

Human Interleukin 21 (IL-21)

CATALOG NUMBER: IL-21-010P, 10 µg

Introduction

Interleukin-21 is a cytokine that has potent regulatory effects on cells of the immune system, including natural killer (NK) cells and cytotoxic T cells that can destroy virally infected or cancerous cells. This cytokine induces cell division/proliferation in its target cells.

IL-21 is produced by CD4+ T cells in response to antigenic stimulation. Its action 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 conjunction) 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.

Description

Recombinant human IL-21 produced in *E.coli* is a single, non-glycosylated, polypeptide chain containing 133 amino acids, two pairs of disulfide bonds and having a molecular mass of approximately 15.5 kDa.

Source

E. coli.

Purity

≥ 97% purity (by SDS PAGE and HPLC)

Endotoxin Level

≤1 EU/mg, determined by the LAL method

Biological Activity

Measured in a cell proliferation assay using B9-11 cells, the ED50 for this effect is typically 50-350 ng/ml.

Formulation

Sterile lyophilized powder, in PBS containing 0.1% HAS, pH7.4

Reconstitute with double distilled water at a concentration of no less than 1 µg/ml with 0.1% human serum albumin (A highly purified plant-derived human serum albumin is strongly suggested to be used, Cat# HAS-1r) or bovine serum albumin as a stock.

Storage

Stable for 6-months from the date of shipment when kept at -20 °C or -70 °C. Upon reconstitution, it can be stored at 4 °C for at least one month or -20 °C for at least three months. Avoid repeated freeze-thaw cycles.

Usage

This product is produced for LABORATORY RESEARCH USE ONLY.