

# Active Recombinant Human IL7 Protein (Asp26-His177), GMP Grade, Animal-Free

Cat. No. IL7-23HG Lot. No. (See product label)

## SPECIFICATION

<b>Product Overview</b>	GMP recombinant human IL-7 protein (Asp26-His177) with an N-terminal Met was expressed in E. coli, produced in an Animal-Free laboratory and manufactured and tested under cGMP guidelines.
<b>Species</b>	Human
<b>Source</b>	E.coli
<b>ProteinLength</b>	Asp26-His177
<b>Description</b>	<p>The protein encoded by this gene 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. IL7 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. IL7 plays an essential role in lymphoid cell survival, and in the maintenance of naive and memory T cells. Alternative splicing results in multiple transcript variants encoding distinct isoforms. Additional splice variants have been described but their presence in normal tissues has not been confirmed. Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection can be a potent inducer of proinflammatory cytokines and chemokines which may defend against the infection, but may also mediate destructive lung injury. Elevated serum IL7 levels,</p>

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together with several other circulating cytokines and chemokines, has been found to be associated with the severity of Coronavirus Disease 19 (COVID-19).

**Bio-activity**

Measured in a cell proliferation assay using PHA-activated human peripheral blood lymphocytes (PBL). The ED50 for this effect is 0.100-0.500 ng/mL. The specific activity of Recombinant Human IL-7 is >1.00 x 10<sup>8</sup> units/mg, which is calibrated against the human IL-7 reference standard.

**Molecular Mass**

Predicted Molecular Mass: 17 kDa  
SDS-PAGE: 17 kDa, under reducing conditions

**N-terminal Sequence Analysis**

Met-Asp26-(Cys)-Asp-Ile-Glu-Gly-Lys-Asp-Gly

**Endotoxin**

<0.10 EU/ µg of the protein by the LAL method.

**Purity**

>97%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.

**Storage**

Use a manual defrost freezer and avoid repeated freeze-thaw cycles.  
A minimum of 12 months when stored at ≤ -20 centigrade as supplied. Refer to lot specific COA for the Use by Date.  
1 month, 2 to 8 centigrade under sterile conditions after reconstitution.  
3 months, ≤ -20 centigrade under sterile conditions after reconstitution.

**Storage Buffer**

Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose.

**Reconstitution**

Reconstitute at 100-500 µg/mL in PBS.

**Shipping**

The product is shipped with polar packs.

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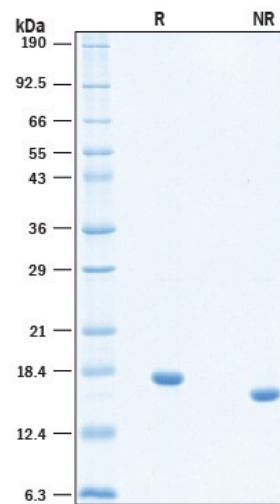
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## GENE INFORMATION

<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;
<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

### SDS-PAGE

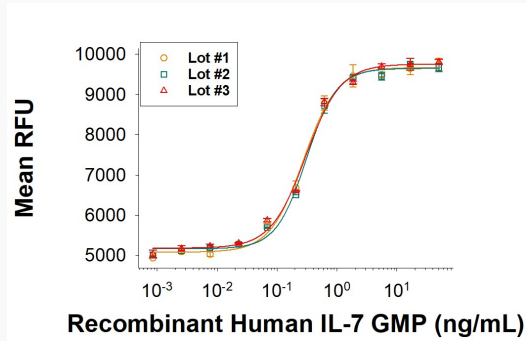


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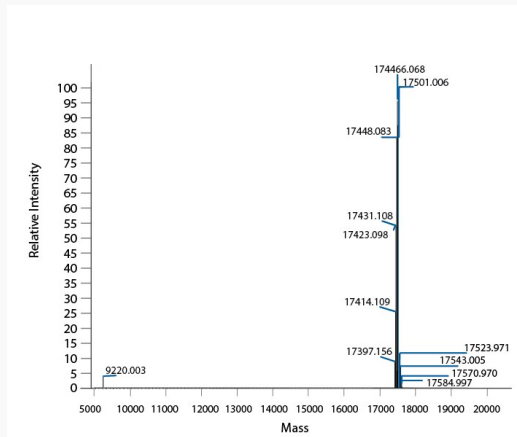
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**Bioactivity**



**Mass Spectrometry**



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