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Human Interleukin-7 (hIL-7)



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MW (kDa):
17

UniProt ID:
#P13232

Entrez-Gene Id:
3574

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, and 5 (1).

Endotoxin

Less than 0.01 ng endotoxin/1 μ g hIL-7.

Purity

>98% as determined by SDS-PAGE of 6 μ g reduced (+) and non-reduced (-) recombinant hIL-7. All lots are greater than 98% pure.

Source / Purification

Recombinant human IL-7 (hIL-7) Asp26-His177 (Accession #NP_000871) was produced in *E. coli* at Cell Signaling Technology.

Bioactivity

The bioactivity of recombinant hIL-7 was determined in a 2E8 cell proliferation assay. The ED₅₀ of each lot is between 90-1000 pg/ml.

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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