Synonym

IL12,p70,Interleukin-12

Source

Human IL-12 Protein, premium grade(IL2-H5210) is expressed from human 293 cells (HEK293). It contains AA Ile 23 - Ser 328 & Arg 23 - Ser 219 (Accession # P29460-1 & P29459-1).
Predicted N-terminus: Ile 23
Human IL-12 Protein, premium grade (IL2-H5210), designed for preclinical stage, has the same activity and performance with GMP Human IL-12 (GMP-L12H23), which enables a seamless transition from preclinical development to clinical phases. Premium Grade product offer a cost efficient alternative of GMP Grade products for the early development phase when safety of raw materials is not top priority. By using Premium Grade products in early development phase, you can transition easily into clinical and commercial phase without need to revalidate the raw materials and modify manufacturing process.

Molecular Characterization

This protein carries no "tag".

The protein has a calculated MW of 58.9 kDa. The protein migrates as 76 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.

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.

>90% as determined by SEC-MALS.

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

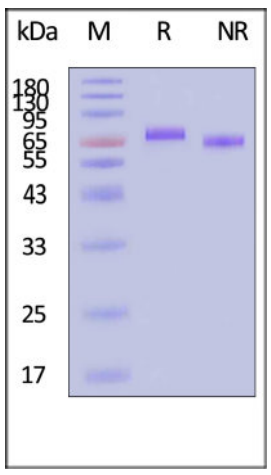
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

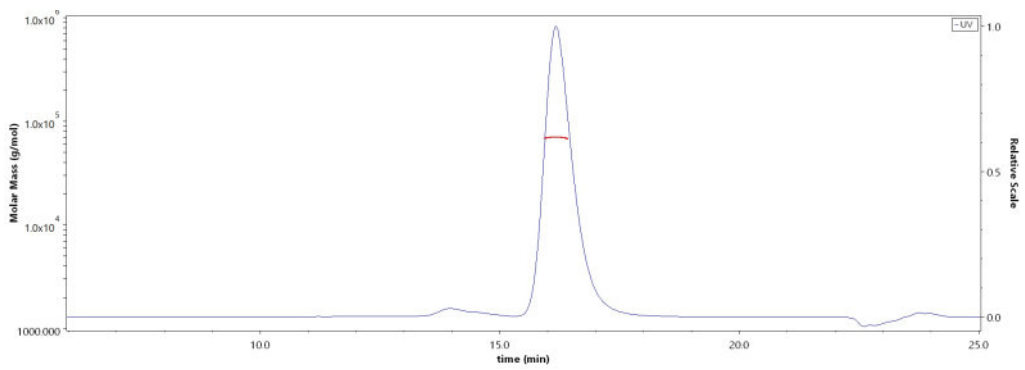
- -20°C to -70°C for 24 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE



Human IL-12 Protein, premium grade on SDS-PAGE under reducing (R) and non-reducing (NR) conditions. The gel was stained with Coomassie Blue. The

SEC-MALS



The purity of Human IL-12 Protein, premium grade (Cat. No. IL2-H5210) is more than 90% and the molecular weight of this protein is around 60-80 kDa

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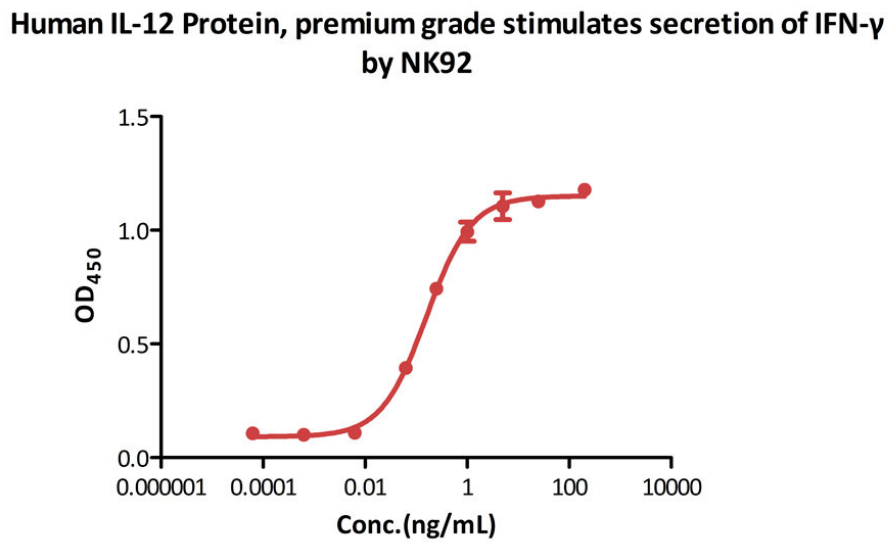
purity of the protein is greater than 95% (With Star Ribbon Pre-stained Protein Marker).

