

# Anti-mIL-1 $\beta$ -mIgG1 InvivoFit™

Neutralizing recombinant monoclonal mouse antibody against murine interleukin 1 beta

Catalog code: mil1b-mab9-1/mil1b-mab9-10

<https://www.invivogen.com/anti-mil1b-igg>

For research use only

Version 23A06-AK

## PRODUCT INFORMATION

### Contents:

Anti-mIL-1 $\beta$ -mIgG1 InvivoFit™ purified monoclonal antibody (mAb), provided azide-free and lyophilized. It is available in two pack sizes:

- 1 mg: mil1b-mab9-1
- 10 mg: mil1b-mab9-10

**Target:** Murine IL-1 $\beta$  (mIL-1 $\beta$ )

**Specificity:** No cross-reactivity with human IL-1 $\beta$

**Clone:** 7E3

**Source:** Chinese hamster ovary (CHO) cells

**Isotype:** Mouse IgG1, kappa

**Purification:** Affinity chromatography with protein A

**Formulation:** 0.2  $\mu$ m filtered solution in a sodium phosphate buffer with 5% saccharose

**Tested applications:** Neutralization & blocking *in vitro*

### Antibody resuspension (2 mg/ml)

*Note:* Ensure you see the lyophilized pellet before resuspension.

Resuspend Anti-mIL-1 $\beta$ -mIgG1 InvivoFit™ with sterile water:

Add 500  $\mu$ l to 1 mg or 5 ml to 10 mg.

### 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.
- <5% aggregates (confirmed by size exclusion chromatography).
- Anti-mIL-1 $\beta$ -mIgG1 InvivoFit™ is filter-sterilized (0.2  $\mu$ m) and its endotoxin level is <1 EU/mg (determined by the LAL assay).

## BACKGROUND

Interleukin-1 beta (IL-1 $\beta$ ) is a secreted pro-inflammatory cytokine<sup>1</sup>. It participates in the generation of systemic and local immune responses to infection and injury<sup>2</sup>. IL-1 $\beta$  is produced by activated macrophages as a pro-protein, which is cleaved by caspase-1 upon inflammasome activation<sup>3</sup>. The resulting mature IL-1 $\beta$  is secreted through pores at the plasma membrane. Its binding to the IL-1R1 receptor triggers the formation of the IL-1R1/IL-1R3/MyD88 complex and induces MyD88-mediated intracellular signaling. This leads to the activation of the transcription factor NK- $\kappa$ B, and the JNK/p38 mitogen-activated protein kinase pathways. Ultimately, the expression of inflammatory cytokines and chemokines, such as IL-6 and IL-8, is induced<sup>4</sup>.

### 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 Asia: +852 3622-3480

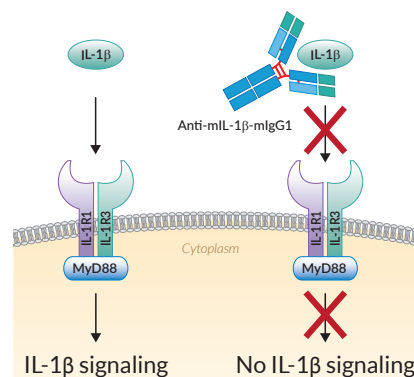
E-mail: [info@invivogen.com](mailto:info@invivogen.com)

## DESCRIPTION

Anti-mIL-1 $\beta$ -mIgG1 InvivoFit™ is a recombinant monoclonal antibody (mAb) specific against mIL-1 $\beta$ . Its sequence is 100% murine (constant and variable regions), as the original clone (clone 7E3) was raised in mice using a proprietary method. This sequence ensures high antibody performance and overcomes immunogenic events, especially upon repeated injections *in vivo*. Anti-mIL-1 $\beta$ -mIgG1 InvivoFit™ has been selected for its ability to efficiently neutralize the biological activity of mIL-1 $\beta$ . It is generated by recombinant DNA technology, produced in CHO cells and purified by affinity chromatography.

## APPLICATIONS

Anti-mIL-1 $\beta$ -mIgG1 InvivoFit™ is a neutralizing antibody, which blocks mIL-1 $\beta$ -induced cellular activation. InvivoFit™ is a high-quality standard specifically adapted for *in vivo* studies. This product is filter-sterilized (0.2  $\mu$ m) and filled under strict aseptic conditions in a clean room. This mAb is also available as a standard grade for *in vitro* experiments.



Neutralization activity of Anti-mIL-1 $\beta$ -mIgG1 InvivoFit™

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.

## RELATED PRODUCTS

Product	Cat.Code
Anti-mIL-1 $\beta$ -mIgG1	mil1b-mab9-02
Anti- $\beta$ -Gal-mIgG1 InvivoFit™ *	bgal-mab9-1
HEK-Blue™ IL-1 $\beta$ Cells	hkb-il1bv2
QUANTI-Blue™ Solution	rep-qbs