Datasheet

Cat. No. P1194

# Recombinant Rat IL-21

## Information

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|---|---|
| Gene ID | 365769 |
| Accession # | A3QPB9 |
| Alternate Names | Za11 |
| Source | *Escherichia coli.* |
| M.Wt | Approximately 15.2 kDa, a single non-glycosylated polypeptide chain containing 129 amino acids. |
| AA Sequence | HKSSPQRPDH LLIRLRHLMD IVEQLKIYEN DLDPELLTAP QDVKGQCEHE AFACFQKAKL KPSNTGNNKT FINDLLAQLR RRLPAKRTGN KQRHMAKCPS CDLYEKKTPK EFLERLKWLL QKMIHQHLS |
| Appearance | Sterile Filtered White lyophilized (freeze-dried) powder. |
| Stability & Storage | Use a manual defrost freezer and avoid repeated freeze-thaw cycles.<br>- 12 months from date of receipt, -20 to -70 °C as supplied.<br>- 1 month, 2 to 8 °C under sterile conditions after reconstitution.<br>- 3 months, -20 to -70 °C under sterile conditions after reconstitution. |
| Formulation | Lyophilized from a 0.2 μm filtered concentrated solution in PBS, pH 7.4. |
| Reconstitution | We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1 % BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at ≤ -20 °C. Further dilutions should be made in appropriate buffered solutions. |
| Biological Activity | Fully biologically active when compared to standard. The $ED_{50}$ as determined by a cell proliferation assay using human N1186 cells is less than 50 ng/ml, corresponding to a specific activity of > $2.0 \times 10^4$ IU/mg. |
| Shipping Condition | Gel pack. |
| Handling | Centrifuge the vial prior to opening. |
| Usage | For Research Use Only! Not to be used in humans. |

## Components and Storage

| Components | 10 μg | 100 μg | 500 μg |
|---|---|---|---|
| Recombinant Rat IL-21 | 10 μg | 100 μg | 500 μg |

Use a manual defrost freezer and avoid repeated freeze-thaw cycles.
- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

## Quality Control

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|---|---|
| Purity | > 96 % by SDS-PAGE and HPLC analyses. |
| Endotoxin | Less than 1 EU/μg of rRtIL-21 as determined by LAL method. |

## Description

Rat IL-21 is produced by CD4+ T cells in response to antigenic stimulation and can regulating immune system cells, for instance cytotoxin T cells and natural killer 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 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, it promotes the anti-tumor activity of CD8+ T-cells and NK cells. IL-21 elicits its effect through binding to IL-21R, which also contains the gamma chain found in other cytokine receptors such as IL-2, IL-4, IL-7, IL-9 and IL-15. IL-21 shows having much relation with clinical illnesses, including cancer immunotherapy, viral infections and allergies. Mature rat IL-21 shares 88% a.a. sequence identity with mouse IL-21.

## Reference

1. Pistoia VandCocco C. 2009. J Leukoc Biol, 85: 739-43.

2. Ertelt JM, Johanns TM, Rowe JH, et al. 2010. Immunology, 131: 183-91.

3. Denman CJ, Senyukov VV, Somanchi SS, et al. 2012. PLoS One, 7: e30264.

4. Spolski R, Wang L, Wan CK, et al. 2012. J Immunol, 188: 1924-32.

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