

**Animal-Free Recombinant Human IL-21**  
**Catalog # PBG10523****Specification**

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**Animal-Free Recombinant Human IL-21 - Product Information****Animal-Free Recombinant Human IL-21 - Additional Information****Description**

IL-21 is a pleiotropic cytokine produced by CD4<sup>+</sup> 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<sup>+</sup> 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 ( $\gamma c$ ) 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. Recombinant human IL-21 is a 15.4 kDa protein consisting of 132 amino acid residues.

**BiologicalActivity**

**Assay #1:** Determined by its ability to proliferate activated B cells.   
**Assay #2:** Determined by its ability to induce human CD40L-activated naïve B cells to undergo Ig isotype switching to IgG, using an IL-21 concentration of 50 ng/ml. Maximal activity was achieved after approximately five cell divisions.   
Avery, D.T. et. al. (2008) J. Immunol. 181, 1767-1779.

**Authenticity**

Verified by N-terminal and Mass Spectrometry analyses (when applicable).

**Endotoxin**

Endotoxin level is <0.1 ng/  $\mu$ g of protein (<1EU/  $\mu$ g).

**Protein Content**

Verified by UV Spectroscopy and/or SDS-PAGE gel.

**Storage**

-20°C

**Precautions**

Animal-Free Recombinant Human IL-21 is for research use only and not for use in diagnostic or therapeutic procedures.

**Animal-Free Recombinant Human IL-21 - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### **Animal-Free Recombinant Human IL-21 - Images**