

Recombinant Human IL-7 Protein

Catalog Number: TL-506

Product name

Generic names	Recombinant Human IL-7 Protein
Gene Name Synonym	Lymphopoietin 1(LP-1), pre-B cell factor

Product information

Construction	A DNA sequence encoding the extracellular domain of human IL-7 (NP_000871.1) was expressed with the C-terminal fused Fc region of human IgG1.
Source	Human
Expression Host	CHO cells
QC Testing Purity	> 95 % as determined by SDS-PAGE
Bio Activity	The ED ₅₀ was determined by the dose-dependent stimulation of the proliferation of murine 2E8 cells is ≤ 0.5 ng/ml, corresponding to a specific activity of $\geq 2 \times 10^6$ units/mg.
Endotoxin	< 0.01EU per mg of the protein as determined by the LAL method.
Molecular Mass	The recombinant human IL-7 consists of 395 amino acids and predicts a molecular mass of 42.5 KDa.
Formulation	Lyophilized from sterile PBS, pH 7.4. Normally 6 % - 8 % trehalose, mannitol are added as protectants before lyophilization.
Stability & Storage	Samples are stable for up to 24 months from date of receipt at 4 °C . Recommend to aliquot the protein into smaller quantities for optimal storage. Avoid repeated freeze-thaw cycles.

Background

IL-7, also known as interleukin 7, is a hematopoietic growth factor which belongs to the IL-7/IL-9 family. It is secreted by stromal cells in the bone marrow and thymus. IL-7 stimulates the proliferation of lymphoid progenitors. Produced by thymic stromal cells, spleen cells and keratinocytes, IL-7 can also co-stimulate the proliferation of mature T cells in combination with other factors, such as ConA and IL-2. It is important for proliferation during certain stages of B-cell maturation. IL-7 and the hepatocyte growth factor (HGF) form a heterodimer that functions as a pre-pro-B cell growth-stimulating factor. It is found to be a cofactor for V(D)J rearrangement of the T cell receptor beta (TCR β) during early T cell development. IL7 can be produced locally by intestinal epithelial and epithelial goblet cells, and may serve as a regulatory factor for intestinal mucosal lymphocytes. IL-7 is a hematopoietic growth factor that primarily affects early B and T cells.

References

1. Watanabe M, et al. (1995) Interleukin 7 is produced by human intestinal epithelial cells and regulates the proliferation

2. of intestinal mucosal lymphocytes.
2. J Clin Invest. 95(6):2945-53. Sawa Y, et al. (2009) Hepatic interleukin-7 expression regulates T cell responses. Immunity. 30 (3):447- 57.
3. Flad HD, et al. (1996) Human follicular dendritic cells and vascular cells produce interleukin-7: a potential role for interleukin-7 in the germinal center reaction. Eur J Immunol. 26(10): 2541-4.