Technical Data Sheet

Recombinant human IL-21 protein

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Lot Specific Information

Lot Number: **Lot Specific***

Total Protein: **Lot Specific***

*This information will be noted on the certificate of analysis that ships with this product.

Shelf Life

This product has a guaranteed shelf-life of one year from the date of customer receipt when stored as recommended.

Product Information

Catalog Number:	**RP107**
Protein Identity:	Confirmed identity with expected mass, determined by mass spectrometry
Reported Applications:	Stimulation of activated T cell proliferation Development, survival, and function of T cells Activation of T-cells and natural killer (NK) cells Differentiation of B cells into plasma cells Stimulation of activated B cell proliferation Development and formation of B cells
Formulation:	Lyophilized, white powder
Endotoxin:	≤0.7 EU/mg, LAL assay
Purity:	≥95%; SDS-PAGE
Reconstitution:	Resuspend in 10 mM HCl (Reconstitution Buffer A) at >50 µg/ml. Once reconstituted, store in single-use aliquots to avoid freeze-thaw cycles. Store reconstituted protein at -20 °C to -80 °C for a maximum of 12 months or until the expiry date if sooner.
Sterility:	Sterile
Production:	Microbial. Expressed in E. coli
Molecular Weight:	15.3 kDa (monomer)
Bioactivity Assay:	No significant difference between EC50 of reference and test lots
Mycoplasma:	Negative

Description

Recombinant human IL-21 protein (interleukin-21) is a potent immunoregulatory cytokine produced by activated natural killer T (NKT) cells, T helper 17 (Th17) cells and T follicular helper (TFH) cells, with expression induced by T cell receptor signaling and by cytokines such as IL-1β, IL-6 and IL-27. IL-21 signals through a heterodimeric receptor composed of the IL-21-specific receptor (IL-21R) and the common γ-chain (γC), which is shared with IL-2, IL-4, IL-7, IL-9 and IL-15, activating the JAK-STAT, MAPK and PI3K pathways. It stimulates the activation, proliferation and survival of CD8+ T cells and NKT cells, promotes Th17 polarization and, together with TGF-β1, drives the differentiation of human naive CD4+ T cells into Th17 cells. IL-21 is also critical for B cell activation, proliferation, differentiation, apoptosis, antibody production and differentiation into plasma cells, and it is required for dendritic cell migration to draining lymph nodes. These broad immunostimulatory effects have made IL-21 a therapeutic target of interest, including for increasing the susceptibility of myeloid leukemia cells to CAR T cell therapy and improving survival, making recombinant IL-21 a key reagent for immunology and immunotherapy research. This protein is optimized for in vivo and functional applications: low-endotoxin, tag-free, and carrier-free, supporting reproducible performance in demanding preclinical and bioactivity studies. Species reactivity: human.

Storage

Store at the stock concentration at 4°C . **Do not freeze.**
It is not uncommon for a floccule or precipitate to appear during storage. The floccule is typically buffer salts precipitating out

of solution or a small bit of protein aggregation. For information on how to remove floccules or precipitates see our FAQ's at https://bioxcell.com/faqs.

Store lyophilized protein between -20 °C and -80 °C until the date of expiry. Avoid freeze-thaw cycles

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