

# Anti-hIL-33-IgG

Neutralizing monoclonal antibody against human interleukin 33

Catalog code: mabg-hil33-3

<https://www.invivogen.com/anti-hil33-igg>

For research use only, not for diagnostic or therapeutic use

Version 22D07-MM

## PRODUCT INFORMATION

**Contents:** 3 x 100 µg Anti-hIL-33-IgG purified monoclonal antibody (mAb) is provided azide-free and lyophilized.

**Target:** Natural and recombinant human interleukin 33 (hIL-33)

**Clone:** 19G8

**Isotype:** Mouse IgG1

**Light chain type:** Kappa

**Immunogen:** Human IL-33

**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-33 (IL-33; also known as IL-1F11) is a member of the IL-1 family, a group of cytokines that play important roles in host defense, immune regulation and inflammation<sup>1</sup>. IL-33 mediates its biological effects through IL1RL1 (also known as ST2), a receptor expressed on Th2 and mast cells. IL-33 and IL1RL1 form a complex with IL-1R accessory protein (IL-1RAcP), a signaling receptor subunit that is also a member of the IL-1R complex. IL-33 signaling leads to the activation of NF-κB and MAP kinases. IL-33 can function both as a traditional cytokine and as a nuclear factor regulating gene transcription. Following proinflammatory stimulation, IL-33 can induce Th2-biased immune responses, such as the production of IL-4, IL-5 and IL-13<sup>2</sup>. In addition, as IL-33 is constitutively expressed in endothelial and epithelial cells, it can act as an endogenous danger signal, or damage-associated molecular pattern (DAMP; also called alarmins), in response to tissue damage<sup>3,4</sup>.

1. Arend W. *et al.*, 2008. IL-1, IL-18, and IL-33 families of cytokines. *Immunol Rev.* 223:20-38. 2. Schiering C. *et al.*, 2014. The alarmin IL-33 promotes regulatory T-cell function in the intestine. *Nature.* 513(7519):564-8. 3. Cayrol C. & Girard JP., 2014. IL-33: an alarmin cytokine with crucial roles in innate immunity, inflammation and allergy. *Curr Opin Immunol.* 31-7. 4. Oboki K. *et al.*, 2011. IL-33 and airway inflammation. *Allergy Asthma Immunol Res.* 3(2): 81-88.

## DESCRIPTION

Anti-hIL-33-IgG is a monoclonal antibody against human interleukin 33 (hIL-33). This antibody has been selected for its ability to efficiently neutralize the biological activity of hIL-33. Anti-hIL-33-IgG is produced in hybridomas and purified by affinity chromatography.

## APPLICATIONS

Anti-hIL-33-IgG is a neutralizing antibody, it blocks hIL-33-induced cellular activation. Other applications have not been tested.

### Neutralization

The exact concentration of antibody required to neutralize hIL-33 activity is dependent on the cytokine concentration, cell type, and growth conditions. InvivoGen has determined the neutralization dose for this antibody using recombinant hIL-33 and HEK-Blue™ IL-33 cells. These cells detect bioactive IL-33 by monitoring the activation of the NF-κB and AP-1 pathways. HEK-Blue™ IL-33 cells stably express the IL1RL1 gene, as well as an NF-κB and AP-1-inducible SEAP (secreted embryonic alkaline phosphatase) reporter gene.

Anti-hIL-33-IgG (10 ng-1 µg/ml) and a negative control antibody (e.g. Mouse IgG1 Control which targets *E. coli* β-galactosidase) were incubated with recombinant hIL-33 at 1-10 ng/ml for 30 min prior to the addition of the HEK-Blue™ IL-33 cells. Neutralization of IL-33-induced signaling by anti-hIL-33-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-ctrlm
HEK-Blue™ IL-33 cells	IL-33 reporter cells	hkb-hil33
QUANTI-Blue™ Solution	SEAP detection reagent	rep-qbs

## TECHNICAL SUPPORT

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