

Human IL-21 Protein (E. coli), premium grade

Catalog # IL1-H5114



Features and Advantages

- Seamless Transition from Preclinical to Clinical: Same cell clone, process, and QC as GMP products.
- Enhanced Production Standards: AOF raw materials, pharma-grade excipients, Grade B+A (ISO 5) environment.
- Comprehensive Quality Control: Additional strict testing for process impurities, sterility, and mycoplasma.
- Cost-Effective Solution: GMP-comparable quality at an economical price for early development.
- Risk Mitigation: Enhanced safety through rigorous impurity control and comprehensive testing.

Synonym

IL21, Za11, Interleukin-21

Source

Human IL-21 Protein (*E. coli*), premium grade (IL1-H5114) is expressed from *E. coli* cells. It contains AA Gln 30 - Ser 162 (Accession # [Q9HBE4-1](#)).

Predicted N-terminus: Met

It is produced under our rigorous quality control system that incorporates a comprehensive set of tests including sterility and endotoxin tests. Product performance is carefully validated and tested for compatibility for cell culture use or any other applications in the early preclinical stage.

GMP-L21H15 is the GMP version of this IL1-H5114. These two proteins display indistinguishable performance profiles, thereby ensuring a seamless transition for end users from early preclinical stage to later clinical phases.

Molecular Characterization

IL-21(Gln 30 - Ser 162)
Q9HBE4-1

This protein carries no "tag".

The protein has a calculated MW of 15.5 kDa. The protein migrates as 17 kDa±3 kDa when calibrated against [Star Ribbon Pre-stained Protein Marker](#) under reducing (R) condition (SDS-PAGE).

Endotoxin

Less than 0.01 EU per µg by the LAL method / rFC method.

Host Cell Protein

<0.5 ng/µg of protein tested by ELISA.

Host Cell DNA

<0.02 ng/µg of protein tested by qPCR.

Sterility

Negative

Mycoplasma

Negative

Purity

>95% as determined by SDS-PAGE.

>95% as determined by SEC-HPLC.

Formulation

Lyophilized from 0.22 µm filtered solution in PBS, pH7.4 with trehalose as protectant.

Contact us for customized product form or formulation.

Reconstitution

Please see Certificate of Analysis for specific instructions.

For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.

Storage

For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

ACRO Quality Management System

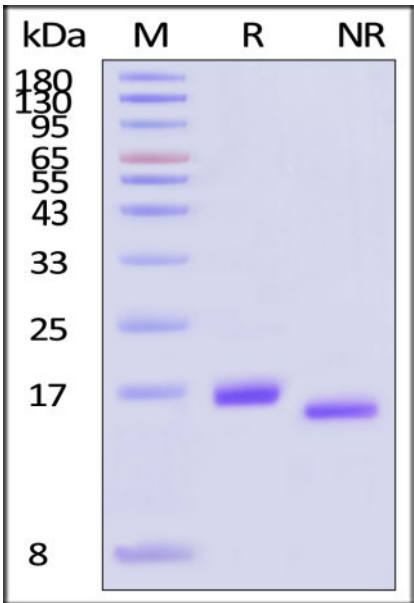
- [QMS\(ISO, GMP\)](#).
- [Quality Advantages](#)
- [Quality Control Process](#)

Quality Description

ACRO's Research-grade products are suitable for a wide range of cell culture applications, particularly for research use in academic institutions. These products are sterilized by filtration, followed by lyophilization where applicable. Typical specifications include endotoxin levels of <0.01 EU/μg and purities >95%. Biological activity is calibrated against WHO/NIBSC standards when available.

