

Anti-hIL-1 β -IgG

Neutralizing IgG monoclonal antibody against human interleukin-1 beta

Catalog # mabg-hil1b-3

For research use only, not for diagnostic or therapeutic use

Version # 15H28-MM

PRODUCT INFORMATION

Content

3 x 100 μ g purified anti-hIL-1 β -IgG antibody, provided azide-free and lyophilized

Target: natural and recombinant human interleukin-1 beta (IL-1 β)

Specificity: no cross-reactivity with human IL-1 α , mouse IL-1 α or mouse IL-1 β .

Clone: 4H5

Isotype: Mouse IgG1

Immunogen: Human IL-1 β protein expressed in Swiss mice following DNA immunization

Formulation: 0.2 μ m filtered solution in 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-1 beta (IL-1 β) is a secreted pro-inflammatory cytokine¹. It participates in the generation of systemic and local responses to infection and injury². IL-1 β is produced by activated macrophages as a proprotein, which is cleaved by caspase 1, an enzyme that is activated within the inflammasome multiprotein complex³. The resulting mature IL-1 β is secreted and binds to the IL-1RI receptor inducing MyD88-mediated intracellular signaling. This leads to the activation of the transcription factor NK- κ B signaling, and the JNK and p38 mitogen-activated protein kinase pathways, which induce the expression of inflammatory cytokines and chemokines, such as IL-6 and IL-8⁴.

1. **Dinarello C., 2009.** Immunological and inflammatory functions of the interleukin-1 family. *Annu. Rev. Immunol.* 27:519-550. 2. **Sims J. & Smith D., 2010.** The IL-1 family: regulators of immunity. *Nat Rev Immunol.* 10(2):89-102. 3. **O'Neill L., 2008.** The interleukin-1 receptor/Toll-like receptor superfamily: 10 years of progress. *Immunol. Rev.* 226, 10-18. 4. **Weber A. et al., 2010.** Interleukin-1 (IL-1) pathway. *Sci Signal.* 3(105):cm1.

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

DESCRIPTION

Anti-hIL-1 β -IgG is a monoclonal antibody specific for human interleukin-1 beta (hIL-1 β). This antibody has been selected for its ability to efficiently neutralize the biological activity of hIL-1 β . Anti-hIL-1 β -IgG is produced in hybridomas and purified by affinity chromatography.

APPLICATIONS

Anti-hIL-1 β -IgG is a neutralizing antibody, it blocks hIL-1 β -induced cellular activation. Other applications have not been tested.

Neutralization

The exact concentration of antibody required to neutralize hIL-1 β activity is dependent on the cytokine concentration, cell type and growth conditions. InvivoGen has determined the neutralization dose for this antibody using recombinant hIL-1 β and HEK-Blue™ IL-1 β cells. These cells endogenously express the human IL-1 receptor and were stably transfected with an NF- κ B inducible SEAP (secreted embryonic alkaline phosphatase) reporter gene.

Anti-hIL-1 β -IgG (10 ng - 1 μ g/ml) and a negative control antibody (e.g. Mouse IgG1 Control which targets *E. coli* β -galactosidase) were incubated with recombinant hIL-1 β (1 ng/ml) for 30 min prior to the addition of the HEK-Blue™ IL-1 β Cells. Neutralization of IL-1 β -induced signaling by anti-hIL-1 β -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-1 β Cells	hkb-il1b
Mouse IgG1 Control	mabg1-ctrlm
QUANTI-Blue™	rep-qb1
Recombinant human IL-1 β	rhl-1b