

Anti-mCD8-mlgG2a InvivoFit™

YTS 169.4-derived recombinant mouse monoclonal antibody against murine CD8 α

Catalog code: mcd8-mab10-1, mcd8-mab10-10

<https://www.invivogen.com/anti-mcd8-migg2a-invivofit>

For research use only, not for diagnostic or therapeutic use

Version 22G12-AK

PRODUCT INFORMATION

Contents:

Anti-mCD8-mlgG2a InvivoFit™, purified monoclonal antibody (mAb), provided azide-free and lyophilized. It is available in two pack sizes:

- 1 mg
- 10 mg

Target: Murine CD8 α (aka Lyt-2, Ly-2, or T8)

Clone: YTS 169.4-derived

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

Source: Chinese hamster ovary (CHO) cells

Isotype: Murine IgG2a (mlgG2a)

Light chain type: Kappa

Purification: Affinity chromatography with protein A

Formulation: 0.2 μ m 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-mCD8-mlgG2a InvivoFit™ with sterile water:

Add 500 μ l 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

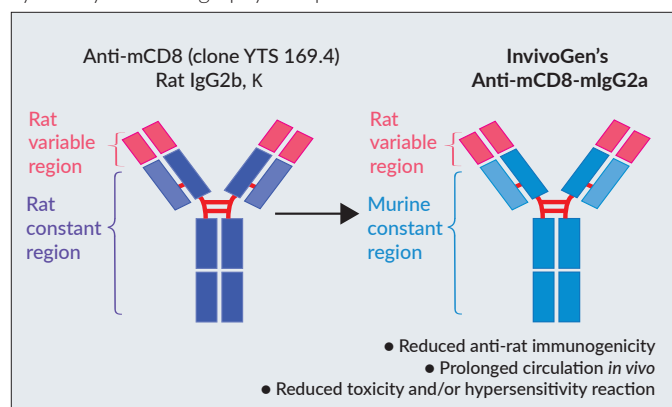
- Binding of Anti-mCD8-mlgG2a InvivoFit™ to mCD8 α has been confirmed using Flow cytometry.
- Mouse CD8 $^{+}$ T cell *in vivo* depletion using Anti-mCD8-mlgG2a InvivoFit™ has been confirmed.
- The complete sequence of this antibody has been verified.
- <5% aggregates (confirmed by size exclusion chromatography).
- Anti-mCD4-mlgG2a InvivoFit™ is filter-sterilized (0.2 μ m) and its endotoxin level is <1 EU/mg (determined by the LAL assay).

BACKGROUND

The cluster of differentiation 8 (CD8) receptor (formerly named T8) is a 34 kDa transmembrane protein primarily expressed on most thymocytes, and highly expressed by peripheral mature CD8 $^{+}$ T cells^{1,2}. Two isoforms, CD8 α (Lyt-2) and CD8 β (Lyt-3), are usually co-expressed and form a CD8 α/β heterodimer that plays a critical role in CD8 $^{+}$ T cell development and activation. CD8 α is mandatory for the development of MHC class I-restricted cytotoxic T cells (CTLs)¹. CTLs recognize and eliminate infected cells and tumor cells through the interaction between the TCR on the T cell and the MHC-peptide complex on the antigen-presenting cell^{2,3}. Upon antigen recognition, the proximity association of CD8 and the TCR/CD3 complex on T cells triggers downstream intracellular signaling and participates in the cytotoxic T cell activation^{1,2}. Other immune cells, such as Natural Killer cells, subsets of dendritic cells also express CD8 α ⁴.

DESCRIPTION

Anti-mCD8-mlgG2a InvivoFit™ is a mouse anti-mouse monoclonal antibody (mAb) featuring the variable region of the previously described anti-mCD8 YTS 169.4 clone⁶. Using recombinant technology, the original YTS 169.4 rat IgG2b constant region has been replaced with a murine IgG2a format which mediates potent cytotoxic functions⁷. The anti-mCD8 YTS 169.4 mAb is commonly used for *in vivo* depletion of the CD8 $^{+}$ T cell population to study its role in various immune responses, including in a viral or tumoral context^{8,9}. Depending on the nature of the experiment, extended treatment schedules (up to several months) may be required. Upon repeated injection of a xenogeneic mAb, mice produce anti-species antibodies, causing removal of the administered mAb from circulation, thereby reducing its *in vivo* efficacy. Moreover, this immunogenicity can lead to fatal hypersensitivity reactions^{10,11} which can be reduced by mAb murinization¹¹. Anti-mCD8-mlgG2a InvivoFit™ is produced in Chinese hamster ovary (CHO) cells, purified by affinity chromatography with protein A.



1. Fung-Leung W.P. *et al.* 1991. CD8 is needed for development of cytotoxic T cells but not helper T cells. *Cell*. 65:443-9. 2. Janeway C.A. 1992. The T Cell Receptor as a Multicomponent Signalling Machine: CD4/CD8 Coreceptors and CD45 in T Cell Activation. *Annual Rev Immunol*. 10:645-74. 3. Norment A.M. *et al.* 1988. Cell-cell adhesion mediated by CD8 and MHC class I molecules. *Nature*. 336:79. 4. Laky K. & Kruisbeek A.M., 2016. In vivo depletion of T lymphocytes. *Current Protocols Immunology*. doi: 10.1002/0471142735.im0401s113. 5. Cobbold S.P. *et al.* 1984. Therapy with monoclonal antibodies by elimination of T-cell subsets *in vivo*. *Nature*. 312:548-51. 6. Nimmerjahn F. & Ravetch J.V., 2005. Divergent immunoglobulin g subclass activity through selective Fc receptor binding. *Science*. 310:1510-2. 7. Greczmiel U. *et al.* 2020. LCMV-specific CD4 T cell dependent polyclonal B-cell activation upon persistent viral infection is short lived and extrafollicular. *Eur J Immunol*. 50:396-403. 8. Menares E. *et al.* 2019. Tissue-resident memory CD8(+) T cells amplify anti-tumor immunity by triggering antigen spreading through dendritic cells. *Nat Comm*. 10:4401. 9. Murphy, J.T. *et al.* 2014. Anaphylaxis caused by repetitive doses of a GITR agonist monoclonal antibody in mice. *Blood*. 123:2172-80. 10. 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-mCD4-mlgG2a InvivoFit™	mcd4-mab10-1
For more information visit https://www.invivogen.com/mouse-anti-mouse-mabs .	

TECHNICAL SUPPORT

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