Human IL-7 Protein, premium grade

Catalog # IL7-H4219

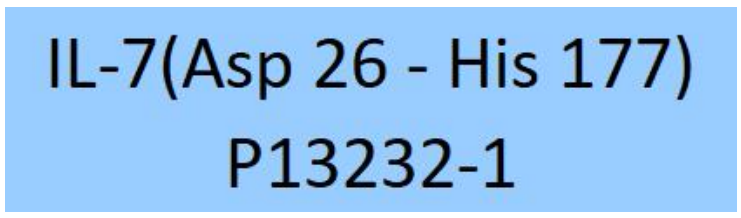
Synonym

IL7,Interleukin-7

Source

Human IL-7, premium grade(IL7-H4219) is expressed from human 293 cells (HEK293). It contains AA Asp 26 - His 177 (Accession # P13232-1).
Predicted N-terminus: Asp 26
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-L07H24 is the GMP version of this IL7-H4219. 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 17.4 kDa. The protein migrates as 23 kDa and 28 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 DNA Fluorescent Staining method.

Sterility

Negative

Mycoplasma

Negative.

Purity

>95% as determined by SDS-PAGE.

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

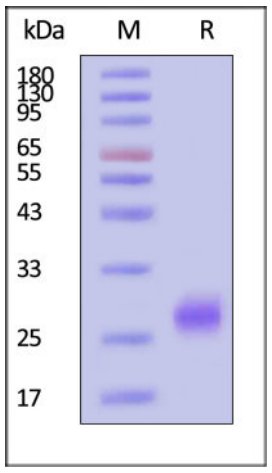
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

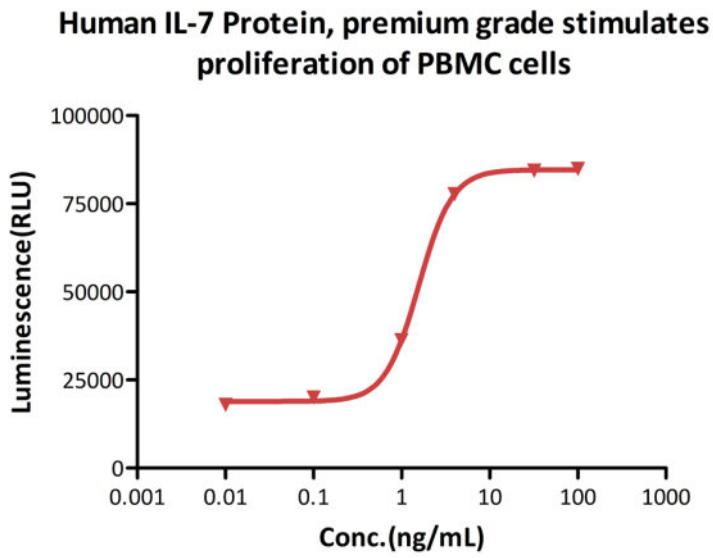
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE



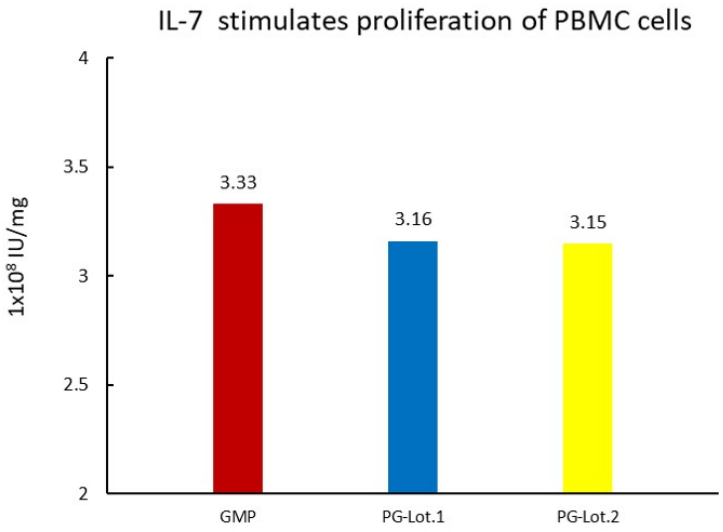
Human IL-7, premium grade on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95% (With Star Ribbon Pre-stained Protein Marker).

Bioactivity-CELL BASE



Human IL-7, premium grade (Cat. No. IL7-H4219) stimulates proliferation of PHA-P-activated human peripheral blood mononuclear cell (PBMC). The specific activity of Human IL-7, premium grade is > 1.00×10^8 IU/mg, which is calibrated against human IL-7 WHO International Standard (NIBSC code: 90/530) (QC tested).

Bioactivity-Stability



The Cell based assay shows batch-to-batch consistency between Acro's GMP and PG IL-7.

Background

Interleukin 7 is also known as IL7, IL-7, and is a hematopoietic growth factor secreted by stromal cells in the red marrow and thymus. It is also produced by keratinocytes, dendritic cells, hepatocytes, neurons, and epithelial cells, but is not produced by lymphocytes. IL-7 stimulates the differentiation of multipotent (pluripotent) hematopoietic stem cells into lymphoid progenitor cells, It also stimulates proliferation of all cells in the lymphoid lineage (B cells, T cells and NK cells). It is important for proliferation during certain stages of B-cell maturation, T and NK cell survival, development and homeostasis. IL-7 is a cytokine important for B and T cell development. This cytokine and the hepatocyte growth factor (HGF) form a heterodimer that functions as a pre-pro-B cell growth-stimulating factor. IL-7 binds to the IL-7 receptor, a heterodimer consisting of Interleukin-7 receptor alpha and common gamma chain receptor. Il-7 promotes hematological malignacies

(acute lymphoblastic leukemia, T cell lymphoma). Elevated levels of IL-7 have also been detected in the plasma of HIV-infected patients. IL-7 as an immunotherapy agent has been examined in many pre-clinical animal studies and more recently in human clinical trials for various malignancies and during HIV infection. IL-7 could also be beneficial in improving immune recovery after allogenic stem cell transplant.