

## Recombinant Rat IL-7

### Information

<b>Gene ID</b>	25647
<b>Accession #</b>	P56478
<b>Alternate Names</b>	
<b>Source</b>	<i>Escherichia coli</i> .
<b>M.Wt</b>	Approximately 14.9 kDa, a single non-glycosylated polypeptide chain containing 129 amino acids.
<b>AA Sequence</b>	DCHIKDKDGK AFGSVLMISI NQLDKMTGTD SDCPNNEPNF FKKHLCDDTK EAAFLNRAAR KLRQFLKMNI SEEFNDHLLR VSDGTQTLVN CTSKEEKTIK EQKKNDP CFL KRLLEIKTC WNKILKGS I
<b>Appearance</b>	Sterile Filtered White lyophilized (freeze-dried) powder.
<b>Stability &amp; Storage</b>	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.
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered concentrated solution in PBS, pH 7.4.
<b>Reconstitution</b>	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.
<b>Biological Activity</b>	Fully biologically active when compared to standard. The ED <sub>50</sub> as determined by a cell proliferation assay using murine 2E8 cells is less than 2.0 ng/ml, corresponding to a specific activity of > 5.0 × 10 <sup>5</sup> IU/mg.
<b>Shipping Condition</b>	Gel pack.
<b>Handling</b>	Centrifuge the vial prior to opening.
<b>Usage</b>	For Research Use Only! Not to be used in humans.

### Components and Storage

Components	10 µg	100 µg	500 µg
Recombinant Rat IL-7	10 µg	100 µg	500 µg

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## Quality Control

Purity	> 95 % by SDS-PAGE and HPLC analyses.
Endotoxin	Less than 1 EU/μg of rRtIL-7 as determined by LAL method.

## Description

Interleukin-7 (IL-7) is encoded by the IL7 gene and secreted by stromal cells in the red marrow and thymus. It binds to the IL-7 receptor, a heterodimer consisting of IL-7 receptor alpha and IL-2 receptor gamma chain. IL-7 stimulates the differentiation of hematopoietic stem cells into lymphoid progenitor cells and also stimulates proliferation of B cells, T cells and NK cells. Furthermore, IL-7 as an immunotherapy agent has been examined in many human clinical trials for various malignancies and during HIV infection. Rat IL-7 contains 129 amino acid residues and has three disulfide bonds. In addition, it has approximately 57 % and 88 % amino acid sequence identity with human and murine IL-7.

## Reference

1. Goodwin RG, Lupton S, Schmierer A, et al. 1989. Proc Natl Acad Sci U S A. 86:302-6.
2. Sutherland GR, Baker E, Fernandez KE, et al. 1989. Hum Genet. 82:371-2.
3. Lupton SD, Gimpel S, Jerzy R, et al. 1990. J Immunol. 144:3592-601.
4. Noguchi M, Nakamura Y, Russell SM, et al. 1993. Science. 262:1877-80.
5. Fry TJ, Mackall CL. 2002. Blood. 99:3892-904.
6. Fry TJ, Mackall CL. 2002. J Hematother Stem Cell Res. 11:803-7.

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