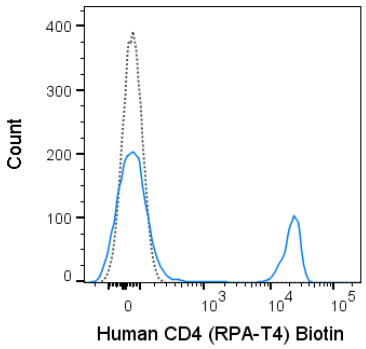
TECHNICAL DATA SHEET

Biotin Anti-Human CD4 (RPA-T4)

Catalog Number: 30-0049

PRODUCT INFORMATION

Contents:	Biotin Anti-Human CD4 (RPA-T4)
Isotype:	Mouse IgG1, kappa
Concentration:	0.5 mg/mL
Clone:	RPA-T4
Reactivity:	Human
Use By:	12 months from date of receipt
Storage Conditions:	2-8°C
Formulation:	10 mM NaH_2PO_4, 150 mM NaCl, 0.09% NaN_3, pH 7.2



Human peripheral blood lymphocytes were stained with 0.25 ug Biotin Anti-Human CD4 (30-0049) (solid line) or 0.25 ug Biotin Mouse IgG1 isotype control (dashed line), followed by Streptavidin PE.

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 biotin 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 an appropriate cell type (as indicated). Please refer to the figure legend for the optimal concentration used to stain the tissue shown. We recommend titrating the antibody under your specific conditions to determine the optimal concentration of antibody needed in your experimental system.

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, Whitington 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 Valantine HA. 1995. Circulation. 91: 1647-1654. (Immunohistochemistry – OCT embedded frozen tissue)

Tonbo Biosciences tests all antibodies by flow cytometry. Citations are provided as a resource for additional applications that have not been validated by Tonbo Biosciences. Please choose the appropriate format for each application and consult Materials and Methods sections for additional details about the use of any product in these publications.