**DESCRIPTION**

E. coli-derived human IL-7 protein
Asp26-His177, with an N-terminal Met
Accession # P13232

**N-terminal Sequence Analysis**

Met

**Predicted Molecular Mass**

17 kDa

**SPECIFICATIONS**

**Activity**

Measured in a cell proliferation assay using PHA-activated human peripheral blood lymphocytes (PBL). Yokota, T. et al. (1986) Proc. Natl. Acad. Sci. USA 83:5894. The ED$_{50}$ for this effect is 0.1-0.5 ng/mL. The specific activity of Recombinant Human IL-7 is approximately 4.4 x 10$^5$ IU/μg, which is calibrated against human IL-7 WHO International Standard (NIBSC code: 90/530).

**Endotoxin Level**

<0.01 EU per 1 μg of the protein by the LAL method.

**Purity**

>97%, by SDS-PAGE under reducing conditions and visualized by silver stain.

**Formulation**

Lyophilized from a 0.2 μm filtered solution in PBS with BSA as a carrier protein. *1 mg pack size (01M) is supplied as a 0.2 μm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

**PREPARATION AND STORAGE**

**Reconstitution**

Reconstitute at 50 μg/mL in sterile PBS containing at least 0.1% human or bovine serum albumin.

**Shipping**

The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

**Stability & Storage**

- Use a manual defrost freezer and avoid repeated freeze-thaw cycles.
- Use within:
  - 12 months from date of receipt, -20 to -70 °C as supplied.
  - 1 month, 2 to 8 °C under sterile conditions after reconstitution.
  - 3 months, -20 to -70 °C under sterile conditions after reconstitution.

**BACKGROUND**

IL-7 (interleukin-7) is a 25 kDa cytokine of the hemopoietin family that plays important roles in lymphocyte differentiation, proliferation, and survival (1-4). Human IL-7 cDNA encodes 177 amino acids (aa) that include a 25 aa signal peptide (3). Human IL-7 shares approximately 60-63% aa sequence identity with mouse, rat, canine and feline IL-7, and 72-76% with equine, bovine, ovine, porcine, feline and canine IL-7. Human and mouse IL-7 exhibit cross-species activity (2, 3). IL-7 is produced by a wide variety of cells in primary and secondary lymphoid tissues, including stromal epithelial cells of the thymus, bone marrow, and intestines (1, 2, 5). Circulating IL-7 is limiting in healthy animals, but increases during lymphopenia (1, 6). IL-7 functions in both mouse and human pro-B cells to suppress premature Ig light chain recombination during proliferative growth (14, 15).

**REFERENCES**


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