

## Recombinant Human IL-2

### Information

Accession #	P60568
Alternate Names	Human IL2; IL-2; IL-2; IL2; interleukin-2
Source	Human embryonic kidney cell, HEK293-derived human IL2 protein
Protein sequence	Ala21-Thr153
M.Wt	15.4 kDa
Appearance	Solution protein.
Stability & Storage	Avoid repeated freeze-thaw cycles. It is recommended that the protein be aliquoted for optimal storage. 12 months from date of receipt, -20 to -70 °C as supplied.
Concentration	0.2 mg/mL
Formulation	Dissolved in sterile PBS buffer to a concentration of 0.2 mg/mL
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. This solution can be diluted into other aqueous buffers.
Biological Activity	Measured in a cell proliferation assay using CTLL-2 mouse cytotoxic T cells. The EC50 for this effect is 0.05-0.25 ng/mL.
Shipping Condition	Shipping with dry ice.
Handling	Centrifuge the vial prior to opening.
Usage	For Research Use Only! Not to be used in humans.

### Quality Control

Purity	> 95%, determined by SDS-PAGE.
Endotoxin	<0.010 EU per 1 ug of the protein by the LAL method.

### Description

Interleukin-2 (IL2), also known as a T-cell growth factor, TCGF, and Aldesleukin, is a secreted protein that belongs to the IL-2 family. IL2 has potent stimulatory activity for antigen-activated T cells, and is expressed by T cells, B cells, dendritic cells, and eosinophils<sup>[1-3]</sup>. Mature human IL-2 shares 56% aa sequence identity with mouse IL-2. Human and mouse IL-2 exhibit cross-species activity<sup>[4]</sup>. The receptor for IL-2 consists of three subunits that are present on the cell surface in varying preformed complexes<sup>[5-7]</sup>. The 55 kDa IL-2 R alpha is specific for IL-2 and binds with low affinity. The 75 kDa IL-2R beta, which is also a component of the IL-15 receptor, binds IL-2 with intermediate affinity. The 64 kDa common gamma chain gamma c/IL-2 R gamma, which is shared with the receptors for IL-4, -7, -9, -15, and -21, does not independently interact with IL-2. Upon ligand binding, signal transduction is performed by both IL-2 R beta and gamma c. IL-2 is best known for its autocrine and paracrine activity on T cells. It drives resting T cells to proliferate and induces IL-2 and IL-2 R alpha synthesis<sup>[1,2]</sup>. It contributes to T cell homeostasis by promoting the Fas-induced death of naive CD4<sup>+</sup> T cells but not activated CD4<sup>+</sup> memory lymphocytes<sup>[8]</sup>. IL-2 plays a central role in the expansion and maintenance of regulatory T cells, although it inhibits the development of Th17 polarized cells<sup>[9-11]</sup>. Thus, IL-2 may be a key cytokine in the natural suppression of autoimmunity<sup>[12,13]</sup>.

## Reference

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