

Cytokines

Mouse Recombinant IL-7



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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 regulatory T 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 SNCPPNNEPNF FRKHVCDDTK EAAFLNRAAR KLKQFLKMNI SEEFNVHLLT VSQGTQTLVN CTSKEEKNVK EQKKNDACFL KRLLREIKTC WNKILKGSIH HHHHH
Predicted Molecular Mass: 15 kDa
Species: Mouse
Cross Reactivity: Human
Formulation: Lyophilized after dialysis against phosphate-buffered saline.
Source: CHO

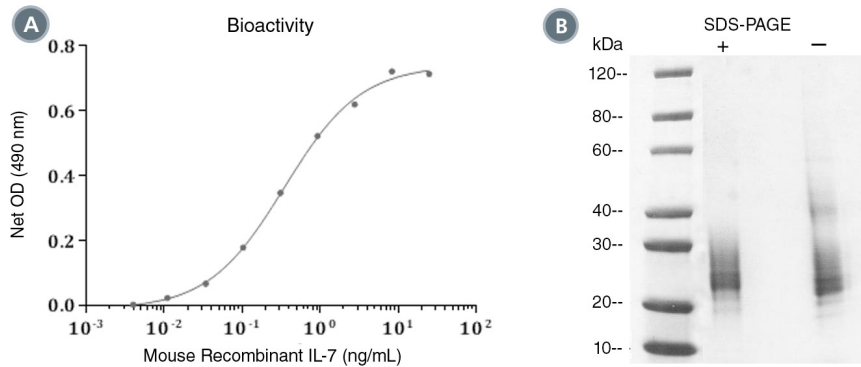
Specifications

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 amoebocyte lysate (LAL) analysis and is ≤ 0.2 EU/µg protein.

Preparation and Storage

Storage: Store at -80°C .
Stability: Stable as supplied for 12 months from date of receipt.
Preparation: Centrifuge vial before opening. Reconstitute the product in sterile water to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. As a general guide, do not store at $2 - 8^\circ\text{C}$ for more than 1 week or at -20°C for more than 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 EC₅₀ is defined as the effective concentration of the growth factor at which cell proliferation is at 50% of maximum. The EC₅₀ 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

For a complete list of cytokines, as well as related products available from STEMCELL Technologies, visit www.stemcell.com/cytokines or contact us at techsupport@stemcell.com.

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.
- Corfe SA & Paige CJ. (2012) The many roles of IL-7 in B cell development; mediator of survival, proliferation and differentiation. *Semin Immunol* 24(3): 198–208.
- Lundström W et al. (2012) IL-7 in human health and disease. *Semin Immunol* 24(3): 218–24.

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