

Anti-hIL-16-hIgG1

14.1-derived recombinant monoclonal antibody against human interleukin 16

Catalog code: hil16-mab1-02

<https://www.invivogen.com/anti-hil16-igg>

For research use only

Version 23E15-NJ

PRODUCT INFORMATION

Contents: 200 µg purified Anti-hIL-16-hIgG1 monoclonal antibody (mAb) is provided azide-free and lyophilized.

Target: Human IL-16 (hIL-16)

Specificity: Cross-reactivity with murine IL-16

Clone: 14.1

Sequence: ~65% human (constant region) and ~35% murine (variable region)

Source: Chinese hamster ovary (CHO) cells

Isotype: Human IgG1

Light chain type: Kappa

Purification: Affinity chromatography with protein G

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-hIL-16-hIgG1 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.

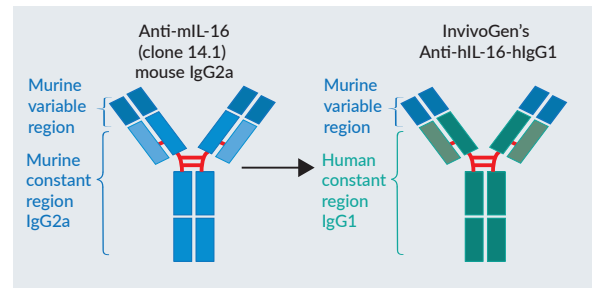
- The absence of bacterial contamination (e.g. lipoproteins and endotoxins) has been confirmed using HEK-Blue™ TLR2 and HEK-Blue™ TLR4 cells.

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 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-hIL-16-hIgG1 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-hIL-16-hIgG1 was engineered to feature the original mouse-derived variable regions⁷ and a human IgG1 constant region. It is generated by recombinant DNA technology, produced in CHO cells and purified by affinity chromatography.



InvivoGen's engineered Anti-hIL-16-hIgG1 antibody

IgG1 isotype effector function

Human IgG1 binds with high affinity to the Fc receptor on phagocytic cells and therefore displays high effector function, including antibody-dependent cell-mediated cytotoxicity (ADCC) and complement-dependent cytotoxicity (CDC).

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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-hIgG1e3	mil16-mab15-02
Anti-mIL-16-mIgG1e3 InvivoFit™	mil16-mab15-1
Anti-β-Gal-hIgG1	bgal-mab1-02

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