

Recombinant Human IL-7 Protein (GMP Grade)

Please read the manual carefully before use.

Cat. No. PM109

Version No. Version 1.0

Storage: at -18°C or below for two years.

Description

Interleukin-7 (IL-7) is a non-redundant cytokine produced by non-lymphoid cells, and can also be secreted by dendritic cells, macrophages, and fibroblasts. It is essential for T cell development in both humans and mouse, as well as B cell development in mouse^[1]. IL-7 delivers growth and survival signals through the IL-7 receptor, helping to maintain the size and subset composition of the peripheral T cell pool. IL-7 regulates memory CD8⁺ T cells in response to viral infections. When combined with adoptive transfer of T cells following herpes simplex virus type I infection, IL-7 can enhance viral clearance^[2]. Additionally, IL-7 can improve immune recovery after allogeneic hematopoietic stem cell transplantation without inducing severe toxicity, even in cases of T-cell exhaustion^[3].

Product Information

Expressed system: CHO

Predicted molecular weight: 17.3 kDa

Purity: > 95% by SDS-PAGE analysis

Endotoxin: < 10 EU/mg

Biological activity: Measured in a cell proliferation assay using the human pre-B cell line NALM-6. The ED50 for this effect is less than 30 ng/ml.

Form: Sterile lyophilized powder

Kit Content

Component	PM109-01	PM109-02	PM109-03
Recombinant Human IL-7 Protein (GMP Grade)	10 µg	50 µg	1 mg

Instructions for Use

The lyophilized powder can be stored at -20°C for 2 years.

Reconstitution: Dissolve it in water for injection (WFI) or sterile ultrapure water to a concentration of no less than 100 µg/ml. After reconstitution, aliquot into small portions and store at -20°C for up to 6 months, or at -80°C for up to 12 months. For short-term use, store at 2-8°C for up to 1 week. Avoid repeated freeze-thaw cycles.

References

- [1] Moniuszko M, Fry T, et al. Recombinant interleukin-7 induces proliferation of naive macaque CD4⁺ and CD8⁺ T cells in vivo. *J Virol.* 2004 Sep;78(18):9740-9.
- [2] Meyer A, Parmar PJ, Shahrara S. Significance of IL-7 and IL-7R in RA and autoimmunity. *Autoimmun Rev.* 2022 Jul;21(7):103120.
- [3] Kaiser FMP, Janowska I, et al. IL-7 receptor signaling drives human B-cell progenitor differentiation and expansion. *Blood.* 2023 Sep 28;142(13):1113-1130.

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