Recombinant Human Interleukin 7, 152aa

Cat. No. IL7-66H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human Interleukin-7 produced in*Yeast*is a single, glycosylated polypeptide chain containing 152 amino acids and having a molecular mass of 17.4 kDa. The IL-7 is purified by proprietary chromatographic techniques.
Species	Human
Source	S.Cerevisiae
Description	IL-7 is a cytokine important for B and T cell development. This cytokine and the hepatocyte growth factor (HGF) form a heterodimer that functions as a pre-pro-B cell growth-stimulating factor. This cytokine is found to be a cofactor for V (D) J rearrangement of the T cell receptor beta (TCRB) during early T cell development. This cytokine can be produced locally by intestinal epithelial and epithelial goblet cells, and may serve as a regulatory factor for intestinal mucosal lymphocytes. Knockout studies in mice suggested that this cytokine plays an essential role in lymphoid cell survival.
Amino Acid Sequence	The sequence of the first five N-terminal amino acids was determined and was found to be Asp-Cys-Asp-Ile-Glu.
Physical Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
Purity	Greater than 98.0% as determined by: (a) Analysis by RP-HPLC. (b) Analysis by SDS-PAGE.

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Formulation	Lyophilized from a concentrated (1mg/ml) solution in water containing 20mM phosphate buffer.
Solubility	It is recommended to reconstitute the lyophilized Interleukin-7 in sterile 18MΩ-cm H_2O not less than 100µg/ml, which can then be further diluted to other aqueous solutions.
Biological Activity	The ED_{50}as determined by the dose-dependent stimulation of thymidine uptake by murine pre-B cell line 2E8 is < 0.5 ng/mL, corresponding to a specific activity of > 2 x 10^6IU/mg.
Protein Content	Protein quantitation was carried out by two independent methods: 1. UV spectroscopy at 280 nm using the absorbency value of 0.418 as the extinction coefficient for a 0.1% (1mg/ml) solution. This value is calculated by the PC GENE computer analysis program of protein sequences (IntelliGenetics). 2. Analysis by RP-HPLC, using a standard solution of IL-7 as a Reference Standard.
Storage	Lyophilized Interleukin-7 although stable at room temperature for 3 weeks, should be stored desiccated below -18℃. Upon reconstitution IL7 should be stored at 4℃between 2-7 days and for future use below -18℃. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

GENE INFORMATION

Gene Name	IL7 interleukin 7 [Homo sapiens]
Synonyms	IL7; interleukin 7; IL-7; Interleukin-7;IL7 nirs variant 6
Gene ID	3574

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mRNA Refseq	NM_000880
Protein Refseq	NP_000871
UniProt ID	P13232
Chromosome Location	8q12-q13
MIM	146660
Pathway	Cytokine-cytokine receptor interaction; Hematopoietic cell lineage; Jak-STAT signaling pathway
Function	cytokine activity; growth factor activity; interleukin-7 receptor binding; protein binding

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