

TECHNICAL DATA SHEET

# violetFluor™ 450 Anti-Human CD4 (OKT4)

Catalog Number: 75-0048

## PRODUCT INFORMATION

**Contents:** violetFluor™ 450 Anti-Human CD4 (OKT4)

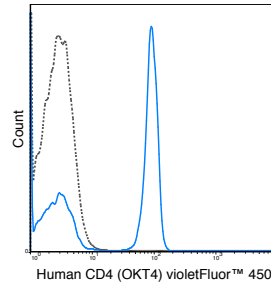
**Isotype:** Mouse IgG2b, kappa

**Concentration:** 5 uL (0.25 ug)/test

**Clone:** OKT4

**Reactivity:** Human

**Formulation:** 10 mM NaH<sub>2</sub>PO<sub>4</sub>, 150 mM NaCl, 0.09% NaN<sub>3</sub>,  
0.1% gelatin, pH7.2



Human peripheral blood lymphocytes were stained with 5 uL (0.25 ug) violetFluor™ 450 Anti-Human CD4 (75-0048) (solid line) or 0.25 ug violetFluor™ 450 Mouse IgG2b isotype control (dashed line).

## DESCRIPTION

The OKT4 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 OKT4 antibody is widely used as a phenotypic marker for CD4 expression. It is cross-reactive with CD4 in several non-human species, including Chimpanzee, Cynomolgus and Rhesus. This antibody recognizes a different epitope, and thus does not block binding of, the alternative Anti-Human CD4 antibody clone RPA-T4 (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 1x10<sup>5</sup> to 1x10<sup>8</sup> 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

Chen CY, Huang D, Yao S, Halliday L, Zeng G, Wang RC and Chen ZW. 2012. J. Immunol. 188:4278-4288. (in vivo depletion - macaque). Bagnara D, Kaufman MS, Calissano C, et al. 2011. Blood. 117: 5463-5472. (in vivo depletion). Ciczora Y, Callens N, Seron K, Rouille Y, and Dubuisson J. 2010. J. Gen. Virol. 91:404-414. (Immunofluorescence microscopy; Western Blot). Nguyen V, Cao L, Lin JT, Hung N, Ritz A, Yu K, Jianu R, Ulin SP, Raphael BJ, Laidlaw DH, Brossay L, and Salomon AR. 2009. Mol. Cell. Proteomics. 8: 2418-2431. (in vitro activation). daSilva LLP, Sougrat R, Burgos PV, Janvier K, Matterna R, and Bonifacino JS. 2009. J. Virol. 83: 6578-6590 (Immunoprecipitation). Balla-Jhagjhoorsingh S, Koopman G, Mooij P, Haaksma TGM, Teeuwssen VJP, Bontrop RE, and Heeney JL. 1999. J. Immunol. 162: 2308-2314. (Immunocytochemistry /Immunofluorescence microscopy – Chimpanzee). Bour S, Boulerice F, and Wainberg MA. 1991. J. Virol. 65(12). : 6387-6396. (Immunoprecipitation). Watanabe M, Ringler DJ, Fultz PN, MacKey JJ, Boyson JE, Levine CG, and Letvin NL. 1991. J. Virol. 65: 3344-3348. (Flow cytometry – Chimpanzee).

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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