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IL-21

Catalog # PVGS1054

Product Information

Primary Accession	Q9HBE4
Species	Human
Sequence	Gln30-Ser162
Purity	> 97% as analyzed by SDS-PAGE > 97% as analyzed by HPLC
Endotoxin Level	
Biological Activity	Fully biologically active when compared to standard. The ED_{50} as determined by by a cell proliferation assay using human N1186 T cells is less than 20.0 ng/ml, corresponding to a specific activity of > 5.0×10^4 IU/mg.
Expression System	E. coli
Theoretical Molecular Weight	15.4 kDa
Formulation	Lyophilized from a 0.2 □m filtered solution in PBS, pH 7.4.
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 distilled water or aqueous buffer containing 0.1 % BSA to a concentration of 0.1-1.0 mg/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.

Additional Information

Gene ID	59067
Other Names	Interleukin-21, IL-21, Za11, IL21 (HGNC:6005)
Target Background	IL-21 is a pleiotropic cytokine produced by $CD4^+$ T cells in response to antigenic stimulation. Its action generally enhances antigen-specific responses of immune cells. The biological effects of IL-21 include induction of differentiation of T-cells-stimulated B-cells into plasma cells and memory B-cells, stimulation (in conjuction) with IL-4 of IgG production, and induction of apoptotic effects in na□ve B-cells and stimulated B-cells in the absence of T-cell signaling. Additionally, IL-21 promotes the anti-tumor activity of $CD8^+$ T-cells and NK cells. IL-21 exerts its effect through binding to a specific type I cytokine receptor, IL-21R, which also contains the gamma chain (γc) found in other cytokine receptors including IL-2, IL-4, IL-7, IL-9 and IL-15. The IL-21/IL-21R interaction triggers a cascade of events which includes activation

of the tyrosine kinases JAK1 and JAK3, followed by activation of the transcription factors STAT1 and STAT3.

Protein Information

Name	IL21 (HGNC:6005)
Function	Cytokine with immunoregulatory activity. May promote the transition between innate and adaptive immunity. Induces the production of IgG(1) and IgG(3) in B-cells (By similarity). Implicated in the generation and maintenance of T follicular helper (Tfh) cells and the formation of germinal-centers. Together with IL6, control the early generation of Tfh cells and are critical for an effective antibody response to acute viral infection (By similarity). May play a role in proliferation and maturation of natural killer (NK) cells in synergy with IL15. May regulate proliferation of mature B- and T-cells in response to activating stimuli. In synergy with IL15 and IL18 stimulates interferon gamma production in T-cells and NK cells (PubMed:11081504, PubMed:15178704). During T-cell mediated immune response may inhibit dendritic cells (DC) activation and maturation (By similarity).
Cellular Location	Secreted.
Tissue Location	Expressed in activated CD4-positive T-cells but not in CD8-positive T-cells, B-cells, or monocytes

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