# Anti-hIL-4-IgA

Neutralizing IgA monoclonal antibody to human interleukin 4

Catalog # maba-hil4-3

For research use only, not for diagnostic or therapeutic use

Version # 15C26-MM

## PRODUCT INFORMATION

**Content**

3 x 100 µg purified anti-hIL-4-IgA antibody, provided azide-free and lyophilized

**Target:** natural and recombinant human interleukin 4 (hIL-4)

**Clone:** H7WM208

**Isotype:** Human IgA2

**Formulation:** 0.2 µm filtered solution in Tris HCl buffer with saccharose, glycine and stabilizing agents

**Antibody resuspension**

Add 1 ml of sterile water per vial to obtain a concentration of 0.1 mg/ml.

**Storage**

- Product is shipped at room temperature. Store lyophilized antibody at -20 °C. Product is stable for at least 1 year.
- Reconstituted antibody is stable for 1 month when stored at 4 °C and for 1 year when aliquoted and stored at -20 °C. Avoid repeated freeze-thaw cycles.

**Quality control**

- This product has been validated for neutralization.
- The absence of bacterial contamination (e.g. lipoproteins and endotoxins) has been confirmed using HEK-Blue™ TLR2 and HEK-Blue™ TLR4 cells.

## BACKGROUND

Interleukin 4 (IL-4) is a cytokine produced by activated T cells, mast cells and basophils. IL-4 regulates differentiation of naive CD4+ T cell to the Th2 type[1]. Th2 cells produce IL-4, IL-5, IL-10 and IL-13. The biological functions of IL-4 overlap with those of IL-13[2]. In non-hematopoietic cells, IL-4 and IL-13 bind a receptor complex composed of IL-4Ralpha and IL-13Ralpha1. Upon binding, the receptor complex activates the receptor-associated Janus kinase (JAK1 and Tyk2) leading to the recruitment of STAT6 and its phosphorylation. Activated STAT6 forms homodimers that translocate to the nucleus where they bind the promoter of responsive genes inducing gene transcription.

**1. Li-Weber M. & Krammer P., 2003.** Regulation of IL4 gene expression by T cells and therapeutic perspectives. Nat Rev Immunol. 3(7):534-43. **2. Callard RE. et al., 1996.** IL-4 and IL-13 receptors: are they one and the same? Immunol Today. 17(3):108-10. **3. Jiang H. et al., 2000.** IL-4/IL-13 signaling beyond JAK/STAT. J Allergy Clin Immunol. 105(6 Pt 1):1063-70.

## DESCRIPTION

Anti-hIL-4-IgA is a chimeric monoclonal antibody specific for human interleukin 4 (hIL-4). It was generated by combining the constant domains of the human IgA molecule with murine variable regions. Anti-hIL-4-IgA has been selected for its ability to efficiently neutralize the biological activity of hIL-4.

## APPLICATIONS

Anti-hIL-4-IgA is a neutralizing antibody, it blocks hIL-4-induced cellular activation.

**Neutralization**

The exact concentration of antibody required to neutralize hIL-4 activity is dependent on the cytokine concentration, cell type and growth conditions. InvivoGen has determined the neutralization dose for this antibody using recombinant hIL-4 and HEK-Blue™ IL-4/IL-13 cells. These HEK293 cells stably express the human STAT6 gene, as well as a STAT6-inducible SEAP (secreted embryonic alkaline phosphatase) reporter gene.

Anti-hIL-4-IgA (100 ng-10 µg/ml) and a negative control antibody (e.g. Human IgA2 Control which targets *E. coli* β-galactosidase) were incubated with recombinant hIL-4 at 1-5 ng/ml for 30 min prior to the addition of the HEK-Blue™ IL-4/IL-13 cells. Neutralization of IL-4-induced signaling by anti-hIL-4-IgA was determined after 24 hour incubation by assessing SEAP production using QUANTI-Blue™. QUANTI-Blue™ is a SEAP detection medium that turns blue following cytokine stimulation but remains pink if neutralization occurs. SEAP levels can be assessed by the naked eye or spectrophotometrically by reading the OD at 620-655 nm.

## RELATED PRODUCTS

| Product | Catalog Code |
|---|---|
| HEK-Blue™ IL-4/IL-13 Cells | hkb-stat6 |
| Human IgA2 Control | maba2-ctrl |
| QUANTI-Blue™ | rep-qb1 |
| Recombinant human IL-4 | rhil-4 |

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