

Human IL-2 Superior Stable Protein, premium grade

Catalog # IL2-H5113



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.

Synonyms

IL2, TCGF, lymphokine, Interleukin 2

Molecular Characterization

This protein carries no "tag".

The protein has a calculated MW of 15.5 kDa. The protein migrates as 14 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

<0.1 ng/µg of protein tested by ELISA.

Host Cell DNA

<0.0001 ng/µg of protein tested by qPCR.

Sterility

Negative

Mycoplasma

Negative

Purity

>95% as determined by SDS-PAGE.

Formulation

Lyophilized from 0.22 µm filtered solution in phosphate with protectants.

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.

Shipping and Storage

This product is shipped at ambient temperature.

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.

ACRO Quality Management System

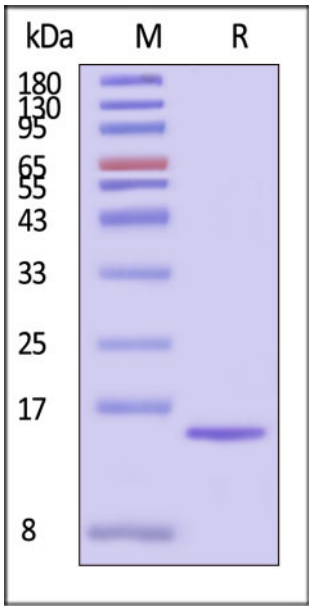
- [QMS\(ISO, GMP\)](#)
- [Quality Advantages](#)
- [Quality Control Process](#)

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.

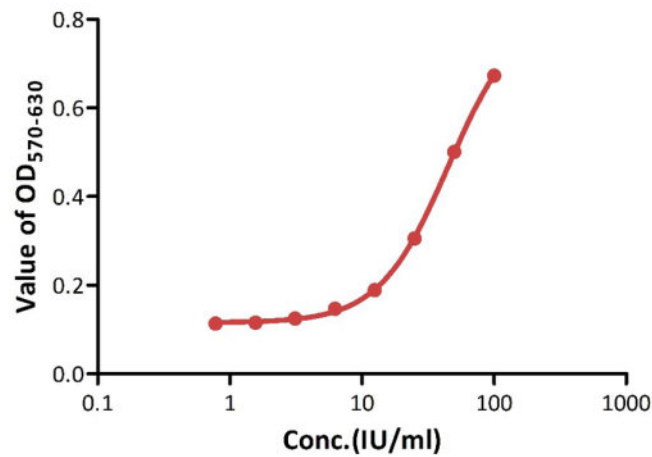
SDS-PAGE



Human IL-2 Superior Stable Protein, 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](#)).

Activity-CELL BASE

Human IL-2 Superior Stable Protein, premium grade stimulates proliferation of CTLL-2 cells



Human IL-2 Superior Stable Protein, premium grade (Cat. No. IL2-H5113) stimulates proliferation of CTLL-2 cells. The specific activity of Human IL-2 Superior Stable Protein, premium grade is ≥ 1.00 x 10⁷ IU/mg, which is calibrated against human Interleukin-2 China National Standard (NIFDC code: 270008) (QC tested). China National Institutes for Food and Drug Control (NIFDC) Standard was prepared and calibrated against human IL-2 WHO International Standard (NIBSC code: 86/500) by NIFDC.

Background

Interleukin-2 (IL-2) is an interleukin, a type of cytokine immune system signaling molecule, which is a leukocytotropic hormone that is instrumental in the body's natural response to microbial infection and in discriminating between foreign (non-self) and self. IL-2 mediates its effects by binding to IL-2 receptors, which are expressed by lymphocytes, the cells that are responsible for immunity. Mature human IL-2 shares 56% and 66% aa sequence identity with mouse and rat IL-2, respectively. Human and mouse IL-2 exhibit crossspecies activity. The receptor for IL-2 consists of three subunits that are present on the cell surface in varying preformed complexes. IL-2 is also necessary during T cell development in the thymus for the maturation of a unique subset of T cells that are termed regulatory T cells (T-regs). After exiting from the thymus, T-Regs function to prevent other T cells from recognizing and reacting against "self antigens", which could result in "autoimmunity". T-Regs do so by preventing the responding cells from producing IL-2. Thus, IL-2 is required to discriminate between self and non-self, another one of the unique characteristics of the immune system.

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