

Store at
-20°C

Human IL-7 Recombinant Protein

Cell Signaling
TECHNOLOGY®

#73786

10 µg

New 11/20

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orders@cellsignal.comEntrez-Gene ID #3574
UniProt ID #P13232

For Research Use Only. Not For Use In Diagnostic Procedures.

Background: IL-7 plays a key role in lymphopoiesis and lymphoid homeostasis (1). Stromal and epithelial cells within the bone marrow and thymus produce IL-7 (1). The primary targets of IL-7 are T cells, B cells, and dendritic cells (1). IL-7 is crucial for T cell development, the importance of which is underscored by the lack of T cells in both mice and humans that are deficient in IL-7/IL-7R signaling (1,2). While IL-7 appears to be required for B cell development in mice, the role of IL-7 in human B cell development is unclear (1,3). In addition to its effects on T cell lymphopoiesis, IL-7 promotes the maintenance and survival of naïve and memory $\alpha\beta$ T cells, as well as $\gamma\delta$ T cells (1). The IL-7 receptor is a heterodimer of the common γ chain, γ_c , and the IL-7-specific IL-7R α (1). IL-7 activates PI3K/Akt, Jak1/2, and Stat1/3/5 (1).

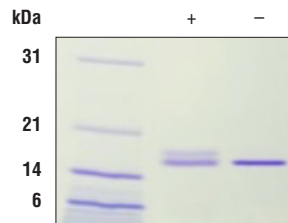
Molecular Weight: 17 kDa

Endotoxin: Endotoxin levels are ≤ 1 EU / 1 µg hIL-7.

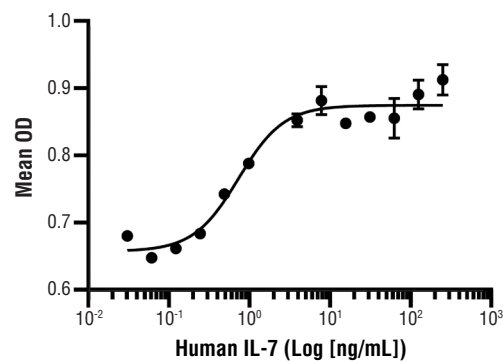
Purity: $\geq 95\%$ purity was determined by SDS-PAGE.

Source/Purification: Recombinant human IL-7 was expressed in *E. coli* and is supplied in a lyophilized form.

Bioactivity: The bioactivity of recombinant hIL-7 was determined in a 2E8 cell proliferation assay. The ED_{50} of each lot ≤ 1 ng/ml.



The purity of Human IL-7 Recombinant Protein was determined by SDS-PAGE of 1 µg reduced (+) and non-reduced (-) recombinant hIL-7 and staining with Coomassie Blue.



Serial dilutions of Human IL-7 Recombinant Protein were added to 2E8 cells. Cell proliferation was measured and the linear portion of the curve was used to calculate the ED_{50} .

Storage: Human IL-7 Recombinant Protein is supplied as lyophilized material that is very stable at -20°C. It is recommended to reconstitute with sterile water at a concentration of 0.1 mg/ml which can be further diluted in aqueous solutions as needed. Addition of a carrier protein (0.1% HSA or BSA) is recommended for long-term storage.

Background References:

- (1) Rochman, Y. et al. (2009) *Nat Rev Immunol* 9, 480-90.
- (2) Ma, A. et al. (2006) *Annu Rev Immunol* 24, 657-79.
- (3) Parrish, Y.K. et al. (2009) *J Immunol* 182, 4255-66.

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Applications: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide Species Cross-Reactivity: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—Horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.