

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

Cat. No. IL7-03HG Lot. No. (See product label)

SPECIFICATION

Product Overview	GMP Recombinant Human IL7 Protein, Asp26-His177, with an N-terminal Met was expressed in E. coli and produced using non-animal reagents in an animal-free laboratory under cGMP guidelines.
Species	Human
Source	E.coli
ProteinLength	Asp26-His177
Description	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,

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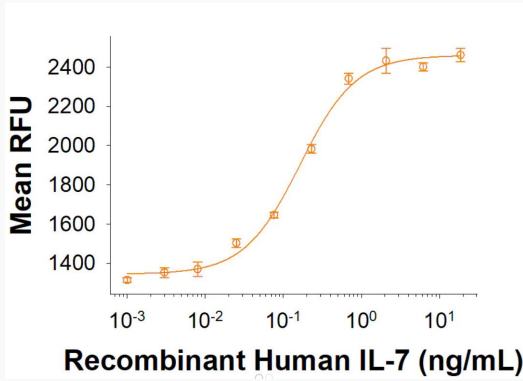
	together with several other circulating cytokines and chemokines, has been found to be associated with the severity of Coronavirus Disease 19 (COVID-19).
Bio-activity	Measured in a cell proliferation assay using PHA-activated human peripheral blood lymphocytes (PBL). The ED50 for this effect is 0.100-0.500 ng/mL. The specific activity of Recombinant Human IL-7 is $>1.00 \times 10^8$ 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
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. 12 months from date of receipt, -20 to -70 centigrade as supplied. 1 month, 2 to 8 centigrade under sterile conditions after reconstitution. 3 months, -20 to -70 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 at ambient temperature.

GENE INFORMATION

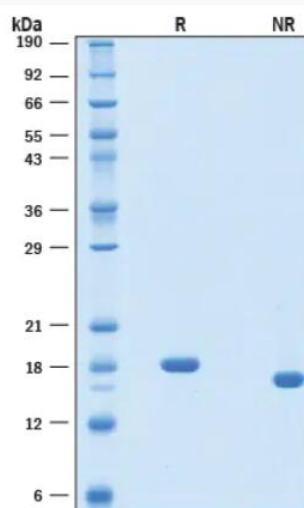
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Gene Name	IL7 interleukin 7 [Homo sapiens]												
Official Symbol	IL7												
Synonyms	IL7; interleukin 7; interleukin-7; IL 7; IL-7												
Gene ID	3574												
mRNA Refseq	NM_000880												
Protein Refseq	NP_000871												
MIM	146660												
UniProt ID	P13232												
Bioactivity	 <table border="1"> <caption>Approximate data points from the IL-7 bioactivity graph</caption> <thead> <tr> <th>Recombinant Human IL-7 (ng/mL)</th> <th>Mean RFU</th> </tr> </thead> <tbody> <tr><td>10⁻³</td><td>1350</td></tr> <tr><td>10⁻²</td><td>1400</td></tr> <tr><td>10⁻¹</td><td>1650</td></tr> <tr><td>10⁰</td><td>2350</td></tr> <tr><td>10¹</td><td>2400</td></tr> </tbody> </table>	Recombinant Human IL-7 (ng/mL)	Mean RFU	10 ⁻³	1350	10 ⁻²	1400	10 ⁻¹	1650	10 ⁰	2350	10 ¹	2400
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SDS-PAGE



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