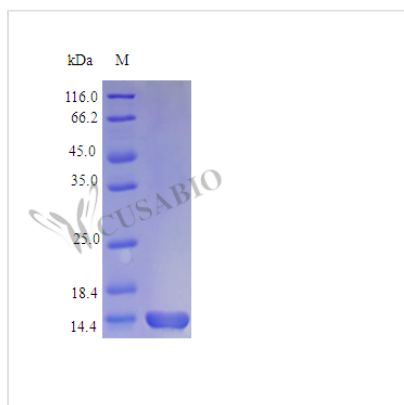




# Recombinant Mouse Interleukin-7 protein (IL7) (Active)

<b>Product Code</b>	CSB-AP003331MO
<b>Uniprot No.</b>	P10168
<b>Form</b>	Lyophilized powder
<b>Storage Buffer</b>	Lyophilized from a 0.2 µm filtered PBS, pH 7.4, 2 % trehalose
<b>Product Type</b>	Interleukin
<b>Immunogen Species</b>	Mus musculus (Mouse)
<b>Biological Activity</b>	Fully biologically active when compared to standard. The ED50 as determined by a cell proliferation assay using murine 2E8 cells is less than 0.2 ng/ml, corresponding to a specific activity of >5.0x10 <sup>6</sup> IU/mg.
<b>Purity</b>	>96% as determined by SDS-PAGE.
<b>Sequence</b>	ECHIKDKEGK AYESVLMISI DELDKMTGTD SNCPNNEPNF FRKHVCDDTK EAAFLNRAAR KLKQFLKMNI SEEFNVHLLT VSQGTQTLVN CTSKEEKNVK EQKKNDACFL KRLLREIKTC WNKILKGS
<b>Research Area</b>	Immunology
<b>Source</b>	E.coli
<b>Target Names</b>	IL7
<b>Expression Region</b>	26-154aa
<b>Notes</b>	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
<b>Tag Info</b>	Tag-Free
<b>Mol. Weight</b>	14.9 kDa
<b>Protein Length</b>	Full Length of Mature Protein
<b>PubMed ID</b>	3259677; 2329282

## Image





## Description

To create the recombinant mouse interleukin-7 (IL7), CUSABIO uses genetic engineering techniques to insert the DNA fragment that encodes the 26-154aa of IL7 protein into a plasmid and then transform the recombinant plasmid into E.coli cells for protein expression. The E.coli serves as a factory for producing the IL7 protein using its cellular machinery. The recombinant mouse IL7 is extracted from the cell lysate and then subjected to affinity chromatography purification. Its purity reaches over 96% as assessed by SDS-PAGE. It contains endotoxin less than 1.0 EU/μg as measured by the LAL method. This mouse IL protein has also been validated to be biologically active in a cell proliferation assay. Its ED<sub>50</sub> is less than 0.2 ng/ml using murine 2E8 cells, corresponding to a specific activity of >5.0x10<sup>6</sup> IU/mg.

IL7 is a crucial cytokine that plays a significant role in the development and maintenance of B and T cells in mice [1][2]. It has been identified as a proliferation factor for B-cell progenitors [3]. Studies have shown that IL7 is essential for the survival of memory T lymphocytes and for promoting the clonal expansion of activated lymphocytes [4]. Furthermore, IL7 has been found to enhance the development of functional human T cells and boost thymic human T cell development [5][6]. In mouse models, IL7 has been demonstrated to regulate the survival and generation of memory CD4 cells [7].

IL7 has also been associated with immune responses against cancer, as it can enhance vaccine-induced antitumor immunity and improve mouse survival in tumor-bearing models by increasing the survival and cytolytic activity of activated T cells [8]. Additionally, IL7 has been shown to induce the expansion and cytotoxic activity of cytotoxic T lymphocytes (CTL) in the presence of other cytokines like IL15.

### References:

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**Endotoxin**

Less than 1.0 EU/μg as determined by LAL method.

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**Reconstitution**

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL. We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.

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**Shelf Life**

The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself.

Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.