

Product Information

Interleukin-21

Human, Recombinant
Expressed in *E. coli*

Product Number **I 3907**

Product Description

Recombinant Human Interleukin-21 (IL-21)¹ is produced from a DNA sequence encoding the protein sequence (Gln 32 – Ser 162) of mature human IL-21. The protein is expressed in *Escherichia coli*. The methionyl form of recombinant human IL-21 (132 amino acids) has a predicted molecular mass of approximately 15.4 kDa. At the amino acid level, human and mouse IL-21 are approximately 57% identical.

Interleukin-21 (IL-21) is a novel cytokine that is most related to IL-2, IL-4, and IL-15. The receptor for IL-21 (IL-21R), also termed NILR for novel interleukin receptor,^{1,2} forms a complex with IL-2 R γ (γ_c) and mediates IL-21 signaling.^{3,4} Together, IL-21 and its receptor (IL-21 R) appear to have important roles in the regulation of the immune system. This complex regulates the proliferation and maturation of NK (natural killer), B, and T cell populations. IL-21 and its receptor activate the JAK-STAT signaling pathway. IL-21 is expressed in activated T cells.

Reagent

Recombinant Human Interleukin-21 is supplied as approximately 25 μ g of protein lyophilized from a 0.2 μ m filtered solution in phosphate buffered saline (PBS) containing 1.25 mg of bovine serum albumin.

Preparation Instructions

Reconstitute the contents of the vial using 0.2 μ m filtered phosphate buffered saline containing at least 0.1% human serum albumin or bovine serum albumin. Prepare a stock solution of no less than 10 μ g/ml.

Storage/Stability

Store at -20 °C. Upon reconstitution, the product may be stored at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. Do not store in a "frost-free" freezer.

Product Profile

Recombinant Human Interleukin-21 is measured by its ability to induce proliferation of human N1186 T cells.⁵

The ED₅₀ for this effect is typically 10-40 ng/ml.

The ED₅₀ is defined as the effective concentration of growth factor that elicits a 50% increase in cell growth in a cell based bioassay.

Purity: > 97% as determined by SDS-PAGE, visualized by silver stain.

Endotoxin level is < 0.1 ng/ μ g cytokine as determined by the LAL (*Limulus* amoebocyte lysate) method.

References

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2. Ozaki, K., et al., *Proc. Natl. Acad. Sci. USA*, **97**, 11439-11444 (2000).
3. Asao, H., et al., *J. Immunol.*, **167**, 1-5 (2001).
4. Vosshenrich, C.A., et al., *Curr. Biol.*, **11**, R175-R177 (2001).
5. Berneman, Z.W., et al., *Proc. Natl. Acad. Sci. USA*, **89**, 3005 (1992).

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