

TECHNICAL DATA SHEET

violetFluor™ 450 Anti-Human CD4 (RPA-T4)

Catalog Number: 75-0049

PRODUCT INFORMATION

Contents: violetFluor™ 450 Anti-Human CD4 (RPA-T4)

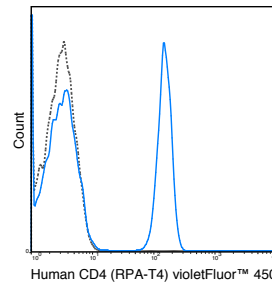
Isotype: Mouse IgG1, kappa

Concentration: 5 uL (0.25 ug)/test

Clone: RPA-T4

Reactivity: Human

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



Human peripheral blood lymphocytes were stained with 5 uL (0.25 ug) violetFluor™ 450 Anti-Human CD4 (75-0049) (solid line) or 0.25 ug violetFluor™ 450 Mouse IgG1 isotype control (dashed line).

DESCRIPTION

The RPA-T4 antibody reacts with human CD4, a 59 kDa protein which acts as a co-receptor for the T cell receptor (TCR) in its interaction with MHC Class II molecules on antigen-presenting cells. The extracellular domain of CD4 binds to the beta-2 domain of MHC Class II, while its cytoplasmic tail provides a binding site for the tyrosine kinase lck, facilitating the signaling cascade that initiates T cell activation. CD4, and co-receptors CCR5 and CXCR4, may also be utilized by HIV-1 to enter T cells. Human CD4 is typically expressed on thymocytes, some mature T cell populations such as Th17 and T regulatory (Treg) cells, as well as on dendritic cells. The RPA-T4 antibody is widely used as a phenotypic marker for human CD4 expression, and is cross-reactive with Chimpanzee CD4. This antibody recognizes a different epitope, and thus does not block binding of, the alternative Anti-Human CD4 antibody clone OKT4 (Reinherz EL, et al. 1979. Proc. Natl. Acad. Sci. 76:4061-4065).

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 pre-titrated and quality-tested for flow cytometry using an appropriate cell type. The antibody has been diluted for use at 5 uL per test, defined as the amount of antibody that will stain a cell sample in a final volume of approximately 100 uL. The number of cells within a sample should be determined empirically, but typically ranges between 1x10⁵ to 1x10⁸ cells.

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®, BD Horizon™ V450 or eFluor® 450.

REFERENCES

Toma J, Weinheimer SP, Stawiski E, Whitcomb JM, Lewis ST, Petropoulos CJ, and Huang W. 2011. J. Virol. 85: 3872-3880. (Blocking: HIV-1 interaction) Porter KA, Kelley LN, Nekorchuk MD, Jones JH, Hahn AB, de Noronha CMC, Harton JA, and Duus KM. 2010. J. Immunol. 185:6480-6488. (Blocking: HIV-1 interaction) Hsieh S-C, Tsai W-Y, and Wang W-K. 2010. J. Virol. 84(9): 4782-4797. (Immunoprecipitation – transfected cells) Chen X, Wang X, Besra GS, and Gumperz JE. 2007. J. Leukoc. Biol. 82:1455-1465. (in vitro activation) Thedrez A, de Lalla C, Allain S, Zaccagnino L, et al. 2007. Blood. 110:251-258 (in vitro blocking) Mack CL, Tucker RM, Sokol RJ, Darrer FM, Kotzin BL, Whittington PF and Miller SD. 2004. Pediatr. Res. 56(1):79-87. (Immunohistochemistry – frozen tissue) Deng MC, Bell S, Huie P, Pinto F, Hunt SA, Stinson EB, Sibley R, Hall BM, and Valentine HA. 1995. Circulation. 91: 1647-1654. (Immunohistochemistry – OCT embedded frozen tissue)

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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