

# Human IL7 / interleukin 7 Protein

Catalog Number: 11821-HNAE



Sino Biological  
Biological Solution Specialist

## General Information

### Gene Name Synonym:

IL-7; Interleukin-7

### Protein Construction:

A DNA sequence encoding the mature form of human IL7 (NP\_000871.1) (Asp26-His177) was expressed with a N-terminal Met.

**Source:** Human

**Expression Host:** E. coli

## QC Testing

**Purity:** ≥ 95 % as determined by SDS-PAGE. ≥ 95 % as determined by SEC-HPLC. ≥ 95 % as determined by SEC-MALS (Routinely tested).

### Bio Activity:

1. Measured in a cell proliferation assay using anti-CD3 antibody activated human peripheral blood mononuclear cell (PBMC). The ED50 for this effect is typically 0.5-8 ng/ml.

2. Recombinant Human CD127 / IL-7RA Protein (Fc Tag) (Cat: 10975-H02H) captured on Protein A chip, can bind Recombinant Human IL7 / interleukin 7 Protein (Cat: 11821-HNAE) with an affinity constant of 54.680 nM as determined in an SPR assay (Biacore T200) (Routinely tested).

### Endotoxin:

< 0.01 EU per µg of the protein.

**Predicted N terminal:** Met

### Molecular Mass:

The recombinant human IL7 consists of 153 amino acids and predicts a molecular mass of 17.5 KDa. It migrates as an approximately 20.4 KDa band in SDS-PAGE under reducing conditions. The molecular weight of this protein is around 18.8 kDa verified by SEC-MALS (Routinely tested).

### Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

## Usage Guide

### Stability & Storage:

Samples are stable for twelve months from date of receipt at -20°C to -80°C.

Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## SDS-PAGE:



## Protein Description

IL7, 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. IL7 stimulates the proliferation of lymphoid progenitors. It is important for proliferation during certain stages of B-cell maturation. IL7 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 (TCRβ) 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.

## References

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