

Recombinant Mouse Interleukin-21 (rm IL-21)

Synonymes: none

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 native 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 and is 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 murine IL-21 produced in *E.Coli* is a single, non-glycosylated polypeptide chain containing 130 amino acids and having a total molecular mass of 15 kDa. The rm 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 µm filtered solution in 25 mM sodium phosphate pH 7.3 + 200mM NaCl. The aliquots of 1µg and 2µg contain Trehalose 5% (w/vol) for better recovery.

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

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

Amino Acid Sequence: MHKSSPQGPD RLLIRLRHLI DIVEQLKIYE NDLDPELLSA PQDVKGHCEH AAFACFQKAK LKPSNPGNNK TFIIDLVAQL RRRLPARRGG KKQKHIKCP SCDSYEKRTP KEFLERLKWL LQKMIHQHLS

Biological Activity: Tested by dose dependent stimulation of IL-21 induced reporter gene activation in IL-21 receptor transfected cells the specific activity of rm IL-21 is > 0.5x10⁵ IU/mg

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<i>small</i>	2 µg	Cat.N°	12340212
<i>medium</i>	10 µg	Cat.N°	12340213
<i>large</i>	50 µg	Cat.N°	12340215
<i>x-large</i>	250 µg	Cat.N°	12340217
<i>xx-large</i>	1000 µg	Cat.N°	12340218

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