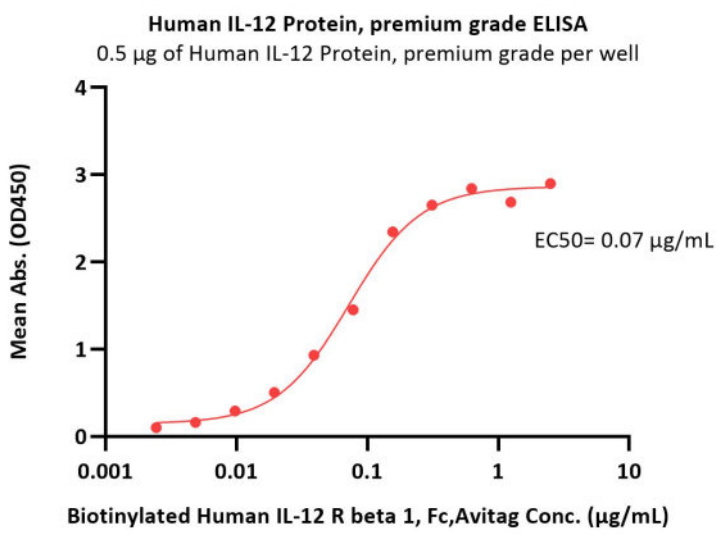
verified by SEC-MALS.
Report

Bioactivity-Bioactivity CELL BASE

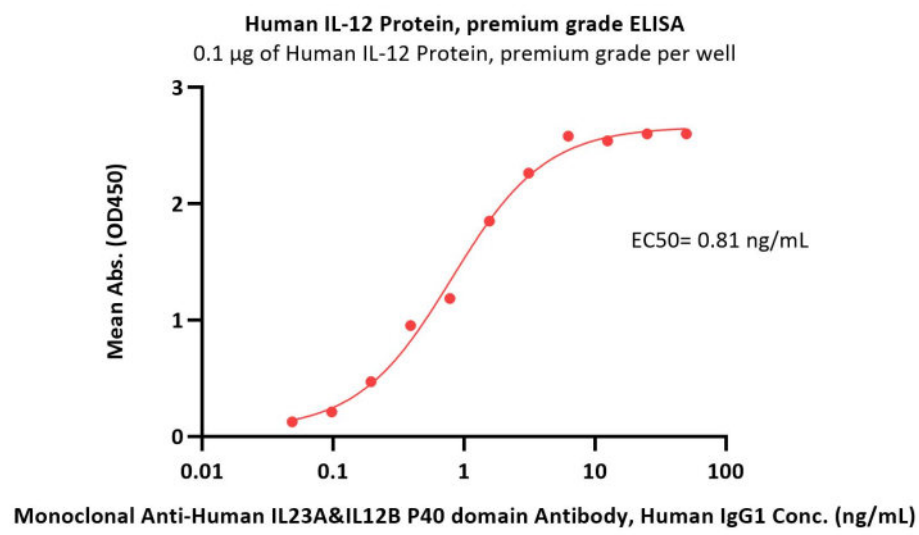


Human IL-12 Protein, premium grade (Cat. No. IL2-H5210) stimulates secretion of IFN-γ by NK-92 human natural killer lymphoma cells. The specific activity of Human IL-12 Protein, premium grade is > 1.00x10^7 IU/mg, which is calibrated against human IL-12 WHO International Standard (NIBSC code: 95/544) (QC tested).

