

Recombinant Human IL-7 Protein

Size / Cat.No.: 50µg / GMP-TL506-0050
100µg / GMP-TL506-0100
1mg / GMP-TL506-1000 (Customized)

Product Name

Generic Name Recombinant Human IL-7 Protein

Synonym IL7,Interleukin-7

Product Information

Protein sequence A DNA sequence encoding the human IL-7 (P13232-1: D26-H177) was expressed with a Fc-tag at the C-terminus.

Expression Host CHO cells

QC Testing Purity > 95 % as determined by SDS-PAGE and HPLC.

Activity Cell proliferation assay was performed on PBMC cells activated with CD3 monoclonal antibody, with an ED₅₀ of 0.5-20ng/mL and a corresponding specific activity of >1 × 10⁷IU/mg (calibrated according to human IL-7 reference standard (NIBSC code: 90/530)).

Endotoxin < 0.01EU per 1µg of the protein by the LAL method.

Molecular Mass The recombinant human IL-7 protein predicts a molecular mass of 43.8 kD.

Formulation Lyophilized from sterile PBS, pH 7.4. Normally 6 % mannitol are added as protectants before lyophilization.

Stability & Storage Lyophilized preparation can be stored at -20 °C.
6 months at -20°C under sterile conditions after reconstitution.
12 months at -80°C under sterile conditions after reconstitution.
Recommend to aliquot the protein into smaller quantities after reconstituting with water for injection, normal saline or PBS, and keep the diluted concentration above 100µg/mL.
Avoid repeated freeze-thaw cycles.

Background

IL-7 is an important cytokine for the growth, survival, and differentiation of T, B, and NK cells. The heterodimer formed by IL-7 and hepatocyte growth factor (HGF) is a precursor B cell growth stimulating factor. Studies on gene knockout in mice have shown that IL-7 plays a crucial role in the survival of lymphocytes. IL-7 stimulates pluripotent stem cells to differentiate into lymphoid progenitor cells.

References

1. Aliyari Z, Alemi F, Brazvan B, Tayefi Nasrabadi H, Nozad Charoudeh H. CD26+ Cord Blood Mononuclear Cells Significantly Produce B, T, and NK Cells. *Iran J Immunol.* 2015;12(1):16–26.
2. H.R. Kim, K.A. Hwang, S.H. Park, I. Kang. IL-7 and IL-15: biology and roles in T-Cell immunity in health and disease. *Crit Rev Immunol*, 28 (2008), pp. 325-339.
3. Su N, Shi SX, Zhu X, Borazanci A, Shi F, Gan Y. Interleukin-7 expression and its effect on natural killer cells in patients with multiple sclerosis. *J Neuroimmunol* (2014) 276:180–6.