



PRODUCT DATA SHEET

Product: IL-7 (human recombinant)

Cat. No.: BC-281 (10 µg)

Background:

Interleukin 7 (IL-7), which is constitutively produced particularly by stromal cells from the bone marrow and thymus, plays a crucial role in T cell homeostasis. This cytokine is implicated in thymopoiesis since it sustains thymocyte proliferation and survival. It regulates peripheral naive T cell survival by modulating the expression of the anti-apoptotic molecule Bcl-2, and sustains peripheral T cell expansion in response to antigenic stimulation. Infection by the human immunodeficiency virus (HIV) leads to severe T lymphopenia and general immune dysfunction. Increased IL-7 plasma levels are generally observed in HIV-infected patients.

Source:

Recombinant Human IL-7 produced in E.Coli is a single, non-glycosylated polypeptide chain containing 172 amino acids and having a molecular mass of 17,412 Dalton.

Purity:

Greater than 98.0% as determined by:

- (a) Analysis by RP-HPLC.
- (b) Anion-exchange FPLC.
- (c) Analysis by reducing and non-reducing SDS-PAGE Silver Stained gel.

Less than 1% of the protein was dimers or aggregates as determined by silver-stained SDS-PAGE gel analysis.

Endotoxin levels are less than 0.1 ng/µg (IEU/µg) of rHu IL-7.

Sequence:

The sequence of the first five N-terminal amino acids was determined and was found to be Met-Asp-Cys-Asp-Ile.

Format:

Recombinant human IL-7 is purified by proprietary chromatographic techniques and then lyophilized from a concentrated (1 mg/mL) solution in water containing no additives. The product is prepared as a white lyophilized (freeze-dried) powder.

Biological Activity:

rHu IL-7 is fully biologically active when compared to standard. The ED50 as determined by the dose-dependant stimulation of mouse IXN/2B cells is less than 0.5 ng/mL, corresponding to a Specific Activity of 2,000,000 IU/mg.

Storage and Stability:

Lyophilized rHu IL-7, although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution rHu IL-7 should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). **Please avoid freeze-thaw cycles.**

Reconstitution:

It is recommended to reconstitute the lyophilized IL-7 in sterile 18 MΩ-cm not less than 100 µg/mL, which can then be further diluted into other aqueous solutions.

Limitations:

For *in vitro* research use only. Not for use in diagnostics or in humans.

Warranty:

No warranties, expressed or implied, are made regarding the use of this product. **KAMIYA BIOMEDICAL COMPANY** is not liable for any damage, personal injury, or economic loss caused by this product.