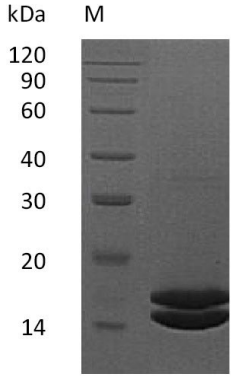
Recombinant Human Interleukin-2 (IL2) (Active)

Product Code	CSB-AP004501HU
Abbreviation	Recombinant Human IL2 protein (Active)
Uniprot No.	P60568
Form	Lyophilized powder
Storage Buffer	Lyophilized from a 0.2 μm filtered 10mM Sodium Citrate, 4% Mannitol, pH4.0
Product Type	Interleukin
Immunogen Species	Homo sapiens (Human)
Biological Activity	The specific activity of recombinant Human IL-2 as measured in a cell proliferation assay using CTLL-2 mouse cytotoxic T cells is ≥1×107 IU/mg.
Purity	Greater than 95% as determined by SDS-PAGE.
Sequence	APTSSSTKKTQLQLEHLLLDLQMILNGINNYKNPKLTRMLTFKFYMPKKATELK HLQCLEEELKPLEEVLNLAQSKNFHLRPRDLISNINVIVLELKGSETTFMCEYAD ETATIVEFLNRWITFCQSIISTLT
Research Area	Immunology
Source	Mammalian cell
Target Names	IL2
Expression Region	21-153aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	C-terminal 6xHis-tagged
Mol. Weight	16.4 kDa
Protein Length	Full Length of Mature Protein

Image



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

Description

Recombinant Human Interleukin-2 (IL2) is expressed in a mammalian cell system and contains the full-length mature protein sequence from amino acids

21-153. The protein carries a C-terminal 6xHis tag and shows purity greater than 95% when analyzed by SDS-PAGE. Biological activity appears robust, with specific activity of ≥1×10^7 IU/mg demonstrated in CTLL-2 cell proliferation assays. Endotoxin levels stay below 1.0 EU/μg, as measured by the LAL method.

Interleukin-2 (IL-2) stands as one of the more important cytokines in immune system function. Its primary job involves driving T cell proliferation and differentiation, though its role extends beyond these basic functions. The protein seems central to immune response regulation and is particularly critical for activating and promoting growth in specific immune cell types. Given this fundamental importance, IL-2 has become a major research target in immunology, cell biology, and therapeutic development.

Potential Applications

Note: The applications listed below are based on what we know about this protein's biological functions, published research, and experience from experts in the field. However, we haven't fully tested all of these applications ourselves yet. We'd recommend running some preliminary tests first to make sure they work for your specific research goals.

1. T Cell Proliferation and Activation Studies

This recombinant human IL-2 may prove valuable for investigating how T cells proliferate and activate in laboratory settings. The biological activity (≥1×10? IU/mg) measured through CTLL-2 cell proliferation assays suggests the protein retains its functional capacity to drive T cell growth. Scientists can apply this protein to examine dose-response relationships, track T cell activation timing, and probe the molecular machinery behind IL-2-driven cellular responses. High purity (>95%) combined with low endotoxin levels (<1.0 EU/μg) should help generate consistent and trustworthy experimental data.

2. Cytokine Receptor Binding and Signaling Research

Biologically active IL-2 protein can serve researchers studying IL-2 receptor binding dynamics and the signaling networks that follow. Scientists might apply this protein in binding studies to characterize how receptors and ligands interact, or to examine what structural features are needed for receptor activation. The C-terminal 6xHis tag makes protein detection and purification more straightforward in experiments designed to study receptor complex assembly and signal transmission pathways.

3. Immunological Assay Development and Standardization

This recombinant IL-2 could function as a reference standard or positive control across different immunological testing platforms—ELISA, multiplex cytokine arrays, and various bioassays. The defined specific activity provides a measurable benchmark for validating and standardizing assays. Since it's produced in mammalian cells, the protein likely maintains proper folding and post-translational modifications, which appears important for developing

sensitive and reliable IL-2 detection methods.

4. Antibody Development and Characterization

High-purity recombinant IL-2 works well as an antigen for creating and testing anti-IL-2 antibodies in research contexts. The C-terminal His tag may be helpful in pull-down experiments and affinity purification steps during antibody screening and validation work. Researchers can apply this protein to assess antibody specificity, measure binding strength, and test neutralizing capabilities across different experimental systems.

5. Cell Culture Medium Supplementation for Research

This biologically active IL-2 can supplement cell culture media when maintaining and expanding IL-2-dependent cell lines for research purposes. The demonstrated activity on CTLL-2 cells, paired with low endotoxin levels, suggests it's suitable for extended cell culture work where IL-2 signaling is necessary. Scientists can add this protein to study how cells respond under controlled IL-2 stimulation and investigate IL-2's effects on different immune cell populations in controlled laboratory conditions.

Endotoxin	Less than 0.01 EU/μg as determined by LAL method.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL.We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.
Shelf Life	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.