

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

Neutralizing recombinant monoclonal mouse antibody against murine interleukin 1 alpha

Catalog code: mil1a-mab9-1

<https://www.invivogen.com/anti-mil1a-igg>

For research use only

Version 22K10-AK

## PRODUCT INFORMATION

**Contents:** 1 mg purified Anti-mIL-1 $\alpha$ -mIgG1 monoclonal antibody (mAb), provided azide-free and lyophilized.

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

**Specificity:** No cross-reactivity with mIL-1 $\beta$ , human (h) IL-1 $\beta$  or hIL-1 $\alpha$

**Clone:** 6H7

**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 $\alpha$ -mIgG1 InvivoFit™ with sterile water:

Add 500  $\mu$ l to 1 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 $\alpha$ -mIgG1 InvivoFit™ is filter-sterilized (0.2  $\mu$ m) and its endotoxin level is <1 EU/mg (determined by the LAL assay).

## BACKGROUND

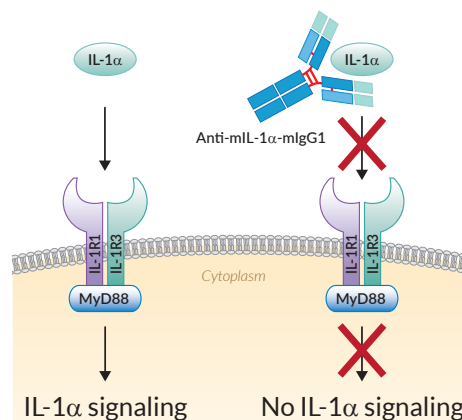
Interleukin-1 alpha (IL-1 $\alpha$ ) is a dual-functional cytokine that can act as a transcription factor or an alarmin triggering local inflammation in response to pathogen infections or tissue damage<sup>1-2</sup>. It is constitutively expressed by different cell types, especially endo- and epithelial cells. It acts as a bioactive precursor that is further processed by various caspases into a mature secreted form and an N-terminal propeptide<sup>1</sup>. The binding of the mature IL-1 $\alpha$  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 other protein kinase pathways. Ultimately, the expression of inflammatory cytokines and chemokines, such as IL-6 and IL-8, is induced<sup>1-2</sup>.

## DESCRIPTION

Anti-mIL-1 $\alpha$ -mIgG1 InvivoFit™ is a recombinant mAb specific against mIL-1 $\alpha$ . Its sequence is 100% murine (constant and variable regions), as the original clone (clone 6H7) was raised in mice using a proprietary method. This feature ensures high antibody performance and overcomes immunogenic events, especially upon repeated injections *in vivo*. Anti-mIL-1 $\alpha$ -mIgG1 InvivoFit™ has been selected for its ability to efficiently neutralize the biological activity of the precursor, secreted and membrane-associated form of mIL-1 $\alpha$ . It is generated by recombinant DNA technology, produced in CHO cells and purified by affinity chromatography.

## APPLICATIONS

Anti-mIL-1 $\alpha$ -mIgG1 InvivoFit™ is a neutralizing antibody, which blocks mIL-1 $\alpha$ -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 $\alpha$ -mIgG1 InvivoFit™

## RELATED PRODUCTS

Product	Cat.Code
Anti-mIL-1 $\alpha$ -mIgG1	mil1-mab9-02
Anti- $\beta$ -Gal-mIgG1 InvivoFit™	bgal-mab9-1
HEK-Blue™ IL-1 $\beta$ Cells	hkb-il1bv2
QUANTI-Blue™ Solution	rep-qbs

1. Chiu JW, et al., 2021. IL-1 $\alpha$  Processing, Signaling and Its Role in Cancer Progression. Cells. 2021 Jan 7;10(1):92. 2. Dinarello CA, et al., 2021. Interleukin 1 $\alpha$ : a comprehensive review on the role of IL-1 $\alpha$  in the pathogenesis and treatment of autoimmune and inflammatory diseases. Autoimmunity Reviews, Volume 20, Issue 3.

### TECHNICAL SUPPORT

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