

Product Information

Interleukin-4, human recombinant, expressed in HEK 293 cells cell culture tested, endotoxin tested

Product Number **I17003**

Storage Temperature $-20\text{ }^{\circ}\text{C}$

Synonyms: IL-4, IL4, Interleukin-4, B-cell stimulatory factor 1 (BSF-1), Lymphocyte stimulatory factor 1

Product Description

Recombinant human Interleukin-4 (IL-4) is expressed in human 293 cells as a glycoprotein with a calculated molecular mass of 14.9 kDa. This protein is manufactured in human cells using an all-human production system, with full chemically defined ingredients and with no serum. The human cells expression system allows human-like glycosylation and folding, and often supports better stability of the protein in culture.

IL-4 is a protein that has been shown to regulate a wide spectrum of functions in B cells, T cells, monocytes/macrophages and other hematopoietic and non-hematopoietic cells.¹ Among T cell clones, IL-4 is produced by Th0 and Th2 cells, but not Th1 cells, and this has now been demonstrated both in mice² and in humans.³ IL-4 blocks the production of proinflammatory cytokines such IL-6, TNF- α ,⁴ and M-CSF^{5,6} and improves the differentiation of immature DCs from CD34+ progenitors when added during the differentiation period (day 6 to day 12).^{7,8}

This product is lyophilized from phosphate buffered saline (PBS), pH 7.4, with no carrier proteins. It is aseptically filled.

The biological activity of recombinant human IL-4 was tested in culture by measuring its ability to stimulate proliferation of human TF-1 cells (human erythroleukemic indicator cell line).

ED₅₀: $\leq 1\text{ ng/mL}$

The ED₅₀ is defined as the effective concentration of growth factor that elicits a 50% increase in cell growth in a cell based bioassay.

Purity: $\geq 98\%$ (SDS-PAGE)

Endotoxin level: $\leq 1\text{ EU}/\mu\text{g IL-4}$ (LAL)

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

Briefly centrifuge the vial before opening. It is recommended to reconstitute the protein in sterile, double-distilled water to a final concentration of $100\text{ }\mu\text{g/mL}$.

Storage/Stability

Store the lyophilized product at $-20\text{ }^{\circ}\text{C}$. The product is stable for at least 2 years as supplied.

After reconstitution, it is recommended to store the protein in working aliquots at $-20\text{ }^{\circ}\text{C}$.

References

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7. Rosenzweig, M., et al., The influence of interleukin (IL)-4, IL-13, and Flt3 ligand on human dendritic cell differentiation from cord blood CD34+ progenitor cells. *Exp. Hematol.*, **26**, 63-72, (1998).
8. Rougier, N. et al., IL-4 addition during differentiation of CD34 progenitors delays maturation of dendritic cells while promoting their survival. *Eur. J. Cell Biol.*, **75**, 287-293 (1998).

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