

Product Information

Monoclonal Anti-Interleukin-4

Clone 34019.111

produced in mouse, purified immunoglobulin

Catalog Number **I7651**

Synonym: Anti-IL-4

Product Description

Monoclonal Anti-Interleukin-4 (IgG2b isotype) is purified from a mouse hybridoma. Recombinant, human IL-4 (rhIL-4) expressed in *E. coli* was used as immunogen. The antibody is purified by Protein A affinity chromatography.

Monoclonal Anti-Interleukin-4 will neutralize the biological activity of rhIL-4. The antibody may also be used in immunoblotting and ELISA. The antibody shows no cross-reactivity with rmlL-4.

Interleukin-4 is a lymphokine that has profound effects on the growth and differentiation of immunologically competent cells.¹ Synonyms for IL-4 include: B cell stimulatory factor-1 (BSF-1), T cell growth factor-2 (TCGF-2) and mast cell growth factor-2 (MCGF-2).²⁻⁴ Interleukin-4 is a complex glycoprotein released by a subset of activated T cells. The molecular weight of IL-4 occurring naturally is 12-20 kDa; the molecular weight of this product is 14 kDa.

Reagents

Supplied as a lyophilized powder from a 0.2 µm filtered solution in phosphate buffered saline with 5% trehalose.

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

To one vial of lyophilized powder, add 1 ml of 0.2 µm-filtered PBS to produce a 0.5 mg/ml stock solution. If aseptic technique is used, no further filtration should be needed for use in cell culture environments.

Storage/Stability

Prior to reconstitution, store at -20 °C. Reconstituted product may be stored at 2-8 °C. For prolonged storage, freeze in working aliquots at -20 °C. Avoid repeated freezing and thawing.

Procedure

Anti-Interleukin-4 is tested for its ability to neutralize the biological activity of rhIL-4 on the human erythro-leukemia cell line TF1.⁵ The ND₅₀ of the antibody is defined as the concentration of antibody resulting in a one-half maximal inhibition of bioactivity of rhIL-4 which is present at a concentration just high enough to elicit a maximum response. In this bioassay, rhIL-4 was incubated with various dilutions of the antibody for 1 hour at 37 °C in a 96-well microtiter plate. After the incubation, TF1 cells were added to the antigen-antibody mixture. The assay mixture, which contained a total volume of 0.1 ml with rhIL-4 at 0.5 ng/ml, and cells at 1 x 10⁵ cell/ml, was incubated at 37 °C for 48 hours in a humidified CO₂ incubator and then pulsed for the final 4 hours with ³H-thymidine. Cells were harvested onto glass filters and the ³H-thymidine incorporation into DNA was measured.

Product Profile

Bioactivity: ND₅₀ = 0.2-1.5 µg/ml

Indirect ELISA: 0.5-1 µg/ml antibody detects 50 ng/well of rhIL-4.

Indirect Immunoblotting: 1-2 µg/ml antibody detects rhIL-4 at 50 ng/lane under non-reducing and reducing conditions.

Endotoxin: <1 EU/1ug by LAL method

References

1. Howard, M., et al., *J. Exp. Med.*, **155**, 914 (1982).
2. Mosmann, T., et al., *Proc. Nat. Acad. Sci. USA*, **83**, 5654 (1986).

3. Paul, W., and Ohara, J., *Ann. Rev. Immunol.*, **5**, 429 (1987).
4. Park, L., et al., *J. Exp. Med.*, **166**, 476 (1987).
5. Kitamura, T., et al., *J. Cell Physiol.*, **140**, 323 (1989).

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