

Anti-hIL-33-IgG

Neutralizing monoclonal antibody against human interleukin 33

Catalog # mabg-hil33-3

For research use only, not for diagnostic or therapeutic use

Version # 16D20-MM

PRODUCT INFORMATION

Content: 3 x 100 µg purified anti-hIL-33-IgG antibody, provided azide-free and lyophilized

Target: natural and recombinant human interleukin-33 (IL-33)

Clone: 19G8

Isotype: Mouse IgG1

Immunogen: Human IL-33 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-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 inflammation¹. IL-33 mediates its biological effects through ST2 (also known as IL1RL1), a receptor expressed on Th2 and mast cells. IL-33 and ST2 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 pro-inflammatory stimulation, IL-33 can induce Th2-biased immune responses, such as the production of IL-4, IL-5 and IL-13². 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^{3,4}.

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™, 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-33 Cells	hkb-hil33
Mouse IgG1 Control	mabg1-ctrlm
QUANTI-Blue™	rep-qb1
Recombinant human IL-33	reyec-hil33

TECHNICAL SUPPORT

InvivoGen USA (Toll-Free): 888-457-5873

InvivoGen USA (International): +1 (858) 457-5873

InvivoGen Europe: +33 (0) 5-62-71-69-39

InvivoGen Hong Kong: +852 3-622-34-80

E-mail: info@invivogen.com