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IL-10

Catalog # PVGS1323

Product Information

Primary Accession	P22301
Species	Human
Sequence	Ser19-Asn178
Purity	> 95% as analyzed by SDS-PAGE > 95% as analyzed by HPLC
Endotoxin Level	
Biological Activity	ED_{50}
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 ddH_2O or PBS up to 100 □g/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.

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 BCRFI. 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.

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). Also interferes 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