

Anti-hIL-13-IgG

Neutralizing monoclonal antibody against human interleukin 13

Catalog # mabg-hil13-3

For research use only, not for diagnostic or therapeutic use

Version # 15C09-MM

PRODUCT INFORMATION

Content: 3 x 100 µg purified anti-hIL-13-IgG antibody, provided azide-free and lyophilized

Target: natural and recombinant human interleukin-13 (hIL-13)

Specificity: no cross-reactivity with mouse IL-13

Clone: 15H10

Isotype: Mouse IgG2b

Immunogen: Human IL-13 protein expressed in Swiss mice following DNA immunization

Formulation: 0.2 µm filtered solution in a sodium phosphate buffer with glycine, saccharose 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 13 (IL-13) is a cytokine that plays an important role in regulating inflammation and immune responses¹. IL-13 is produced mainly by activated T cells. IL-13 exerts its anti-inflammatory effects by inhibiting the production of pro-inflammatory cytokines, such as TNF-α. The biological functions of IL-13 overlap with those of interleukin 4 (IL-4). In fact, both IL-4 and IL-13 can bind to the same receptor complex, IL-13 receptor (IL-13R), which is composed of two subunits IL-4Rα and IL-13Rα1². Binding of IL-4 or IL-13 to IL-13R instigates a signaling cascade involving the activation of receptor-associated Janus kinases (JAK1 and Tyk2) and the nuclear translocation of STAT6. The nuclear translocation of STAT6 ultimately leads to the induction of gene expression by IL-13³.

1. **Kasaian MT. et al., 2013.** An IL-4/IL-13 dual antagonist reduces lung inflammation, airway hyperresponsiveness, and IgE production in mice. *Am J Respir Cell Mol Biol.*49(1):37-46.
2. **David M. et al., 2003.** Functional characterization of IL-13 receptor α2 gene promoter: a critical role of the transcription factor STAT6 for regulated expression. *Oncogene* 22, 3386–3394.
3. **Dickensheets HL. et al., 1999.** Interferons inhibit activation of STAT6 by interleukin 4 in human monocytes by inducing SOCS-1 gene expression. *PNAS.* 96(19):10800-5.

TECHNICAL SUPPORT

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DESCRIPTION

Anti-hIL-13-IgG is a monoclonal antibody specific for hIL-13. This antibody has been selected for its ability to efficiently neutralize the biological activity of hIL-13. Anti-hIL-13-IgG is produced in hybridomas and purified by affinity chromatography.

APPLICATIONS

Anti-hIL-13-IgG is a neutralizing antibody, it blocks hIL-13-induced cellular activation. Other applications have not yet been tested.

Neutralization

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

Anti-hIL-13-IgG (50 ng-1 µg/ml) and a negative control antibody (e.g. Mouse IgG2b Control which targets *E. coli* β-galactosidase) were incubated with recombinant hIL-13 at 1 ng/ml for 30 min prior to the addition of the HEK-Blue™ IL-4/IL-13 cells. Neutralization of IL-13-induced signaling by anti-hIL-13-IgG was determined after a 24-hour incubation by assessing SEAP production using QUANTI-Blue™, a SEAP detection reagent. QUANTI-Blue™ 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 optical density at 620-655 nm.

RELATED PRODUCTS

Product	Catalog Code
HEK-Blue™ IL-4/IL-13 cells	hkb-stat6
Mouse IgG2b Control	mabg2b-ctrlm
QUANTI-Blue™	rep-qb1
Recombinant human IL-13	rhl-13