Human IL-21 Protein, premium grade

Catalog # IL1-H5213

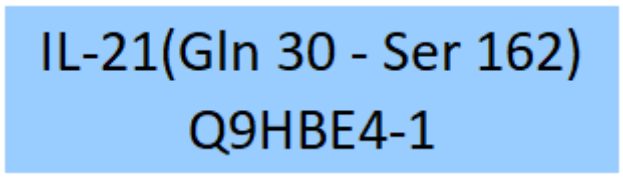
Synonym

IL21,Za11,Interleukin-21

Source

Human IL-21, premium grade(IL1-H5213) is expressed from human 293 cells (HEK293). It contains AA Gln 30 - Ser 162 (Accession # Q9HBE4-1).
Predicted N-terminus: Gln 30
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-L21H25 is the GMP version of this IL1-H5213. These two proteins display indistinguishable performance profiles, thereby ensuring a seamless transition for end users from early preclinical stag to later clinical phases.

Molecular Characterization



This protein carries no "tag".

The protein has a calculated MW of 15.5 kDa. The protein migrates as 16 kDa±3 kDa when calibrated against Star Ribbon Pre-stained Protein Marker under reducing (R) condition (SDS-PAGE) due to glycosylation.

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

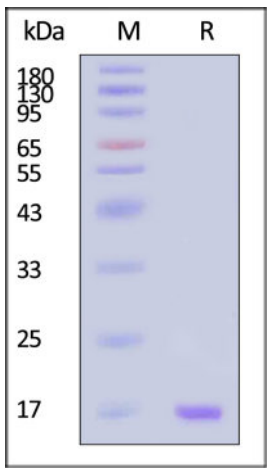
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

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.

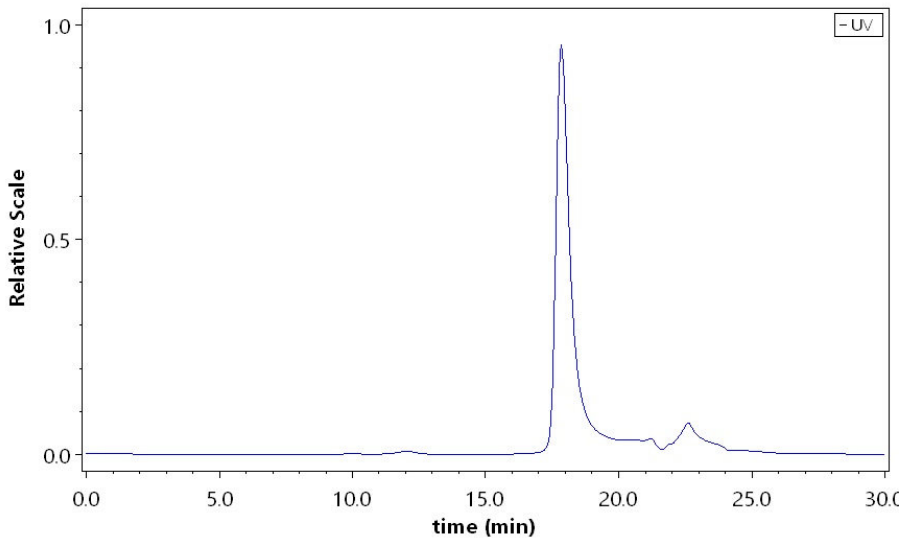
SDS-PAGE



Human IL-21, premium grade on SDS-PAGE under reducing (R) condition.
The gel was stained with Coomassie Blue. The purity of the protein is greater

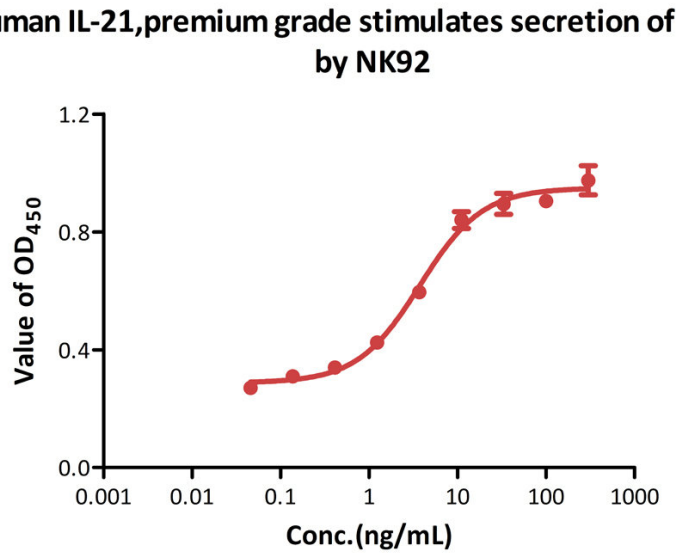
SEC-HPLC

than 95% (With Star Ribbon Pre-stained Protein Marker).