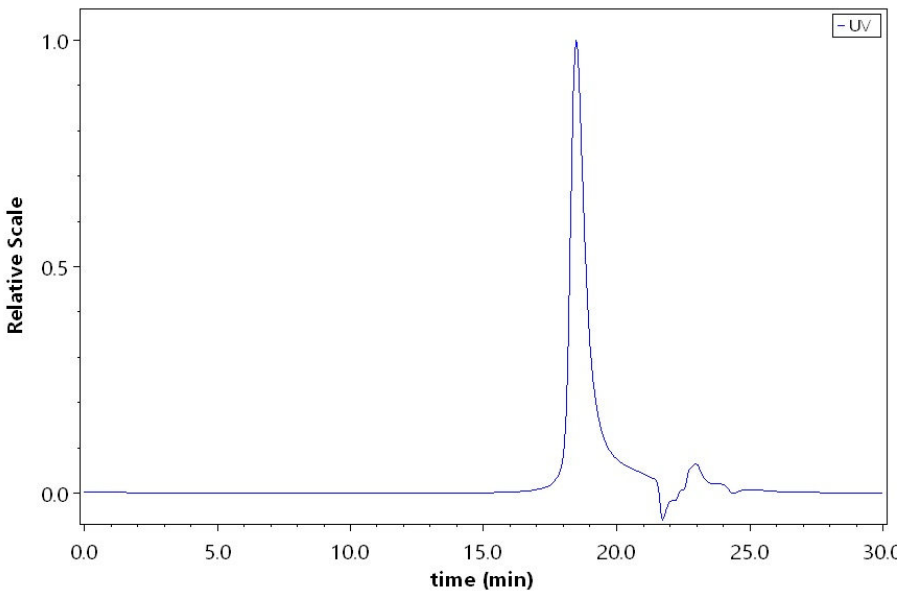
ACRO's Premium-grade (Pre-GMP) products are characterized by their high quality and enhanced safety profiles, making them ideal for early-stage discovery and manufacturing processes in cell therapy companies. A key advantage is their seamless transition to corresponding GMP-grade versions. Biological activity is calibrated against WHO/NIBSC standards when available. Typical specifications include endotoxin levels of <0.01 EU/μg and purities >95%. In addition, rigorous testing is conducted to ensure the absence of mycoplasma, HCD, and HCP, thereby guaranteeing product safety.

SDS-PAGE



Human IL-21 Protein (*E. coli*), premium grade on SDS-PAGE under reducing (R) and non-reducing (NR) conditions. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95% (With [Star Ribbon Pre-stained Protein Marker](#)).

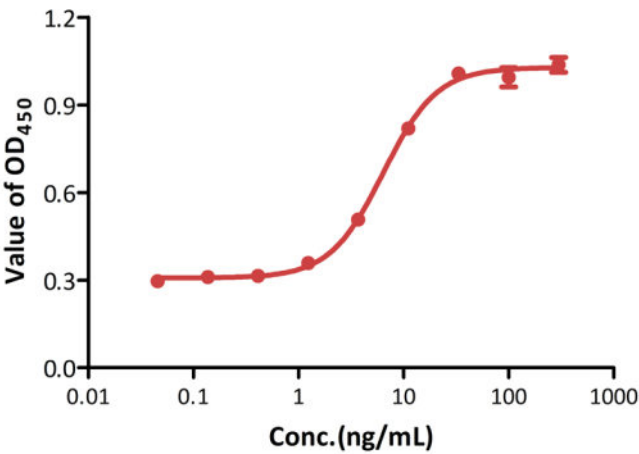
SEC-HPLC



The purity of Human IL-21 Protein (*E. coli*), premium grade (Cat. No. IL1-H5114) was greater than 95% as determined by SEC-HPLC.

