

Anti-mCD4-mIgG2a InvivoFit™

GK1.5-derived recombinant mouse monoclonal antibody against murine CD4

Catalog code: mcd4-mab10-1, mcd4-mab10-10

<https://www.invivogen.com/anti-mcd4-migg2a-invivofit>

For research use only, not for diagnostic or therapeutic use

Version 22G12-AK

PRODUCT INFORMATION

Contents:

Anti-mCD4-mIgG2a InvivoFit™, purified monoclonal antibody (mAb), provided azide-free and lyophilized. It is available in two pack sizes:

- 1 mg • 10 mg

Target: Murine CD4 (aka L3T4, or T4)

Clone: GK1.5-derived

Sequence: ~65 % of mouse origin (constant region)

Source: Chinese hamster ovary (CHO) cells

Isotype: Murine IgG2a (mIgG2a)

Light chain type: Kappa

Purification: Affinity chromatography with protein A

Formulation: 0.2 µm filtered solution in 150 mM sodium chloride, 20 mM sodium phosphate buffer with 5% saccharose

Administration: Suitable for parenteral delivery in mice

Tested applications: Flow cytometry; *in vivo* depletion

Antibody resuspension (2 mg/ml)

Note: Ensure you see the lyophilized pellet before resuspension.

Resuspend Anti-mCD4-mIgG2a InvivoFit™ with sterile water:

Add 500 µl to 1 mg or 5 ml to 10 mg

Storage and stability

- Product is shipped at room temperature. 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

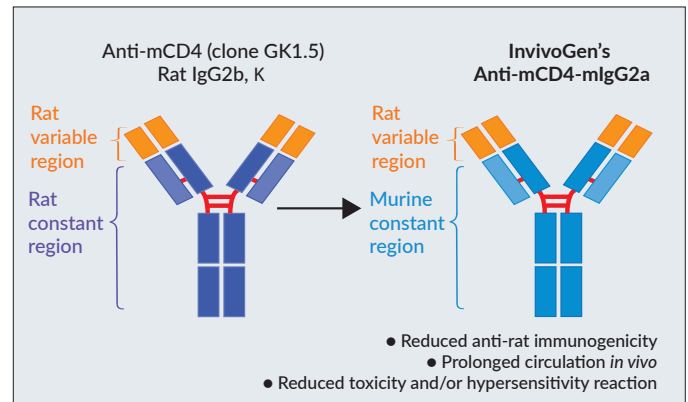
- Binding of Anti-mCD4-mIgG2a InvivoFit™ to mCD4 has been confirmed using Flow cytometry.
- Mouse CD4⁺ T cell *in vivo* depletion using Anti-mCD4-mIgG2a InvivoFit™ has been confirmed.
- The complete sequence of this antibody has been verified.
- <5% aggregates (confirmed by size exclusion chromatography).
- Anti-mCD4-mIgG2a InvivoFit™ is filter-sterilized (0.2 µm) and its endotoxin level is <1 EU/mg (determined by the LAL assay).

BACKGROUND

The cluster of differentiation 4 (CD4) receptor is a 55 kDa transmembrane protein primarily expressed on most thymocytes, and highly expressed by peripheral mature CD4⁺ T cells¹. Other immune cells, such as monocytes and macrophages also express CD4, albeit to 10- to 20-fold less levels compared to T cells². Besides its role in the positive selection and development of CD4⁺ T cells, the CD4 receptor plays a critical role during their activation. It fulfills an intercellular adhesion function by interacting with the α2 or β2 domain of MHC class II molecules, thereby stabilizing the interaction between the TCR on the T cell and the MHC-peptide complex on the antigen-presenting cell³. Upon antigen recognition, the proximity association of CD4 and the TCR/CD3 complex on T cells triggers downstream intracellular signaling and participates in the T helper differentiation⁴.

DESCRIPTION

Anti-mCD4-mIgG2a InvivoFit™ is a mouse anti-mouse monoclonal antibody (mAb) featuring the variable region of the previously described anti-mCD4 GK1.5 clone⁴. Using recombinant technology, the original GK1.5 rat IgG2b constant region has been replaced with a murine IgG2a format which mediates potent cytotoxic functions⁵. The anti-mCD4 GK1.5 mAb is commonly used for *in vivo* depletion of the CD4⁺ T cell population to study the role of this T cell subset in various immune responses⁶. Depending on the nature of the experiment, extended treatment schedules may be required. Upon repeated injection of a xenogeneic mAb, mice produce anti-species antibodies, causing the removal of the administered mAb from circulation, thereby reducing its *in vivo* efficacy. Moreover, this immunogenicity can lead to fatal hypersensitivity reactions^{6,7}, which can be reduced by mAb murinization⁸. Anti-mCD4-mIgG2a InvivoFit™ is produced in Chinese hamster ovary (CHO) cells, purified by affinity chromatography with protein A.



1. Zhu J. *et al.* 2010. Differentiation of effector CD4 T cell populations. *Annual Rev Immunol.* 28:445-489. 2. Collman, R. *et al.*, 1990. Macrophage-tropic strains of human immunodeficiency virus type 1 utilize the CD4 receptor. *J Virol.* 64(9):4468-76. 3. Doyle, C., and J. L. Strominger. 1987. Interaction between CD4 and class II MHC molecules mediates cell adhesion. *Nature* 330:256-259. 4. Dyalnas D.P. *et al.*, 1983. Characterization of the murine antigenic determinant, designated L3T4a, recognized by monoclonal antibody GK1.5: expression of L3T4a by functional T cell clones appears to correlate primarily with class II MHC antigen-reactivity. *Immunol Rev.* 74:29-56 5. Nimmerjahn F. & Ravetch J.V., 2005. Divergent immunoglobulin g subclass activity through selective Fc receptor binding. *Science.* 310:1510-2. 6. Laky K. & Kruisbeek AM., 2016. *In vivo* depletion of T lymphocytes. *Current Protocols Immunology.* doi: 10.1002/0471142735.im0401s113. 7. Mall C. *et al.*, 2016. Repeated PD-1/PD-L1 monoclonal antibody administration induces fatal xenogenic hypersensitivity reactions in a murine model of breast cancer. *Onco Immunol.* 5(2):e1075114. 8. Belmar N.A. *et al.*, 2017. Murinization and H chain isotype matching of Anti-GITR antibody DTA-1 reduces immunogenicity-mediated anaphylaxis in C57BL/6 mice. *J Immunol.* 198:4502-4512.

RELATED PRODUCTS

Product	Catalog Code
Mouse IgG2a control	bgal-mab10-1
Anti-mCD8-mIgG2a InvivoFit™	mcd8-mab10-1

For more information visit <https://www.invivogen.com/mouse-anti-mouse-mabs>.

TECHNICAL SUPPORT

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