions.¹ Type III IFNs share homology with IL-10 and the IL-10R2 receptor subunit, leading to the speculation that these cytokines might be evolutionarily related.² It was recently found that polymorphisms in IFN-lambda-4 (another type III interferon) are associated with circulating IL28 β , and higher plasma IL28 β are associated with higher production of antibodies to HBV surface antigen.³ IL28 β is associated with the extent of lupus activity, in particular with active serosal and cutaneous disease.⁴ Combined treatment with IL28 β and sorafenib (a small molecule multikinase inhibitor) facilitates a synergistic effect on suppressing hepatocellular carcinoma cancer growth and promoting cell apoptosis *in vitro* and *in vivo*.⁵

This product is lyophilized from phosphate buffered saline (PBS), pH 7.4, with no carrier proteins. It is aseptically filled.

The biological activity of recombinant human IL28 β is tested in culture in a viral resistance assay using A549 adenocarcinomic human alveolar basal epithelial cells, infected with encephalomyocarditis (EMC) virus. The ED₅₀ is defined as the effective concentration of IL28 β that allows 50% cell growth in an antiviral cell based bioassay.

EC₅₀: ≤ 1.0 ng/mL

Purity: $\geq 95\%$ (SDS-PAGE)

Endotoxin level: ≤ 1.0 EU/ μg IL28 β (LAL)

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

Briefly centrifuge the vial before opening. Reconstitution of the protein in sterile, ultrapure water to a final concentration of 100 $\mu\text{g}/\text{mL}$ is recommended.

Storage/Stability

Store the lyophilized product at $-20\text{ }^{\circ}\text{C}$. The product is stable for at least 2 years as supplied.

After reconstitution, it is recommended to store the protein in working aliquots at $-20\text{ }^{\circ}\text{C}$.

References

1. Wells, A.I., and Coyne, C.B., Type III Interferons in Antiviral Defenses at Barrier Surfaces. *Trends Immunol.*, **39(10)**, 848-858 (2018).
2. Schneider, W.M. et al., Interferon-stimulated genes: a complex web of host defenses. *Annu. Rev. Immunol.*, **32**, 513-545 (2014).
3. Grzegorzewska, A.E. et al., Interferon- $\lambda 3$ as a Predictor of Survival in Hemodialysis Patients. *Curr. Mol. Med.*, (2018).
4. Amezcua-Guerra L.M. et al., Type III Interferons in Systemic Lupus Erythematosus: Association Between Interferon $\lambda 3$, Disease Activity, and Anti-Ro/SSA Antibodies. *J. Clin. Rheumatol.*, **23(7)**, 368–375 (2017).
5. Yan, Y. et al., Synergy with interferon-lambda 3 and sorafenib suppresses hepatocellular carcinoma proliferation. *Biomed. Pharmacother.*, **(88)**, 395-402 (2017).

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