

Recombinant Human IL-2 (carrier-free)

Catalog# / Size	589102 / 10 µg 589104 / 25 µg 589106 / 100 µg 589108 / 500 µg
Regulatory Status	RUO
Other Names	T-cell growth factor (TCGF), Eosinophil differentiation factor (EDF), Killer cell helper factor (KHF), Macrophage-activating factor for cytotoxicity I (MAF-C I), Thymocyte differentiation factor (TDF)
Description	IL-2 was discovered through its function as a T cell growth factor (TCGF), and plays a pivotal role in immune responses against pathogenic infection. Recognition and binding of the foreign Ags by the TCRs stimulate both the secretion of IL-2 and the expression of IL-2Rs on the T cell surface. Subsequently, the IL-2/IL-2R interaction activates the intracellular Ras/Raf/MAPK, JAK/STAT, and PI3K/AKT signal pathways, and ultimately stimulates the growth, differentiation, and survival of the Ag-selected cytotoxic T cells. Human IL-2 acts on murine and human T cells, and its receptors are shared by others cytokines. IL-2R α is an IL-2-specific receptor, IL-2R β is shared with IL-15 and the γ chain that is a common receptor shared by many cytokines including IL-2, IL-4, IL-7, IL-9, IL-15, and IL-21.

Product Details

Source	Human IL-2, amino acids Ala21-Thr153 (Accession # NM_000586), was expressed in insect cells.
Molecular Mass	The 133 amino acid recombinant protein (Ala21-Thr153) has a predicted molecular mass of 15418 Da. The DTT-reduced and the non-reduced protein migrate at approximately 15 kD by SDS-PAGE. The N-terminal amino acid is Ala.
Purity	Purity is >95%, as determined by Coomassie stained SDS-PAGE.
Formulation	The protein was 0.22 µm filtered protein solution is in 0.1% TFA, 30% acetonitrile.
Endotoxin Level	Less than 0.01 ng per µg cytokine as determined by the LAL method.
Concentration	10 and 25 µg sizes are bottled at 200 µg/mL. 100 µg size and larger sizes are lot-specific and bottled at the concentration indicated on the vial. To obtain lot-specific concentration, please enter the lot number in our Concentration and Expiration Lookup or Certificate of Analysis online tools.
Storage & Handling	Unopened vial can be stored between 2°C and 8°C for up to 2 weeks, at -20°C for up to six months, or at -70°C or colder until the expiration date. For maximum results, quick spin vial prior to opening. The protein can be aliquoted and stored at -20°C or colder. Stock solutions can also be prepared at 50 - 100 µg/mL in appropriate sterile buffer, carrier protein such as 0.2 - 1% BSA or HSA can be added when preparing the stock solution. Aliquots can be stored between 2°C and 8°C for up to one week and stored at -20°C or colder for up to 3 months. Avoid repeated freeze/thaw cycles.
Activity	The ED ₅₀ = 0.05 – 0.3 ng/mL as determined by the dose-dependent stimulation of CTLL2 cell proliferation. The ED ₅₀ = 0.2 – 1.0 ng/mL as determined by the dose-dependent stimulation of HT-2 cell proliferation. The specific activity of recombinant human IL-2 is approximately 2.36 x 10 ⁴ IU/µg when compared against the 2nd WHO International Standard for Human IL-2 (NIBSC code: 86/500) as determined by dose-dependent stimulation of HT-2 cell proliferation. For more information on specific activity, please visit the Recombinant Protein Unit Conversions page .
Application	Bioassay
Application Notes	This IL-2 protein is biologically active and can be used for <i>in vitro</i> assays.

BioLegend carrier-free recombinant proteins provided in liquid format are shipped on blue-ice. Our comparison testing data indicates that when handled and stored as recommended, the liquid format has equal or better stability and shelf-life compared to commercially available lyophilized

proteins after reconstitution. Our liquid proteins are verified in-house to maintain activity after shipping on blue ice and are backed by our [100% satisfaction guarantee](#). If you have any concerns, contact us at tech@biolegend.com.

Application References

(PubMed link indicates BioLegend citation)

Product Citations

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Antigen Details

Structure	Cytokine
Distribution	Activated T cells
Function	IL-2 works in vivo to promote clonal T-cell expansion during immune responses. IL-2 stimulates the growth, differentiation, and survival of the Ag-selected cytotoxic T lymphocytes (CTLs). In addition, IL-2 regulates facilitate the proliferation and the synthesis of immunoglobulin by B cells, induces the generation and persistence of natural killer (NK) cells. Also, IL-2, through its role in activation-induced cell death (AICD) and its participation in the maintenance of peripheral CD4+CD25+ regulatory T (TReg) cells, is involved in the elimination of self-reactive T cells, which have a role in the pathogenesis of autoimmune diseases.
Interaction	T cells, B cells, NK cells, LAK cells, monocytes, macrophages, oligodendrocytes
Ligand/Receptor	IL-2R is composed of three subunits, IL-2R alpha (p55, Tac Ag, or CD25), IL-2R beta (p75 or CD122), and the γ c chain (p65 or CD132).
Cell Type	Embryonic Stem Cells, Hematopoietic stem and progenitors
Biology Area	Immunology, Stem Cells

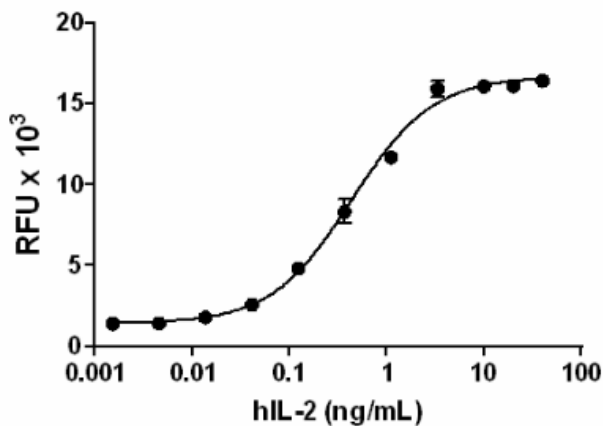
Molecular Family Cytokines/Chemokines

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Gene ID [3558](#)

Product Data



Recombinant Human IL-2 induces the proliferation of mouse HT-2 cells in a dose-dependent manner. The ED₅₀ for this effect is 0.2 – 1.0 ng/mL.

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