

# Recombinant human IL-7

Mammalian cell-expressed human interleukin 7 (IL-7)

Cat. codes: rcyc-hil7, rcyc-hiL7-5

<https://www.invivogen.com/cytokines-human-il-7-recombinant-protein>

For research use only

Version 24L17-AK

## PRODUCT INFORMATION

### Contents

Recombinant human IL-7 is provided lyophilized and is available in two quantities:

- **rcyc-hil7**: 10 µg
- **rcyc-hil7-5**: 2 x 25 µg

*Note:* This product is sterile filtered prior to lyophilization.

- 1.5 ml endotoxin-free water

### Storage and stability

- Recombinant human IL-7 is shipped at room temperature. Upon receipt it should be immediately stored at -20 °C. Lyophilized product is stable for 12 months at -20 °C.
- Upon resuspension, prepare aliquots of recombinant human IL-7 and store at 4 °C for up to 1 week or at -80 °C for up to 12 months.

*Note:* Avoid repeated freeze-thaw cycles.

### Quality control

- Purity: ≥ 95% (SDS-PAGE)
- Endotoxin level: ≤ 0.1 EU/µg (LAL assay)
- The biological activity has been confirmed using **HEK-Blue™ IL-7 cells** (see validation data sheet available on our website).

### Characteristics

- Alternative name: Interleukin-7, IL7, Lymphopoietin 1 (LP-1), pre-B cell factor
- Source: Mammalian; Chinese hamster ovary (CHO) cells
- Molecular mass: ~17.5 kDa (SDS PAGE)
- Carrier-free
- Tag-free
- UniProt ID: P13232
- Protein sequence: Asp26-His177
- Formulation: Recombinant human IL-7 was lyophilized from a 0.2 µm filtered 20 mM Sodium Phosphate, 150 mM NaCl, and 5% saccharose buffer solution (pH 7).
- Solubility: 100 µg/ml in water
- IU/mg: *Please refer to the corresponding certificate of analysis (CoA)*

## APPLICATIONS

- Cellular assays
- Cell culture (T cell activation and expansion)
- ELISA

## PRODUCT DESCRIPTION

Interleukin 7 (IL-7) is a hematopoietic growth factor that is involved in lymphocyte differentiation, proliferation, and survival<sup>1</sup>. It signals through the heterodimeric cell surface IL-7 receptor (IL-7R) consisting of IL-7R $\alpha$  (also called CD127) and IL-2R $\gamma$  (also called the common  $\gamma$ -chain or CD132)<sup>1</sup>. IL-7 is extensively being studied as an adjuvant for cancer vaccines and for its role in CAR T cell expansion<sup>2</sup>.

InvivoGen's recombinant human IL-7 can be used to induce its cognate signaling pathway in **HEK-Blue™ IL-7 cells**. It is tag- and carrier-free, and is produced in Chinese hamster ovary (CHO) cells. Production of recombinant proteins in mammalian cells ensures protein glycosylation and *bona fide* 3D structure.

1. Lin J. *et al.*, 2017. The role of IL-7 in Immunity and Cancer. *Anticancer Res.* 37(3):963-7.

2. Sudarsanam H, *et al.*, 2022. Influence of Culture Conditions on Ex Vivo Expansion of T Lymphocytes and Their Function for Therapy: Current Insights and Open Questions. *Front Bioeng Biotechnol.* 10:886637.

## METHODS

### Preparation of stock solution (100 µg/ml):

1. Add 100 µl endotoxin-free water (provided) to 10 µg of recombinant human IL-7 and mix gently by pipetting until completely resuspended.
2. Use immediately or prepare aliquots and store at 4 °C for up to 1 week or at -20 °C to -80 °C for up to 12 months. Avoid freeze-thaw cycles.
3. Further dilutions can be prepared in the appropriate aqueous buffer, such as cell culture medium containing serum.

## RELATED PRODUCTS

Product	Cat. Code
HEK-Blue™ IL-7 cells	hkb-il7
bsAb CD3-CD28 for T cell expansion	bsab-tex-1
Recombinant human IL-2	rcyc-hil2

### TECHNICAL SUPPORT

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