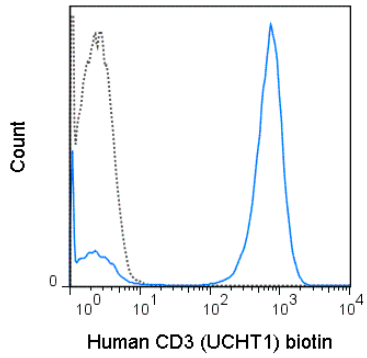
TECHNICAL DATA SHEET

Biotin Anti-Human CD3 (UCHT1)

Catalog Number: 30-0038

PRODUCT INFORMATION

Contents:	Biotin Anti-Human CD3 (UCHT1)
Isotype:	Mouse IgG1, kappa
Concentration:	0.5 mg/mL
Clone:	UCHT1
Reactivity:	Human
Use By:	12 months from date of receipt
Storage Conditions:	2-8°C protected from light
Formulation:	10 mM NaH2PO4, 150 mM NaCl, 0.09% NaN3, pH7.2



Human peripheral blood lymphocytes were stained with 0.25 ug Biotin Anti-Human CD3 (30-0038) (solid line) or 0.25 ug Biotin Mouse IgG1 isotype control (dashed line), followed by Streptavidin PE.

DESCRIPTION

The UCHT1 antibody is specific for human CD3e, also known as CD3 epsilon, a 20 kDa subunit of the T cell receptor complex, along with 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. These interactions promote T cell receptor signaling (T cell activation), inducing cell 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 UCHT1 antibody is a widely used phenotypic marker for human T cells. In addition, binding/cross-linking of UCHT1 antibody to CD3e can induce cell activation (use format suitable for functional assays). A recent publication of the crystal structure of a CD3e- antibody complex provides insight as to the action of commonly used agonist antibodies, as well as specific epitope-binding data for the human CD3 antibodies UCHT1 and OKT3 (Fernandes, R.A. et al. 2012. J. Biol. Chem. 287: 13324-13335).UCHT1

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 mouse spleen cells, or an appropriate cell type (where 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

Harris SJ, Parry RV, Foster JG, Blunt MD, Wang A, Marelli-Berg F, Westwick J, and Ward SG. Apr. 2011. J. Immunol. 186: 4936-4945. (in vitro activation)Beriou G, Bradshaw EM, Lozano E, Costantino CM, Hastings WD, Orban T, Elyaman W, Khoury SJ, Kuchroo VK, Baecher-Allan C, and Hafler DA. 2010. J. Immunol. 185: 46-54. (in vitro activation)Soto PC, Stein LL, Hurtado-Ziola N, Hedrick SM, and Varki A. 2010. J. Immunol. 184: 4185-4195. (Flow cytometry – Chimpanzee) Edelbauer M, Datta D, Vos IHC, Basu A, Stack MP, Reinders MEJ, Sho M, Calzadilla K, Ganze P, and Briscoe DM. 2010. Blood. 116:1980-1989. (Immunohistochemistry – acetone fixed, frozen sections; Immunofluoresence microscopy)Varghese JC and Kane KP. 2008. J. Immunol. 181: 6002-6009. (in vitro activation)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)Sakkas LI, Scanzello C, Johanson N, Burkholder J, Mitra A, Salgame P, Katsetos CD, and Platsoucas CD. 1998. Clin. Diagn. Lab. Immun. 5:430. (Immunohistochemistry – acetone fixed, frozen sections)Salmeron A, Sanchez-Madrid F, Ursa MA, Fresno M, and Alarcon B. 1991. J. Immunol. 147:3047-3052. (Immunoprecipitation)Van Dongen JJ, Krissansen GW, Wolvers-Tettero IL, Comans-Bitter WM, Adriaansen HJ, Hooijkaas H, van Wering ER, and Terhorst C.

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.