

# IL-2

Catalog # PVGS1245

## Product Information

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<b>Primary Accession Species</b>	<a href="#">P60568</a> Human
<b>Sequence</b>	Ala21-Thr153
<b>Purity</b>	> 95% as analyzed by SDS-PAGE
<b>Endotoxin Level</b>	
<b>Biological Activity</b>	ED <sub>50</sub>
<b>Expression System</b>	HEK 293
<b>Formulation</b>	Lyophilized after extensive dialysis against PBS.
<b>Reconstitution</b>	It is recommended that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute the lyophilized powder in ddH <sub>2</sub> O or PBS up to 100 µg/ml.
<b>Storage &amp; Stability</b>	Upon receiving, this product remains stable for up to 6 months at lower than -70°C. Upon reconstitution, the product should be stable for up to 1 week at 4°C or up to 3 months at -20°C. For long term storage it is recommended that a carrier protein (example 0.1% BSA) be added. Avoid repeated freeze-thaw cycles.

## Additional Information

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<b>Gene ID</b>	3558
<b>Other Names</b>	Interleukin-2, IL-2, T-cell growth factor, TCGF, Aldesleukin, IL2
<b>Target Background</b>	Interleukin-2 (IL-2) is a Oglycosylated, four α-helix bundle cytokine that has potent stimulatory activity for antigen-activated T cells. It is expressed by CD4 <sup>+</sup> and CD8 <sup>+</sup> T cells, γδ T cells, B cells, dendritic cells, and eosinophils. IL-2/IL-2R signaling is required for T-cell proliferation and other fundamental functions which are essential for the immune response. IL-2 stimulates growth and differentiation of B-cells, NK cells, lymphokine activated killer cells, monocytes, macrophages and oligodendrocytes.

## Protein Information

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<b>Name</b>	IL2
<b>Function</b>	Cytokine produced by activated CD4-positive helper T-cells and to a lesser extend activated CD8-positive T-cells and natural killer (NK) cells that plays

pivotal roles in the immune response and tolerance (PubMed:[6438535](#)). Binds to a receptor complex composed of either the high-affinity trimeric IL-2R (IL2RA/CD25, IL2RB/CD122 and IL2RG/CD132) or the low-affinity dimeric IL-2R (IL2RB and IL2RG) (PubMed:[16293754](#), PubMed:[16477002](#)). Interaction with the receptor leads to oligomerization and conformation changes in the IL-2R subunits resulting in downstream signaling starting with phosphorylation of JAK1 and JAK3 (PubMed:[7973659](#)). In turn, JAK1 and JAK3 phosphorylate the receptor to form a docking site leading to the phosphorylation of several substrates including STAT5 (PubMed:[8580378](#)). This process leads to activation of several pathways including STAT, phosphoinositide-3-kinase/PI3K and mitogen-activated protein kinase/MAPK pathways (PubMed:[25142963](#)). Functions as a T-cell growth factor and can increase NK-cell cytolytic activity as well (PubMed:[6608729](#)). Promotes strong proliferation of activated B-cells and subsequently immunoglobulin production (PubMed:[6438535](#)). Plays a pivotal role in regulating the adaptive immune system by controlling the survival and proliferation of regulatory T-cells, which are required for the maintenance of immune tolerance. Moreover, participates in the differentiation and homeostasis of effector T-cell subsets, including Th1, Th2, Th17 as well as memory CD8-positive T-cells.

**Cellular Location**

Secreted.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.