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IL-21
Catalog # PVGS1054

Specification

IL-21 - Product Information

Primary Accession Q9HBE4

Species
Human

Sequence
Gln30-Ser162

Purity
> 97% as analyzed by SDS-PAGE
> 97% as analyzed by HPLC

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

Biological Activity
Fully biologically active when compared to standard. The ED₅₀ 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 × 10⁴ IU/mg.

Expression System
E. coli

Theoretical Molecular Weight
15.4 kDa

Formulation **Lyophilized from a 0.2 µm 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.

IL-21 - 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 naïve 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.

IL-21 - 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

IL-21 - 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-21 - Images