Bioactivity-ELISA

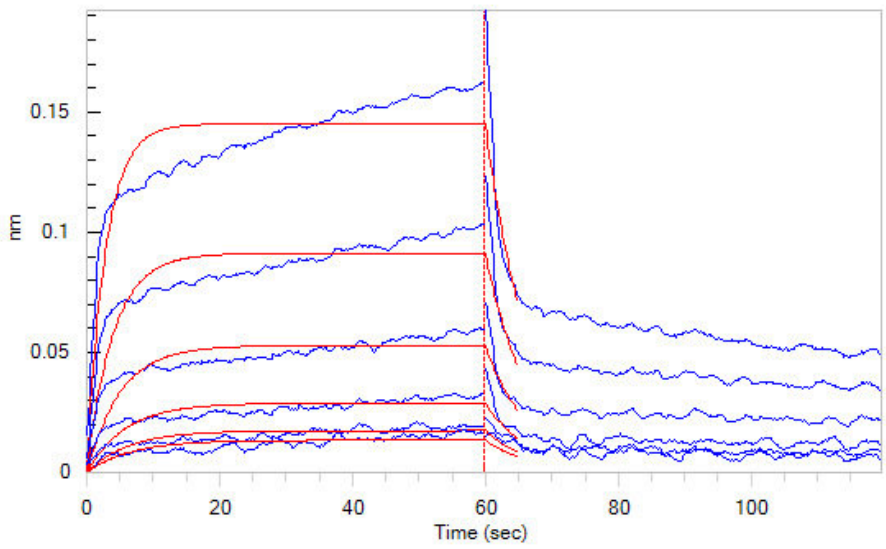


Immobilized Human IL-12 Protein, premium grade (Cat. No. IL2-H5210) at 5 μg/mL (100 μL/well) can bind Biotinylated Human IL-12 R beta 1, Fc,Avitag (Cat. No. ILB-H82F7) with a linear range of 0.002-0.156 μg/mL (QC tested).



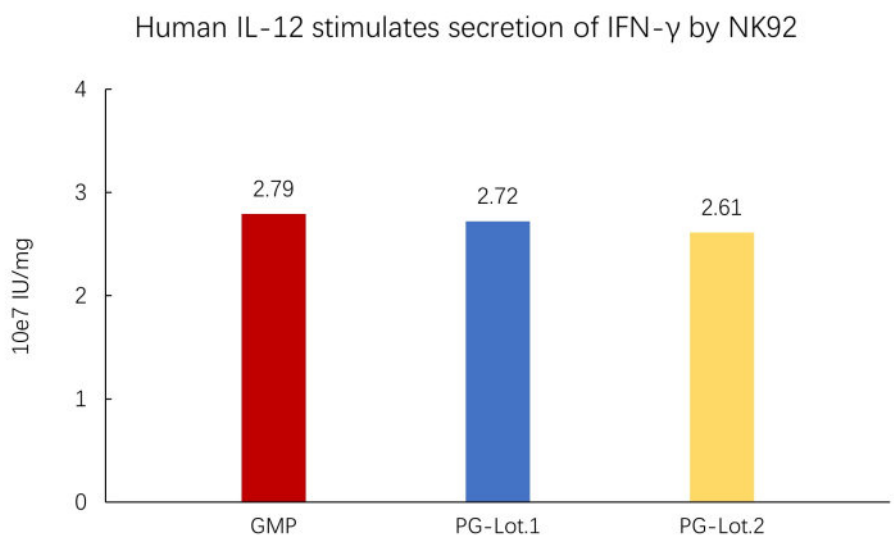
Immobilized Human IL-12 Protein, premium grade (Cat. No. IL2-H5210) at 1 μg/mL (100 μL/well) can bind Monoclonal Anti-Human IL23A&IL12B P40 domain Antibody, Human IgG1 with a linear range of 0.05-3 ng/mL (Routinely tested).

Bioactivity-BLI



Loaded Biotinylated Human IL-12 R beta 1, Fc,Avitag (Cat. No. ILB-H82F7) on SA Biosensor, can bind Human IL-12 Protein, premium grade (Cat. No. IL2-H5210) with an affinity constant of 2.6 μM as determined in BLI assay (ForteBio Octet Red96e) (Routinely tested).

Bioactivity-Stability



The Cell based assay shows batch-to-batch consistency between Acro's GMP and PG IL-12.

Background

Interleukin 12 (IL12) is also known as p70, and is an interleukin that is naturally produced by dendritic cells, macrophages and human B-lymphoblastoid cells (NC-37) in response to antigenic stimulation.IL12 is a heterodimeric cytokine, containing IL-12A (p35) and IL-12B (p40). IL-12 is involved in the differentiation of naive T cells into Th1 cells. It is known as a T cell-stimulating factor, which can stimulate the growth and function of T cells. It stimulates the production of IFN-γ and TNF-α from T cells and NK cells, and reduces IL-4 mediated suppression of IFN-γ. IL-12 plays an important role in the activities of natural killer cells and T lymphocytes. IL-12 also has anti-angiogenic activity, which means it can block the formation of new blood vessels.

Clinical and Translational Updates

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