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IL-2

Catalog # PVGS1002

Specification

IL-2 - Product Information

Primary Accession P60568

Species
Human

Sequence
Ala21-Thr153

Purity
> 95% as analyzed by SDS-PAGE
> 95% as analyzed by HPLC

Endotoxin Level
< 1 EU/ µg of protein by LAL method

Biological Activity
The ED₅₀ as determined by the dose-dependant stimulation of the proliferation of CTLL-2 was found to be < 0.1 ng/ml, corresponding to a specific activity of > 1.0 × 10⁷ IU/mg.

Expression System
E. coli

Theoretical Molecular Weight
15.3 kDa

Formulation **Lyophilized from a 0.2 µm filtered solution in 10 mM sodium citrate, pH 4.0.**

Reconstitution
It is recommended that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute the lyophilized powder in sterile 18 MΩ-cm H_2O up to 100 µg/ml.

Storage & Stability
Upon receiving, this product remains stable for up to 6 months at -70°C or -20°C. Upon reconstitution, the product should be stable for up to 1 week at 4°C or up to 3 months at -20°C. Avoid repeated freeze-thaw cycles.

IL-2 - Additional Information

Gene ID 3558

Other Names
Interleukin-2, IL-2, T-cell growth factor, TCGF, Aldesleukin, IL2

Target Background
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⁺ and CD8⁺ 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.

IL-2 - Protein Information

Name IL2

Function
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.

IL-2 - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

IL-2 - Images