

Product Information

Interleukin-7, human recombinant, expressed in *E. coli*

Catalog Number **I5896**
Storage Temperature $-20\text{ }^{\circ}\text{C}$

Synonym: IL-7

Product Description

Recombinant, human IL-7 is produced by a DNA sequence encoding the IL-7 protein.¹ Naturally occurring human IL-7 is a 25 kDa glycoprotein with 6 cysteine residues, which are important for biological activity. Human and mouse IL-7 have 60% amino acid sequence homology and both proteins exhibit cross-species activity.

Interleukin-7 is a lymphoid cell growth factor that affects pre-B, pro-B, and early T cells.² It was first isolated in 1988,^{3,4} and was previously known as pre-B cell growth factor and lymphopoietin-1. IL-7 supports the growth of early B cells from long-term lymphoid bone marrow cultures.⁴ It is mitogenic to thymocytes and enhances the response of cells to other stimuli such as PHA and ConA.⁵ IL-7 stimulates the proliferation of CD4⁺/CD8⁺ cells.^{5,6} The proliferative response of thymocytes to IL-7 is not affected by antibodies to T cell growth factors such as IL-2, IL-4, and IL-6, suggesting IL-7 is capable of stimulating T cell proliferation through a pathway independent of the known T cell growth factors.⁵ Mature T cells respond to IL-7 and Con A, but not to IL-7 alone.

The product is lyophilized from a 0.2 μm filtered solution of 10 mM acetic acid containing 250 μg bovine serum albumin (BSA) as a carrier protein.

Purity: $\geq 98\%$ (SDS-PAGE and HPLC)

The biological activity of human, recombinant Interleukin-7 is measured in a cell proliferation assay using PHA activated human peripheral blood lymphocytes.⁷ The EC₅₀ is defined as the effective concentration of growth factor that elicits a 50% increase in cell growth in a cell based bioassay.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

Reconstitute the contents of the vial using water to a concentration of 0.1–1.0 mg/mL. This solution can then be diluted into other aqueous buffers and stored in working aliquots at $-20\text{ }^{\circ}\text{C}$.

Storage/Stability

Prior to reconstitution, store the product at $-20\text{ }^{\circ}\text{C}$. After reconstitution, freeze in working aliquots at $-20\text{ }^{\circ}\text{C}$. Repeated freezing and thawing is not recommended.

References

1. Goodwin, R.G., et al., Proc. Natl. Acad. Sci., USA, **86**, 302 (1989).
2. Henney, C.S., Immunology Today, **10**, 170 (1989).
3. Namen, A.E., et al., Nature, **333**, 571 (1988).
4. Namen, A.E., et al., J. Exp. Med., **167**, 988 (1988).
5. Conlon, P.J., et al., Blood, **74**, 1368 (1989).
6. Suda, T., et al., J. Immunol., **144**, 3039 (1990).
7. Yokota, T., et al., Proc. Natl. Acad. Sci. USA, **83**, 5894 (1986).

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