Anti-mIL-16-mIgG1e3

14.1-derived recombinant monoclonal antibody against murine interleukin 16

Catalog code: mil16-mab15-02

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

For research use only

Version 23E15-NJ

PRODUCT INFORMATION

Contents: 200 µg purified Anti-mIL-16-mIgG1e3 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 glycerine, saccharose, and stabilizing agents
Tested applications: Detection (ELISA, Western blot)

Antibody resuspension (0.1 mg/ml)

Note: Ensure you see the lyophilized pellet before resuspension.
Resuspend Anti-mIL-16-mIgG1e3 with sterile water:
Add 2 ml of sterile water per 200 µg vial.

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

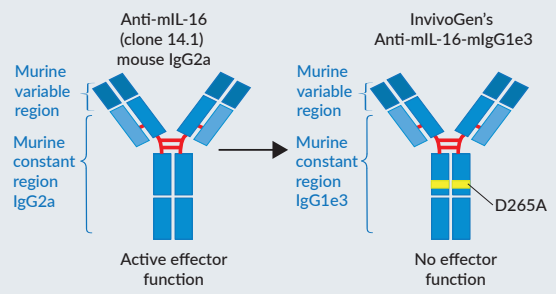
- This product has been validated for detection using ELISA and Western blot.
- The complete sequence of the antibody construct has been verified.
- The absence of bacterial contamination (e.g. lipoproteins and endotoxins) has been confirmed using HEK-Blue™ TLR2 and HEK-Blue™ TLR4 cells.

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 proliferation[1]. It has also been classified as an alarmin, conveying an endogenous danger signal when released by stressed or necrotic cells[2]. 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 is a recombinant mAb derived from the anti-IL-16 clone 14.1, originally produced in hybridoma[7]. Anti-IL-16 clone 14.1 crossreacts with mouse and human IL-16[8]. 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 mice[9]. Anti-mIL-16-mIgG1e3 was engineered to feature the original mouse-derived variable regions[7] and an effectorless murine IgG1e3 constant region. It is generated by recombinant DNA technology, produced in CHO cells and purified by affinity chromatography.



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).

1. Cruikshank W.W. *et al.*, 2000. Interleukin-16. J Leukoc Biol. 67(6): p. 757-66.2. **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 InvivoFit™	mil16-mab15-1
Anti-β-Gal-mIgG1e3	bgal-mab15-02
Anti-β-Gal-mIgG1e3 InvivoFit™	bgal-mab15-1

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