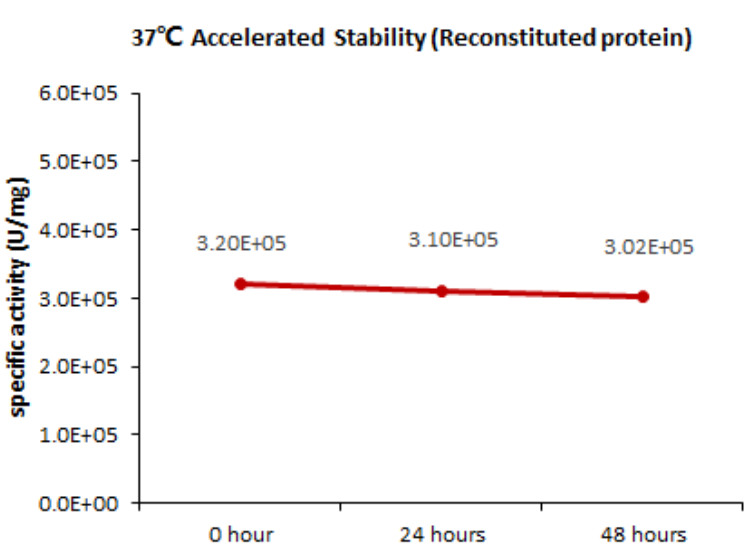
The purity of Human IL-21, premium grade (Cat. No. IL1-H5213) was greater than 95% as determined by SEC-HPLC.

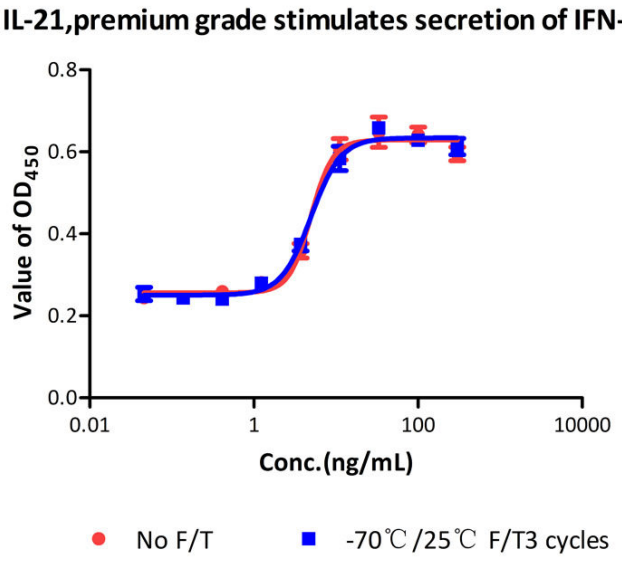
Bioactivity-CELL BASE



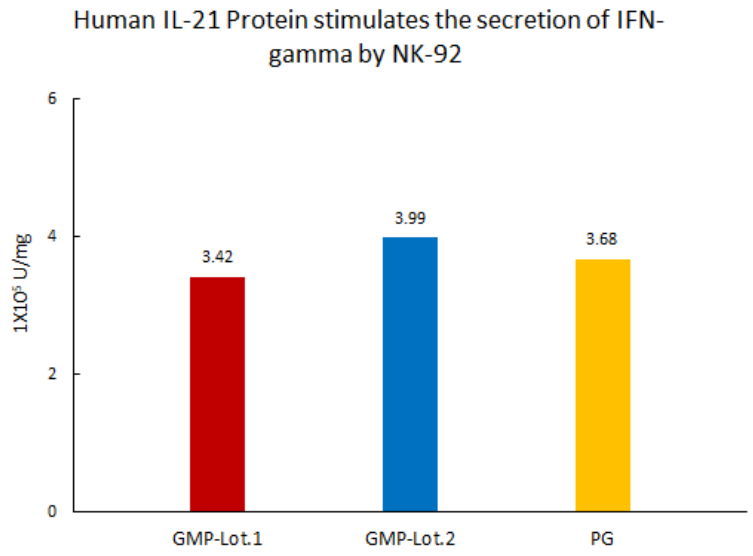
Human IL-21, premium grade (Cat. No. IL1-H5213) stimulates secretion of IFN-γ by NK-92 human natural killer lymphoma cells stimulated with 10 ng/mL Human IL-15, premium grade (Cat. No. IL5-H4117). The specific activity of Human IL-21, premium grade (Cat. No. IL1-H5213) is > 1.00×10^5 U/mg (QC tested).

Bioactivity-Stability





The Cell based assay shows that Human IL-21 Protein, premium grade (Cat. No. IL1-H5213) is stable at 37°C for 48 hours.



The Cell based assay shows batch-to-batch consistency between Acro's GMP and PG IL-21.

The Cell based assay shows that Human IL-21 Protein, premium grade (Cat. No. IL1-H5213) is stable after freezing and thawing 3 times.

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.