

Product Information

Interleukin-4, mouse recombinant, expressed *E. coli*

Catalog Number **I1020**
Storage Temperature $-20\text{ }^{\circ}\text{C}$

Synonyms: IL-4, BSF-1, TCGF-2, MCGF-2, BCGF, BCDF

Product Description

Interleukin-4 is a pleiotropic cytokine that regulates diverse T and B cell responses including cell proliferation, survival, and gene expression. It has profound effects on the growth and differentiation of immunologically competent cells.¹ IL-4 is also known as B cell stimulatory factor-1 (BSF-1), T cell growth factor-2 (TCGF-2), mast-cell growth factor-2 (MCGF-2), B cell growth factor (BCGF), and B cell differentiation factor (BCDF).²⁻⁴

Interleukin-4 is produced by mast cells, T cells, and bone marrow stromal cells. Treatment of IL-4 with specific glycosidases yields the active polypeptide.⁵ IL-4 regulates the differentiation of naïve CD4⁺ T cells into helper Th2 cells. Another function of IL-4 is the regulation of immunoglobulin class switching to the IgG1 and IgE isotypes. Although human and mouse IL-4 share a 50% amino acid sequence homology, their biological actions are species specific.⁵

This recombinant, mouse Interleukin-4 product is a 13.5 kDa globular protein containing 121 amino acid residues that is expressed *E. coli*. It is sterile filtered through a 0.2 μm filter and lyophilized with no additives.

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

Biological activity: 0.1-2.0 ng/mL

The biological activity of recombinant, Mouse Interleukin-4 is measured by the dose-dependent stimulation of the proliferation of murine HT-2 cells.

Precautions and Disclaimer

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

Preparation Instructions

Reconstitute the contents of the vial using water to a concentration of 0.1–1.0 mg/mL. This solution can then be diluted into other aqueous buffers and stored at $2-8\text{ }^{\circ}\text{C}$ for up to 1 week. For extended storage, freeze in working aliquots at $-20\text{ }^{\circ}\text{C}$. Additional filtration of the stock solution is **not** recommended and may result in product loss due to adsorption onto the filter membrane. It may be advisable to centrifuge the vial prior to opening.

Storage/Stability

Prior to reconstitution, store the lyophilized protein at $-20\text{ }^{\circ}\text{C}$. It is stable for up to a few weeks at room temperature, but is best stored at $-20\text{ }^{\circ}\text{C}$.

Reconstituted IL-4 should be stored in working aliquots at $-20\text{ }^{\circ}\text{C}$. Repeated freezing and thawing is not recommended.

References

1. Howard, M. et al., *J. Exp. Med.*, **155**, 914 (1982).
2. Mosmann, T. et al., *Proc. Natl. Acad. Sci. USA*, **83**, 5654 (1986).
3. Howard, M. et al., *Immunol. Rev.*, **78**, 185 (1984).
4. Paul, W. et al., *Ann. Rev. Immunol.*, **5**, 429 (1987).
5. Park, L. et al., *J. Exp. Med.*, **166**, 476 (1987).
6. Fernandez-Botran, R. et al., *J. Exp. Med.*, **164**, 580 (1986).

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