

## Product Information

### Monoclonal Anti-Interleukin-4, clone 3007

produced in mouse, purified immunoglobulin

Catalog Number **I7034**

#### Product Description

Anti-Interleukin-4 (IL-4) is produced in mouse from a hybridoma produced by a mouse immunized with purified, E. coli-derived rhIL-4 (GenelD 3565). The antibody is purified by Protein A affinity chromatography.

Anti-Interleukin-4 recognizes human interleukin-4. Applications include neutralization, immunoblotting, and immunohistochemistry. In immunoblotting, this antibody shows no cross-reactivity with rmlIL-4.

Interleukin-4 (IL-4) is a multifunctional lymphokine, which interacts with cells of multilineages including T cells, B cells, thymocytes, hematopoietic cells, and fibroblasts.<sup>1,2</sup> IL-4 was first described as stimulating B-lymphocyte proliferation in the presence of anti-IgM antibodies.<sup>3</sup> It was then shown that IL-4 could induce the expression of molecules of the class II MHC in resting B cells.<sup>4,5</sup> 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).<sup>6-8</sup> Interleukin-4 is a complex glycoprotein released by a subset of activated T cells. The molecular mass of interleukin-4 occurring naturally is 12-20 kDa.

#### Reagent

Lyophilized from 0.2  $\mu$ m-filtered solution in phosphate buffered saline containing carbohydrates.

#### 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

To one vial of lyophilized powder, add 1 mL of 0.2  $\mu$ m 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  $-20^{\circ}\text{C}$ . The reconstituted product may be stored at  $2-8^{\circ}\text{C}$  for up to one month. For extended storage, freeze in working aliquots at  $-20^{\circ}\text{C}$ . Repeated freezing and thawing, or storage in frost-free freezers, is not recommended.

#### Product Profile

##### Neutralization:

To measure the ability of the antibody to neutralize the bioactivity of rhIL-4 on human TF-1 cells, rhIL-4 was incubated with various concentrations of the antibody for 1 hour at  $37^{\circ}\text{C}$  in a 96 well plate. Following this preincubation period, TF-1 cells were added. The assay mixture in a total volume of 100  $\mu\text{L}$ , containing antibody at the concentrations of 0.001 and 50.0  $\mu\text{g}/\text{mL}$ , rhIL-4 at 0.5 ng/mL and cells at  $1 \times 10^5$  cells/mL, was incubated at  $37^{\circ}\text{C}$  for 48 hours in a humidified  $\text{CO}_2$  incubator.  $^3\text{H}$ -thymidine was added during the final 4 hours of incubation. The cells were subsequently harvested onto glass fiber filters and the amount of  $^3\text{H}$ -thymidine incorporated into DNA was determined.

The Neutralization Dose<sub>50</sub> (ND<sub>50</sub>) for this antibody is defined as that concentration of antibody required to yield one-half maximal inhibition of the cytokine activity on a responsive cell line, when that cytokine is present at a concentration just high enough to elicit a maximum response.

Immunoblotting: a working concentration of 1-2  $\mu\text{g}/\text{mL}$  is recommended. The detection limit for recombinant human IL-4 is  $\sim 0.5$  ng/lane and 25 ng/lane under non-reducing and reducing conditions, respectively.

Immunohistochemistry: a working concentration of 15  $\mu\text{g}/\text{mL}$  is recommended for human tissues, and 5-15  $\mu\text{g}/\text{mL}$  is recommended for human cells.

Note: In order to obtain the best results using various techniques and preparations, it is recommended to determine the optimal working dilutions by titration.

Endotoxin:  $<0.1$  EU/ $\mu\text{g}$  antibody as determined by the LAL method.

## References

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RC,PHC,TMS 06/16-1