

Anti-mIL-16-mIgG1e3 InvivoFit™

14.1-derived recombinant monoclonal antibody against murine interleukin 16

Catalog code: mil16-mab15-1

<https://www.invivogen.com/anti-mil16-igg1e3>

For research use only

Version 23E16-NJ

PRODUCT INFORMATION

Contents: 1 mg purified Anti-mIL-16-mIgG1e3 InvivoFit™ monoclonal antibody (mAb) is provided azide-free and lyophilized.

Target: Murine IL-16 (mIL-16)

Specificity: Cross-reactivity with human IL-16

Clone: 14.1

Sequence: ~100% murine (constant and variable region)

Source: Chinese hamster ovary (CHO) cells

Isotype: Murine IgG1e3 (D265A mutation; no effector function)

Light chain type: Kappa

Purification: Affinity chromatography with protein A

Formulation: 0.2 µm filtered solution in a sodium phosphate buffer with 5% saccharose.

Tested applications: Detection (ELISA, Western blot)

Antibody resuspension (2 mg/ml)

Note: Ensure you see the lyophilized pellet before resuspension. Resuspend Anti-mIL-16-mIgG1e3 InvivoFit™ with sterile water: Add 500 µl to 1 mg.

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 detection using ELISA and Western blot.
- The complete sequence of the antibody construct has been verified.
- <5% aggregates (confirmed by size exclusion chromatography).
- The absence of bacterial contamination (e.g. lipoproteins and endotoxins) has been confirmed using HEK-Blue™ TLR2 and HEK-Blue™ TLR4 cells.
- Anti-mIL-16-mIgG1e3 InvivoFit™ is filter-sterilized (0.2 µm) and its endotoxin level is <1 EU/mg (determined by the LAL assay).

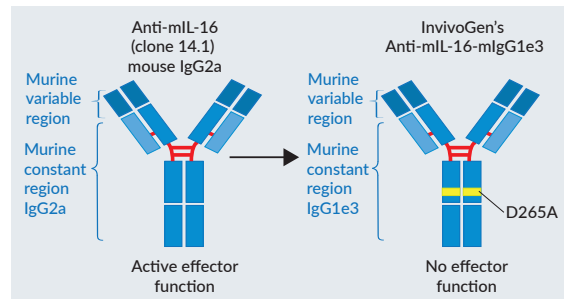
BACKGROUND

Interleukin 16 (IL-16, initially named lymphocyte chemoattractant factor (LCF)) is a pro-inflammatory cytokine playing an important role in modulating T cell activation, chemotaxis, and proliferation¹. It has also been classified as an alarmin, conveying an endogenous danger signal when released by stressed or necrotic cells². It is associated with the development of several cancers as well as the exacerbation of infectious, immune-mediated and autoimmune inflammatory disorders^{3,4}. More recently, high plasmatic levels of IL-16 were found to correlate with COVID-19 severity^{5,6}.

DESCRIPTION

Anti-mIL-16-mIgG1e3 InvivoFit™ is a recombinant mAb derived from the anti-IL-16 clone 14.1, originally produced in hybridoma⁷. Anti-IL-16 clone 14.1 crossreacts with mouse and human IL-16⁸. This neutralizing antibody inhibits murine and human T cell chemotaxis upon incubation with IL-16 *in vitro*⁸ and reduces T cell-mediated renal injury in mice⁹. Anti-mIL-16-mIgG1e3 was engineered to feature the original mouse-derived variable regions⁷ and an effectorless murine IgG1e3 constant region. It is generated by recombinant DNA technology, produced in CHO cells and purified by affinity chromatography.

InvivoFit™ is a high-quality standard specifically adapted for *in vivo* studies. Anti-mIL-16-mIgG1e3 is also available as a standard grade for *in vitro* experiments.



InvivoGen's engineered Anti-mIL-16-mIgG1e3 antibody

IgG1e3 isotype effector function

The point mutation D265A in the mIgG1e3 isotype leads to a complete loss of Fc-associated effector functions, including antibody-dependent cell-mediated cytotoxicity (ADCC) and complement-dependent cytotoxicity (CDC).

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2. Rider P, et al., 2017. Alarmins: feel the stress. *J Immunol*, 198(4):1395-1402.
3. Amiel C, et al., 1999. Interleukin-16 (IL-16) inhibits human immunodeficiency virus replication in cells from infected subjects, and serum IL-16 levels drop with disease progression. *J Infect Dis*;179(1):83-91.
4. Glass WG, et al., 2006. Not-so-sweet sixteen: the role of IL-16 in infectious and immune-mediated inflammatory diseases. *J Interferon Cytokine Res*, 26(8):511-20.
5. Lucas C, et al., 2020. Longitudinal analyses reveal immunological misfiring in severe COVID-19. *Nature*, 584(7821):463-469.
6. Planes R, et al., 2022. Human NLRP1 is a sensor of pathogenic coronavirus 3Cl proteases in lung epithelial cells. *Mol Cell*, 82:2385-2400.e9.
7. Hall G, et al., 2016. Structure of a potential therapeutic antibody bound to interleukin-16 (IL-16): mechanistic insights and new therapeutic opportunities. *J Biol Chem*, 219(32):16840-8.
8. Keane J, et al., 1998. Conservation of Structure and Function Between Human and Murine IL-16. *J Immunol*, 160:12.
9. Wang S, et al., 2008. Decreased renal ischemia-reperfusion injury by anti-IL-16 inactivation. *Kidney Int*, 73(3):318-26.

RELATED PRODUCTS

| Product | Cat.Code |
|-------------------------------|----------------|
| Anti-mIL-16-mIgG1e3 | mil16-mab15-02 |
| Anti-β-Gal-mIgG1e3 | bgal-mab15-02 |
| Anti-β-Gal-mIgG1e3 InvivoFit™ | bgal-mab15-1 |

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