

Anti-mIL-13-IgG

Neutralizing monoclonal mouse antibody against mouse interleukin 13

Catalog code: mabg-mil13, mabg-mil13-5

<https://www.invivogen.com/anti-mil13-igg>

For research use only, not for diagnostic or therapeutic use

Version 22C25-MM

PRODUCT INFORMATION

Contents: Anti-mIL-13-IgG purified monoclonal antibody (mAb) is provided azide-free and lyophilized. It is available in two pack sizes:

- 100 µg: mabg-mil13
- 5 x 100 µg: mabg-mil13-5

Target: Natural and recombinant mouse IL-13 (mIL-13)

Specificity: No cross-reactivity with human IL-13

Clone: 8H8

Isotype: Mouse IgG1

Light chain type: Kappa

Immunogen: Mouse 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

Applications: Block/neutralize

Antibody resuspension (0.1 mg/ml)

Add 1 ml of sterile water per 100 µg vial.

Storage and stability

- Product is shipped at room temperature. Upon receipt, store lyophilized antibody at -20 °C.
- Reconstituted antibody is stable for 1 month at 4 °C and for 1 year at -20 °C. Avoid repeated freeze-thaw cycles.

Quality control

- This product has been validated for neutralization using cellular assays.
- 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. It 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. The 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 M.T. *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, 3386-94.
3. Dickensheets H.L. *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-mIL-13-IgG is a fully mouse monoclonal antibody specific for mIL-13. This autoantibody was raised in mice by a proprietary method designed to induce the production of anti-cytokine antibodies directly in the animal. Anti-mIL-13-IgG has been selected for its ability to efficiently neutralize the biological activity of mIL-13. This antibody is produced in hybridomas and purified by affinity chromatography.

APPLICATIONS

Anti-mIL-13-IgG is a neutralizing antibody, it blocks mIL-13-induced cellular activation *in vitro*, as described below. Furthermore, as anti-mIL-13-IgG is a mouse anti-mouse antibody, it could be used for neutralization assays *in vivo*.

Neutralization

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

Anti-mIL-13-IgG (3 ng-1 µg/ml) and a negative control antibody (e.g. Mouse IgG1 Control which targets *E. coli* β-galactosidase) were incubated with recombinant mIL-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-mIL-13-IgG was determined after a 24-hour incubation by assessing SEAP production using QUANTI-Blue™ Solution, a SEAP detection reagent. QUANTI-Blue™ Solution 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	Description	Cat. Code
Mouse IgG1 Control	Isotype control antibody	mabg1-ctrlIm
HEK-Blue™ IL-4/IL-13 cells	IL-4 & IL-3 reporter cells	hkb-il413
QUANTI-Blue™ Solution	SEAP detection reagent	rep-qbs