

## Recombinant human IL7, Active, His-tagged

Cat. No. IL7-1559H Lot. No. (See product label)

### SPECIFICATION

**Product Overview** Recombinant human Interleukin 7 is a glycosylated polypeptide chain containing 160 amino acids (26 -177 of P13232 IL7\_HUMAN ), fused to His tag at N-terminal. rHuman IL-7 migrate at approximately 18-25 kDa by SDS-PAGE.

**Species** Human

**Source** Nicotiana Benthamiana

**ProteinLength** 26-177 a.a.

**Description** Interleukin-7 (IL-7) is a member of the interleukin family which regulates the development and survival of lymphoid and myeloid cells. It has a potent effect for the stimulation of the adaptative immune response, it promotes proliferation of lymphoid progenitors (Pre-B, Pro-B and early T cells), and the effects include mobilization, maturation, and maintenance of IL-7 responsive immune cells. The biological functions of IL-7 as a key "lymphotrophin" in JAK-STAT pathways, PI3 kinase pathway, and Src kinase pathway. IL-7 has also been shown to play a vital role in energy metabolism of T cells and regulating glucose uptake in T lymphocytes through Glut1 via activation of STAT5 and Akt. It has a thymic antiapoptotic effect, and induce the expression of antiapoptotic proteins Bcl-2 and Mcl-1 and the inhibition of preapoptotic proteins Bax and Bad. IL-7 has potential therapeutic applications for the lymphoid reconstitution of immuno-depressed patients (chemotherapy, radiation, AIDS, and bone marrow transplant).

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<b>Form</b>	Recombinan human IL-7 is lyophilized from 10 mM PBS buffer pH 7.5 and 0.2 M NaCl.
<b>Molecular Mass</b>	Approximately 18-25 kDa by SDS-PAGE.
<b>AA Sequence</b>	HHHHHHHHDCDIEGKDGKQYESVLMV/SIDQLLDSMKEIGSNCLNNEFNFFKRHICDA NKEGMFLFRAARKLRQFL KMNSTGDFDLHLLKVSEGTILLNCTGQVKGRKPAALG EAQPTKSLEENKSLKEQKLLNDLCFLKRLLEIKTCW NKILMGTKEH
<b>Endotoxin</b>	< 0.04="" eu/μg="" protein="" (lal="">
<b>Purity</b>	>97% by SDS-PAGE gel
<b>Storage</b>	This lyophilized preparation is stable at 2-8o C for short term, long storage it should be kept at -20oC. Reconstituted protein should be stored in working aliquots at -20°C. Repeated freezing and thawing is not recommended.
<b>Reconstitution</b>	Centrifuge the vial prior to opening and reconstitute in water to a concentration of 50ng/ul. The initial reconstitution is a crucial step as it assures full solubility of the IL-7. When reconstituting the product, gently pipet and wash down the slides of the vial to ensure full recovery of the protein into solution. Optimal concentration should be determined for specific application and cell lines.

## GENE INFORMATION

<b>Gene Name</b>	IL7 interleukin 7 [ Homo sapiens ]
<b>Official Symbol</b>	IL7
<b>Synonyms</b>	IL7; interleukin 7; interleukin-7; IL 7; IL-7;

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<b>Gene ID</b>	3574
<b>mRNA Refseq</b>	NM_000880
<b>Protein Refseq</b>	NP_000871
<b>MIM</b>	146660
<b>UniProt ID</b>	P13232
<b>Chromosome Location</b>	8q12-q13
<b>Pathway</b>	Cytokine Signaling in Immune system, organism-specific biosystem; Cytokine-cytokine receptor interaction, organism-specific biosystem; Cytokine-cytokine receptor interaction, conserved biosystem; Hematopoietic cell lineage, organism-specific biosystem; Hematopoietic cell lineage, conserved biosystem; Immune System, organism-specific biosystem; Interleukin-7 signaling, organism-specific biosystem;
<b>Function</b>	cytokine activity; cytokine receptor binding; growth factor activity; growth factor activity; interleukin-7 receptor binding; protein binding;

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