

IL-10
Catalog # PVGS1323**Specification**

IL-10 - Product Information

Primary Accession [P22301](#)
Species
Human

Sequence
Ser19-Asn178

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

Endotoxin Level
< 0.2 EU/ µg of protein by gel clotting method

Biological Activity
ED₅₀ < 2.0 ng/ml, measured in a cell proliferation assay using MC/9 cells.

Expression System
CHO

Formulation **Lyophilized after extensive dialysis against PBS.**

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 ddH₂O or PBS up to 100 µg/ml.

Storage & Stability
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.

IL-10 - Additional Information

Gene ID 3586

Other Names
Interleukin-10, IL-10, Cytokine synthesis inhibitory factor, CSIF, IL10

Target Background
Interleukin-10 (IL-10), initially known as Cytokine Synthesis Inhibitory Factor (CSIF), belongs to the IL-10 family and shares more than 80% sequence homology with Epstein-Barr Virus protein BCRF1. It is produced by many immune cells, such as T-cells, macrophages, mast cells, and dendritic cells. It is usually secreted as a homodimer and, upon binding to its receptor, inhibits the synthesis of a number of cytokines, including IFN-gamma, IL-2, IL-3, TNF and GM-CSF produced by activated

macrophages and Th2 cells. It also displays ability to suppress Antigen-Presenting Cell (APC) function. The net effect of Interleukin-10 appears to be inhibitory; however, stimulatory effects, such as stimulation of B cell maturation and antibody production, are also reported.

IL-10 - Protein Information

Name IL10

Function

Major immune regulatory cytokine that acts on many cells of the immune system where it has profound anti-inflammatory functions, limiting excessive tissue disruption caused by inflammation. Mechanistically, IL10 binds to its heterotetrameric receptor comprising IL10RA and IL10RB leading to JAK1 and STAT2-mediated phosphorylation of STAT3 (PubMed:16982608). In turn, STAT3 translocates to the nucleus where it drives expression of anti-inflammatory mediators (PubMed:18025162). Targets antigen-presenting cells (APCs) such as macrophages and monocytes and inhibits their release of pro- inflammatory cytokines including granulocyte-macrophage colony- stimulating factor /GM-CSF, granulocyte colony-stimulating factor/G- CSF, IL-1 alpha, IL-1 beta, IL-6, IL-8 and TNF-alpha (PubMed:11564774, PubMed:1940799, PubMed:7512027). Interferes also with antigen presentation by reducing the expression of MHC-class II and co- stimulatory molecules, thereby inhibiting their ability to induce T cell activation (PubMed:8144879). In addition, controls the inflammatory response of macrophages by reprogramming essential metabolic pathways including mTOR signaling (By similarity).

Cellular Location

Secreted.

Tissue Location

Produced by a variety of cell lines, including T- cells, macrophages, mast cells and other cell types

IL-10 - Protocols

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

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

IL-10 - Images