



RayBiotech, Inc.

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Certificate of Analysis and Data Sheet Recombinant Porcine Interleukin-21

Catalog No.
228-10908

Source:
Escherichia Coli.

Synonyms

Za11,, IL-21.

Introduction

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

Interleukin-21 Human Recombinant produced in E.Coli is a single, non-glycosylated polypeptide chain containing 133 amino acids and having a total molecular mass of 15,463 Dalton.
The IL-21 is purified by proprietary chromatographic techniques.

Physical Appearance

Sterile Filtered White lyophilized (freeze-dried) powder.

Formulation

Lyophilized from a concentrated (1mg/ml) solution containing no additives.

Purity

Greater than 95.0% as determined by

- (a) Analysis by RP-HPLC.
- (b) Analysis by SDS-PAGE.

Solubility

It is recommended to reconstitute the lyophilized Interleukin -21 in sterile 18MΩ-cm H₂O not less than 100μg/ml, which can then be further diluted to other aqueous solutions.

**The products are furnished for LABORATORY RESEARCH USE ONLY.
Not for diagnostic or therapeutic use.**



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Stability

Lyophilized Interleukin-21 although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution IL21 should be stored at 4°C between 2-7 days and for future use below -18°C.

For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

Please prevent freeze-thaw cycles.

Amino acid sequence

The sequence of the first five N-terminal amino acids was determined and was found to be Gln-Gly-Gln-Asp-Arg.

Biological Activity

The ED₅₀=1.0 -10 ng/ml, determined by the dose-dependant proliferation of human peripheral blood mononuclear cells.

Protein content

Protein quantitation was carried out by two independent methods1. UV spectroscopy at 280 nm using the absorbency value of 0.54 as the extinction coefficient for a 0.1% (1mg/ml) solution. This value is calculated by the PC GENE computer analysis program of protein sequences (IntelliGenetics).

2. Analysis by RP-HPLC, using a standard solution of IL-21 as a Reference Standard.

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