

# Cytokines

## Mouse Recombinant IL-7



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TOLL FREE PHONE 1 800 667 0322 • PHONE +1 604 877 0713

[INFO@STEMCELL.COM](mailto:INFO@STEMCELL.COM) • [TECHSUPPORT@STEMCELL.COM](mailto:TECHSUPPORT@STEMCELL.COM)

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Catalog # 78054.1  
78054

10 µg  
50 µg

## Product Description

Interleukin 7 (IL-7) is a member of the type I cytokine family that is critical for T and B cell development and survival. It is produced by non-hematopoietic cells in the thymus, lymphoid organs, and by bone marrow stromal cells (Lundström et al.). IL-7 binds to a receptor composed of common gamma chain and IL-7Ra (CD127) and signals through the JAK/STAT and PI3K pathways. IL-7 regulates the survival of naïve and memory CD4+ and CD8+ T cells,  $\gamma\delta$  T cells, NK T cells, innate lymphoid cells, and T regulatory cells (Carrette & Surh), and provides signals to promote survival, proliferation, and differentiation during B cell development (Clark et al.; Corfe & Paige).

## Product Information

**Alternative Names:** Interleukin-7, LP-1, Lymphopoietin 1, Pre-B cell factor  
**Accession Number:** Q544C8  
**Amino Acid Sequence:** ECHIKDKEGK AYESVLMISI DELDKMTGTD SNCPNNEPNF FRKHVCDDTK EAAFLNRAAR KLKQFLKMNI SEEFNVHLLT VSQGTQTLVN CTSKEEKNVK EQKKNDACFL KRLLEIKTC WNKILKGSIH HHHHH  
**Predicted Molecular Mass:** 15 kDa  
**Species:** Mouse  
**Cross Reactivity:** Human  
**Formulation:** Lyophilized after dialysis against phosphate-buffered saline.  
**Source:** CHO

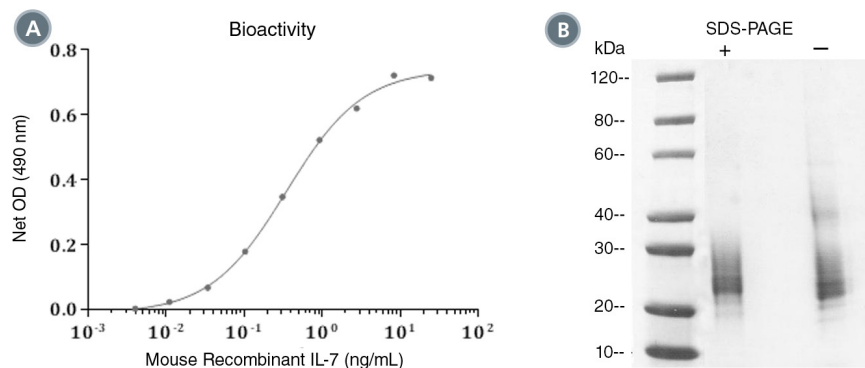
## Specifications

**Activity:** The specific activity is  $\geq 2.5 \times 10^6$  units/mg ( $EC_{50} \leq 0.4$  ng/mL) as determined by a cell proliferation assay using 2E8 cells.  
**Purity:**  $\geq 95\%$   
**Endotoxin Level:** Measured by kinetic limulus amebocyte lysate (LAL) analysis and is  $\leq 0.2$  EU/µg protein.

## Preparation and Storage

**Storage:** Store at -80°C.  
**Stability:** Stable as supplied for 12 months from date of receipt.  
**Reconstitution:** Centrifuge vial before opening. Resuspend the product in sterile water or phosphate-buffered saline to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. Store at 2 - 8°C for up to 1 week or at -20°C to -80°C for up to 2 months. Avoid repeated freeze-thaw cycles.

## Data



(A) The biological activity of Mouse Recombinant IL-7 was tested by its ability to promote the proliferation of 2E8 cells. Cell proliferation was measured using a fluorometric assay method. The EC<sub>50</sub> is defined as the effective concentration of the growth factor at which cell proliferation is at 50% of maximum. The EC<sub>50</sub> in the above example is less than 0.4 ng/mL.

(B) 5 µg of Mouse Recombinant IL-7 was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Mouse Recombinant IL-7 has a predicted molecular mass of 15 kDa but migrates to an apparent molecular mass of ~24 kDa.

## Related Products

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## References

- Carrette F & Surh CD. (2012) IL-7 signaling and CD127 receptor regulation in the control of T cell homeostasis. *Semin Immunol* 24(3): 209–17.
- Clark MR et al. (2014) Orchestrating B cell lymphopoiesis through interplay of IL-7 receptor and pre-B cell receptor signalling. *Nat Rev Immunol* 14(2): 69–80.
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- Lundström W et al. (2012) IL-7 in human health and disease. *Semin Immunol* 24(3): 218–24.

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