

TECHNICAL DATA SHEET

violetFluor™ 450 Anti-Mouse CD3 (17A2)

Catalog Number: 75-0032

PRODUCT INFORMATION

Contents: violetFluor™ 450 Anti-Mouse CD3 (17A2)

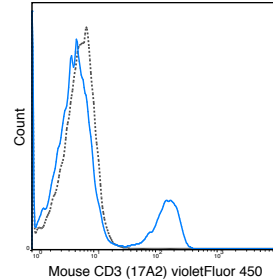
Isotype: Rat IgG2b, kappa

Concentration: 0.2 mg/mL

Clone: 17A2

Reactivity: Mouse

Formulation: 10 mM NaH₂PO₄, 150 mM NaCl, 0.09% NaN₃,
0.1% gelatin, pH7.2



C57Bl/6 splenocytes were stained with 0.5 ug violetFluor 450 Anti-Mouse CD3 (75-0032) (solid line) or 0.5 ug violetFluor 450 Rat IgG2b isotype control (dashed line).

DESCRIPTION

The 17A2 antibody reacts with the mouse CD3 complex, comprised of CD3 epsilon, CD3 gamma and CD3 delta. These integral membrane protein chains assemble with additional chains of the T cell receptor (TCR), as well as CD3 zeta chain, to form the T cell receptor – CD3 complex. Together with co-receptors CD4 or CD8, the complex serves to recognize antigens bound to MHC molecules on antigen-presenting cells. Such interactions promote T cell receptor signaling (T cell activation) and can result in a number of cellular responses including proliferation, differentiation, production of cytokines or activation-induced cell death. CD3 is differentially expressed during thymocyte-to-T cell development and on all mature T cells. The 17A2 antibody is a widely used phenotypic marker for mouse T cells. In addition, as the CD3e chain within the TCR complex contains intracellular signaling domains, binding of 17A2 antibody to CD3 can induce cell activation. A recent publication of the crystal structure of a murine CD3e-mitogenic antibody complex provides further insight into the action of commonly used agonist antibodies (Fernandes, R.A. et al. 2012. *Journal of Biological Chemistry*. 287: 13324-13335).

PREPARATION & STORAGE

This monoclonal antibody was purified from tissue culture supernatant via affinity chromatography. The purified antibody was conjugated under optimal conditions, with unreacted dye removed from the preparation. It is recommended to store the product undiluted at 4°C, and protected from prolonged exposure to light. Do not freeze.

APPLICATION NOTES

This antibody preparation has been quality-tested for flow cytometry using mouse spleen cells, or an appropriate cell type (where indicated). The amount of antibody required for optimal staining of a cell sample should be determined empirically in your system.

violetFluor™ 450 dye is excited by the violet (405 nm) laser and has a peak emission of 450 nm. The most common band pass filters for this dye are 440/40 or 450/50. violetFluor™ 450 can be used as an alternative for Pacific Blue®, Horizon™ V450 or eFluor® 450.

REFERENCES

Joetham A, Ohnishi H, Okamoto M, Takeda K, Schedel M, Domenico J, Dakhama A, and Gelfand EW. 2012. *J. Biol. Chem.* 287:17100-17108. (in vitro activation) Kasahara S and Clark, EA. 2012. *J. Leukoc. Biol.* 91:437-448. (in vitro activation) Xiao J, Julianty A, Wen J, Smith SV, Park PW, Ford ML, Haller CA, and Chaikof EL. 2012. *Arterioscler. Thromb. Vasc. Biol.* 32:386-396. (in vivo T cell depletion) Bas A, Swamy M, Abeler-Dorner L, Williams G, Pang DJ, Barbee SD, and Hayday AC. 2011. *Proc. Natl. Acad. Sci.* 108: 4376-4381. (immunohistochemistry - Paraffin embedded sections) Miescher GC, Schreyer M, and MacDonald HR. 1989. *Immunol. Lett.* 23: 113-118. (Origination of clone 17A2, Functional Assay, immunohistochemistry, immunoprecipitation)

NOTE: Please choose the appropriate format for each application. Citations are provided as a convenience to you; please consult Materials and Methods sections for additional details about the use of any product in these publications.

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