

Anti-mIL-13-mIgG1

Neutralizing recombinant monoclonal mouse antibody against mouse interleukin 13

Catalog code: mil13-mab9-02

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

For research use only

Version 22J12-AK

PRODUCT INFORMATION

Contents: 200 µg purified Anti-mIL-13-mIgG1 monoclonal antibody (mAb), provided azide-free and lyophilized.

Target: Murine IL-13 (mIL-13)

Specificity: No cross-reactivity with human IL-13

Clone: 8H8

Source: Chinese hamster ovary (CHO) cells

Isotype: Mouse IgG1, kappa

Purification: Affinity chromatography with protein A

Formulation: 0.2 µm filtered solution in a sodium phosphate buffer with glycine, saccharose, and stabilizing agents

Tested applications: Neutralization & blocking

Antibody resuspension (0.1 mg/ml)

Note: Ensure you see the lyophilized pellet before resuspension.

Resuspend Anti-mIL-13-mIgG1 with sterile water:

Add 2 ml of sterile water per 200 µg vial.

Storage and stability

- Product is shipped at room temperature. Upon receipt, store lyophilized antibody at -20 °C. Lyophilized product is stable for at least 1 year.

- 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 complete sequence of this antibody has been verified.
- 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. Interestingly, 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-4α and IL-13Rα1². The binding of IL-4 or IL-13 to IL-13R initiates a signaling cascade involving then activation of receptor-associated Janus kinases (JAK1 and Tyk2) and the nuclear translocation of STAT6. This 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-mIgG1 is a recombinant mouse mAb against mIL-13. It has been selected for its ability to efficiently neutralize the biological activity of mIL-13. Its sequence is 100% murine (constant and variable regions), as the original clone (clone 8H8) was raised in mice using a proprietary method. This feature ensures high antibody performance and overcomes immunogenic events. It is produced in CHO cells and purified by affinity chromatography.

APPLICATIONS

Anti-mIL-13-mIgG1 is a neutralizing antibody. It can be used to block mIL-13-induced cellular activation *in vitro*, as described below. InvivoGen also offers this mAb in the *InvivoFit*™ grade, specifically adapted for *in vivo* studies.

NEUTRALIZATION PROTOCOL

The exact concentration of antibody required to neutralize mIL-13 activity is dependent on the cytokine concentration, cell type, and growth conditions. Below is a protocol using recombinant mIL-13 as well as HEK-Blue™ IL-4/IL-13 cells. These cells stably express the STAT6 gene, and a STAT6-inducible SEAP (secreted embryonic alkaline phosphatase) reporter gene. Changes in SEAP activity in the supernatant due to inhibition of IL-13 receptor binding can be assessed using QUANTI-Blue™ Solution, a SEAP detection reagent.

In a 96-well plate:

1. Prepare a serial dilution of the Anti-mIL-13-mIgG1 and a negative control (e.g. Anti-β-Gal-mIgG1) starting 1 ng/ml to 5 µg/ml (final conc.).
2. Add 1 ng/ml recombinant mIL-13 to a final volume of 40 µl.
3. Incubate for 30 minutes at 37°C, 5% CO₂.
4. Prepare a suspension of HEK-Blue™ IL-4/IL-13 cells (~3.2 x 10⁵ cells/ml) in culture medium.
5. Add 160 µl (5 x 10⁴ cells/well) of the cell suspension to each well.
6. Incubate the plate at 37°C, 5% CO₂ for 24 hours.
7. The next day: prepare QUANTI-Blue™ Solution and carry out the measurements following the instructions on the data sheet.

RELATED PRODUCTS

Product	Cat. Code
Anti-mIL-13-mIgG1 InvivoFit™	mil13-mab9-1
Anti-β-Gal-mIgG1	bgal-mab9-1
HEK-Blue™ IL-4/IL-13 Cells	hkb-il413
QUANTI-Blue™ Solution	rep-qbs