

## Recombinant Rat Interleukin-21 (rr IL-21)

**Synonymes:** Interleukin-21, IL-21, Il21.

**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 naive 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 ( $\gamma$ ) 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 rat IL-21 produced in *E.Coli* is a single, non-glycosylated polypeptide chain containing 129 amino acids and having a total molecular mass of 15.2 kDa. The rr IL-21 is purified by proprietary chromatographic techniques.

**Source:** *Escherichia Coli*.

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

**Formulation:** lyophilized from a 0.22  $\mu$ m filtered solution in PBS, pH 7.4  
The aliquotes of 1  $\mu$ g and 2  $\mu$ g contain Trehalose 5% (w/vol) for better recovery

**Solubility:** It is recommended to reconstitute the lyophilized rr IL-21 in sterile H<sub>2</sub>O not less than 100  $\mu$ g/ml which can then be further diluted to other aqueous solutions.

**Stability:** Lyophilized rr IL-21 although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution rr 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 RP-HPLC and by SDS-PAGE.

**Amino Acid Sequence:** HKSSPQRPDH LLIRLRHLMD IVEQLKIYEN DLDPELLTAP QDVKGQCEHE AFACFQKAKL KPSNTGNNKT FINDLLAQLR RRLPAKRTGN KQRHMAKCPS CDLYEKKTPK EFLERLKWLL QKMIHQHLS.

**Biological Activity:** Measured by its ability to proliferate activated B cells

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<i>small</i>	2 $\mu$ g	Cat.N°	13340212
<i>medium</i>	10 $\mu$ g	Cat.N°	13340213

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