

Active Recombinant Human Interleukin 7, His tagged, Animal Free

Cat. No. IL7-67H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Human recombinant protein expressed in <i>Nicotiana benthamiana</i> . It is produced by transient expression in non-transgenic plants and is purified by sequential chromatography (FPLC). rHuman 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. This product contains no animal-derived components or impurities. Animal Free product.
Species	Human
Source	<i>Nicotiana Benthamiana</i>
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

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	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).
Form	Recombinant human IL-7 is lyophilized from 10mM PBS buffer pH 7.5 and 0.2 M NaCl.
Bio-activity	Biological Activity: The activity of recombinant Human Interleukin-7 is measured in a cell proliferation assay using PHA activated human peripheral blood lymphocytes. The ED50 for this effect is typically <10ng l="" in="" presence="" of="" goat="" anti-human="" igm="" (μ="" chain="">
Molecular Mass	rHuman 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 approximatly 18–25 kDa by SDS-PAGE.
AA Sequence	HHHHHHHHDCDIEGKDGKQYESVLMVSIQLLDSMKEIGSNCLNNEFNFFKRHICDA NKEGMFLFRAARKLRQFL KMNSTGDFDLHLLKVSEGTTILLNCTGQVKGRKPAALG EAQPTKSLEENKSLEQKKLNDLCFLKRLLQEIKTCWN KILMGTKEH
Endotoxin	< 0.04="" eu/μg="" protein="" (lal="">
Purity	>97% by SDS-PAGE gel
Applications	Cell culture. Western Blot. For R+D purposes only. Purchaser must determine the suitability of the product for their particular use.
Stability	This lyophilized preparation is stable at 2-8oC for short term, long storage it should be kept at -20oC.

Storage	Reconstituted protein should be stored in working aliquots at –20°C. Repeated freezing and thawing is not recommended.
Reconstitution	Lyophilized protein should be reconstituted in water following instructions of batch Quality Control sheet. At higher concentrations the solubility may be reduced and multimers generated. Optimal concentration should be determined for specific application.
GENE INFORMATION	
Gene Name	IL7 interleukin 7 [Homo sapiens]
Official Symbol	IL7
Synonyms	IL7; interleukin 7; interleukin-7; IL 7; IL-7;
Gene ID	3574
mRNA Refseq	NM_000880
Protein Refseq	NP_000871
MIM	146660
UniProt ID	P13232
Chromosome Location	8q12-q13
Pathway	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;

Function

cytokine activity; cytokine receptor binding; growth factor activity; growth factor activity; interleukin-7 receptor binding; protein binding;

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