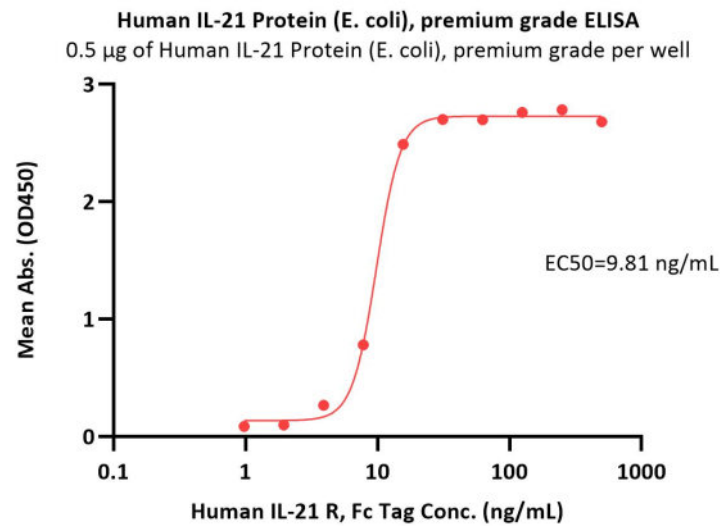
Bioactivity-CELL BASE

Human IL-21 Protein(*E. coli*), premium grade stimulates secretion of IFN-γ by NK92



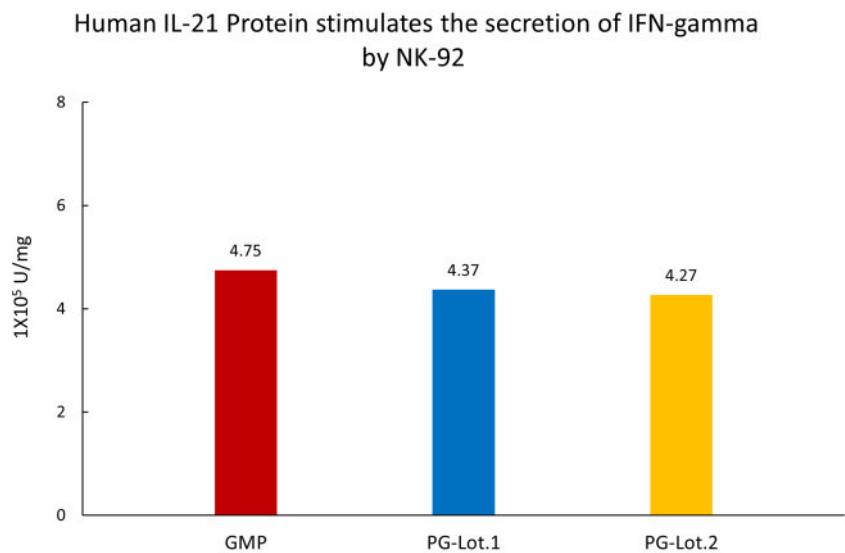
Human IL-21 Protein (*E. coli*), premium grade (Cat. No. IL1-H5114) stimulates secretion of IFN-γ by NK-92 human natural killer lymphoma cells stimulated with GMP Human IL-15 Protein (Cat. No. GMP-L15H13). The specific activity of Human IL-21 Protein (*E. coli*), premium grade is > 1.00 × 10⁵ U/mg (QC tested).

Bioactivity-ELISA



Immobilized Human IL-21 Protein (*E. coli*), premium grade (Cat. No. IL1-H5114) at 5 µg/mL (100 µL/well) can bind Human IL-21 R, Fc Tag (Cat. No. ILR-H5257) with a linear range of 1-16 ng/mL (QC tested).

Bioactivity-Stability



Cell-based assay demonstrates batch-to-batch consistency between Acro's GMP and PG IL-21 (*E. coli*).

Background

Interleukin-21 (IL-21) is a secreted protein which belongs to the IL-15 / IL-21 family. Interleukin-21 / IL-21 belongs to a family of cytokines that bind to a composite receptor consisting of a private receptor (IL21R) and the common cytokine receptor gamma chain (gamma(C)). Interleukin-21 / IL-21 impacts a number of cell types, including CD8+ memory T cells, NK cells and subsets of CD4 memory T cells. The IL-21R is widely distributed on lympho-haematopoietic cells. 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. 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 γ chain (γc) 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.

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