

Recombinant Human IL-21

Cat# HCT-I21

Source: Human cells derived.

Structure: Noncovalently linked homotrimer

Purity: >95% by SDS-PAGE

Endotoxin Level: <1EU/ug

Molecular Weight: 15.4kDa

Formulation: Lyophilized from a 0.2 μ m filtered solution in PBS without carrier protein

Activity Assay

Fully biologically active when compared to standard. The ED50 as determined by a cell proliferation assay using human N1186 T cells is less than 20 ng/ml, corresponding to a specific activity of $> 5.0 \times 10^4$ IU/mg.

Reconstitution

Briefly centrifuge the vial before opening. It is recommended to reconstitute the protein in sterile PBS containing 0.1% endotoxin-free recombinant human serum albumin.

Stability & Storage

Use a manual defrost freezer and avoid repeated freeze-thaw cycles. In general: 12 months from date of receipt, -20 to -80°C as supplied. 1 month, 2 to 8°C under sterile conditions after reconstitution. 3 months, -20 to -80°C under sterile conditions after reconstitution.

Protein Description

Interleukin-21 (IL-21) is a pleiotropic cytokine

produced by CD4+ T cells in response to antigenic stimulation. Its action generally enhances antigen-specific responses of immune cells. The biological effects of IL-21 include induction of differentiation of T-cells-stimulated B-cells into plasma cells and memory B-cells, stimulation (in conjunction) with IL-4 of IgG production, and induction of apoptotic effects in naïve B-cells and stimulated B-cells in the absence of T-cell signaling. Additionally, IL-21 promotes the anti-tumor activity of CD8+ T-cells and NK cells. IL-21 exerts its effect through binding to a specific type I cytokine receptor, IL-21R, which also contains the gamma chain (γ) found in other cytokine receptors including IL-2, IL-4, IL-7, IL-9 and IL-15. The IL-21/IL-21R interaction triggers a cascade of events which includes activation of the tyrosine kinases JAK1 and JAK3, followed by activation of the transcription factors STAT1 and STAT3.

References

- Chtanova T, et al. (2004). *J. Immunol.* 173 (1): 68-78.
- Parrish-Novak J, et al. (2000)*Nature.* 408 (6808): 57-63.