

Recombinant Human Interleukin-21 (rh IL-21)

Synonyms: Za11

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 and stimulated B-cells in the absence of T-cell signaling. IL-21 additionally 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 (γ c) 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 and having a molecular mass of 15.4 kDa. The rh IL-21 is purified by proprietary chromatographic techniques.

Source: *Escherichia Coli*.

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: Lyophilized from PBS, pH 7.4.

The aliquots of 1 μ g and 2 μ g contain Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rh IL-21 in sterile H₂O not less than 100 μ g/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rh IL-21 although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution rh IL-21 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.

Purity: Greater than 95.0% as determined by SDS-PAGE.

Endotoxicity: The endotoxin level is less than 0.1 ng per μ g (1EU/ μ g) determined by LAL method

Amino acid sequence: MQDRHMIRMRLQLIDIVDQLK NYVNDLVPEF LPAPEDVETN CEWSAFSCFQ
KAQLKSANTG NNERIINVSI KKLKRKPPST NAGRRQKHRL TCPSCDSYEK KPPKEFLERF KSLQLQKMIHQ
HLSRTHGSE DS

Biological Activity: The ED50 is 1 - 10ng/ml corresponding to a specific activity of 0.1 – 1x 10⁶ IU/mg, determined by the dose-dependant proliferation of human peripheral blood mononuclear cells.

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<i>small</i>	2 μ g	Cat.N°	11340212
<i>medium</i>	10 μ g	Cat.N°	11340213
<i>large</i>	50 μ g	Cat.N°	11340215
<i>x-large</i>	250 μ g	Cat.N°	11340217

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