

Recombinant Human IL-2 Protein

Cat. No. 110104

DESCRIPTION

Expression system	<i>E. coli</i>
Amino acid sequence	Ala21-Thr153, Accession #P60568
Molecular mass	Recombinant Human IL-2 Protein, a monomer containing 133 amino acid residues, has a predicted molecular mass of approximately 15.4 kDa.

SPECIFICATIONS

Purity	> 98% by SDS-PAGE gel and HPLC analyses.
Endotoxin	Less than 0.1 EU/ μ g of rHuIL-2 as determined by LAL test.
Activity	The ED ₅₀ as determined by a cell proliferation assay using murine CTLL-2 cells is less than 0.1 ng/ml, corresponding to a specific activity of $> 1.0 \times 10^7$ U/mg.
Formulation	Lyophilized from a 0.22 μ m filtered solution in PB. See CoA for details.
Reconstitution	Always centrifuge tubes before opening. Do not mix by vortex or pipetting. Reconstitute in sterile distilled water to a concentration of 0.1-1.0 mg/mL. Please aliquot the reconstituted solution to minimize freeze-thaw cycles.

SHIPPING & STORAGE

Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature listed below.
Storage	Please use a manual defrost freezer and avoid repeated freeze-thaw cycles. ● Lyophilized protein should be stored at $\leq -20^\circ\text{C}$, stable for 12 months after receipt. ● Reconstituted protein solution can be stored at $2-8^\circ\text{C}$ for 1 month. ● Aliquots of reconstituted samples are stable at $\leq -20^\circ\text{C}$ for 3 months.

BACKGROUND

Recombinant human interleukin-2 (rhIL-2) is a genetically engineered non-glycosylated protein consisting of 133 amino acids, sharing identical biological activity with native IL-2. As a pleiotropic cytokine central to immune regulation, IL-2 is mainly secreted by activated CD4⁺ T cells, and also produced by CD8⁺ T cells, eosinophils, dendritic cells and thymocytes. It drives T-cell proliferation, B-cell activation and helper T-cell differentiation, promotes Th1-cell polarization and IFN- γ secretion, and boosts glycolysis. Moreover, IL-2 is indispensable for regulatory T-cell differentiation and immune homeostasis maintenance. Given its dual role in immune tolerance and host defense, IL-2-based therapies are a major focus of immunotherapy research. Low-dose IL-2 has shown promising safety and efficacy for autoimmune disease treatment. In basic research and translational applications, rhIL-2 is widely used for in-vitro T-cell activation and expansion. It stabilizes CD8⁺ T-cell viability and cytotoxicity in tumor-T cell co-culture assays. High-grade rhIL-2 features high purity, potent bioactivity, low endotoxin and strictly controlled host-cell protein residuals, supporting reliable cell therapy and immunology studies.

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