

## Recombinant Human IL-7

Catalog No.: RP0042

### Basic Information

#### Information

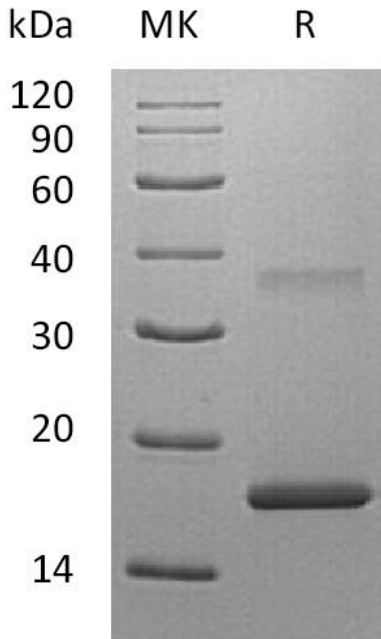
<b>Source</b>	<i>E.coli</i>
<b>Description</b>	Recombinant Human Interleukin-7 is produced by our E.coli expression system and the target gene encoding Asp26-His177 is expressed.
<b>Accession</b>	P13232
<b>Known As</b>	Interleukin-7; IL-7; IL7
<b>Predicted Mol Mass</b>	17.5 KDa
<b>Apparent Mol Mass</b>	18 KDa, reducing conditions

#### Properties

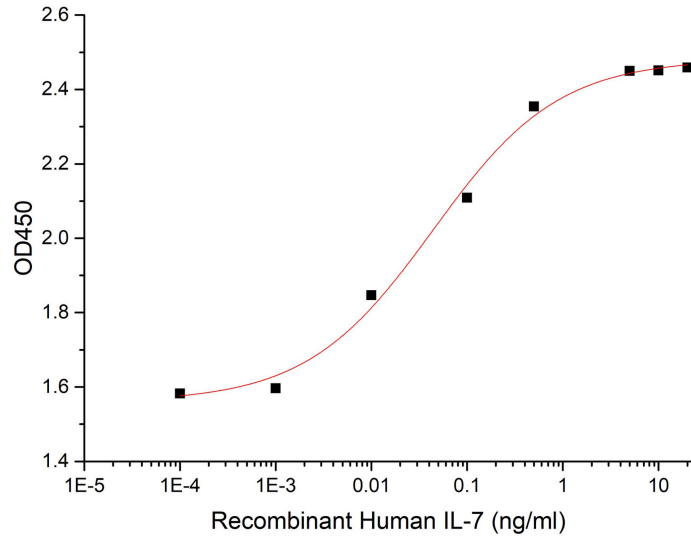
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution of 20mM PB, 300mM NaCl, pH 8.0.
<b>Storage</b>	Lyophilized protein should be stored at ≤ -20°C, stable for one year after receipt. Reconstituted protein solution can be stored at 2-8°C for 2-7 days. Aliquots of reconstituted samples are stable at ≤ -20°C for 3 months.
<b>Endotoxin</b>	< 1 EU/µg as determined by LAL test.
<b>Reconstitution</b>	Always centrifuge tubes before opening. Do not mix by vortex or pipetting. It is not recommended to reconstitute to a concentration less than 100µg/ml. Dissolve the lyophilized protein in distilled water. Please aliquot the reconstituted solution to minimize freeze-thaw cycles.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature listed below.

## Experimental Data

### Purity-SDS-PAGE



### Bioactivity-Cell Based Assay



Greater than 95% as determined by reducing SDS-PAGE. (QC verified)

Measured in a cell proliferation assay using PHA-activated human peripheral blood lymphocytes (PBL). The ED50 for this effect is 0.02-0.08 ng/ml. (QC verified)

## Background

Human Interleukin 7 (IL-7) is a potent lymphoid cell growth factor stimulating the proliferation of lymphoid progenitors. IL7 can associate with the hepatocyte growth factor (HGF) to form a hybrid cytokine that functions as a pre-pro-B cell growth-stimulating factor. Human IL7 cDNA encodes a 177 amino acid precursor protein containing a 25 amino acid signal peptide and a 152 amino acid mature protein. Human and mouse IL7 share 65% sequence identity in the mature region and both exhibit cross-species activity. IL-7 signals via IL-7 receptor (IL7R) activating multiple pathways including JaK/STAT and PI3K/AKT, which regulate lymphocyte survival, glucose uptake, proliferation, and differentiation. IL-7 is also associated with cytoplasmic IL2-R gamma for signal transduction.