Miltenyi Biotec

Human IL-7
premium grade

Contents

1. Description

Products

Human IL-7, premium grade.

Recombinant human interleukin 7.

Content in µg	Order no.
10	130-095-361
25	130-095-362
100	130-095-363
1000	130-095-364

Biological activity

The ED_{50} is ≤0.02 ng/mL corresponding to an activity of ≥5×10^7 U/mg. For lot-specific activities, please contact our technical support.

▲ **Note:** The ED_{50} is determined by proliferation assay using mouse 2E8 cells according to Ishihara, K. *et al.*[1] The proliferation assay was calibrated with the reference standard for human IL-7 (NIBSC code 90/530) provided by the WHO/National Institute for Biological Standards and Control.

Primary structure

Single non-glycosylated polypeptide chain (152 amino acid residues).

Molecular mass

17.4 kDa.

Source

Produced in *E. coli*.

Product format

Lyophilized from a filtered (0.2 µm) buffer solution.

Stabilizer

Mannitol and trehalose.

Purity

>95% as determined by SDS-PAGE analysis.

Endotoxin level

Low endotoxin (<1.0 EU/µg cytokine) as determined by Limulus Amebocyte Lysate (LAL) assay.

Storage

Lyophilized Human IL-7, premium grade should be stored at –20 °C. The expiration date is indicated on the vial label. Upon reconstitution aliquots should be stored at –20 °C or below. Avoid repeated freeze-thaw cycles.

Reconstitution

It is recommended to reconstitute lyophilized Human IL-7, premium grade with deionized sterile-filtered water to a final concentration of 0.1–1.0 mg/mL in a minimal volume of 100 µL. Further dilutions should be prepared with 0.1% bovine serum albumin (BSA) or human serum albumin (HSA) in phosphate-buffered saline.

1.1 Background information

IL-7 is a member of the type I cytokine family. The primary sources of IL-7 are non-hematopoietic stromal cells in bone marrow, thymus, and lymphoid organs and tissues. It is a pleiotropic cytokine with central roles in modulating T cell development and peripheral T cell homeostasis. IL-7 can act both as a T cell growth factor as well as a critical anti-apoptotic survival factor for naive and memory T cells. IL-7 is related to IL-2 and signals through a heterodimeric receptor composed of the common cytokine signaling γ-chain and IL-7 receptor α-chain.

1.2 Applications

Human IL-7 can be used for a variety of applications, including:

- *In vitro* T cell expansion.
- *In vitro* T cell priming.
- *In vitro* differentiation of T cells and iNKT cells.
- Investigation of IL-7 mediated signaling pathways.

Optimal concentration for a specific application should be determined by a dose-response experiment.

2. References

1. Ishihara, K. *et al.* (1991) Stromal-cell and cytokine-dependent lymphocyte clones which span the pre-B-to B-cell transition. Dev. Immunol. 1: 149–161.

Refer to www.miltenyibiotec.com for all data sheets and protocols.

Warranty

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140-002-981.04

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