

Anti-Human CD3 Antibody, Clone UCHT1

Antibodies

Mouse monoclonal IgG1 antibody against human, chimpanzee CD3, unconjugated

100 µg

Catalog #60011

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Product Description

The UCHT1 antibody reacts with the ~20 kDa CD3 ϵ subunit of the human T cell receptor (TCR)/CD3 complex, which is expressed on the surface of ~95% of mature T cells and NK-T cells, and variably on thymocytes. A majority of T cell neoplasms also express CD3. The CD3 complex, which is assembled from combinations of CD3 γ , δ , ϵ , η and ζ subunits, associates non-covalently with the TCR and is involved in transducing antigen recognition signals into the cytoplasm of T cells and in regulating the cell surface expression of the TCR. Activation of T cells by the TCR involves the cytoplasmic tails of the CD3 subunits, which are structurally related type 1 transmembrane proteins and members of the immunoglobulin super family. Mutations in the CD3 subunits have been associated with various immunodeficiency disorders including severe combined immunodeficiency disorder (SCID).

Target Antigen Name:	CD3
Alternative Names:	T3, CD3epsilon, CD3e
Gene ID:	915
Species Reactivity:	Human, Chimpanzee
Host Species:	Mouse (BALB/c)
Clonality:	Monoclonal
Clone:	UCHT1
Isotype:	IgG1, kappa
Immunogen:	Human infant thymocytes followed by Sézary T cells
Conjugate:	Unconjugated

Applications

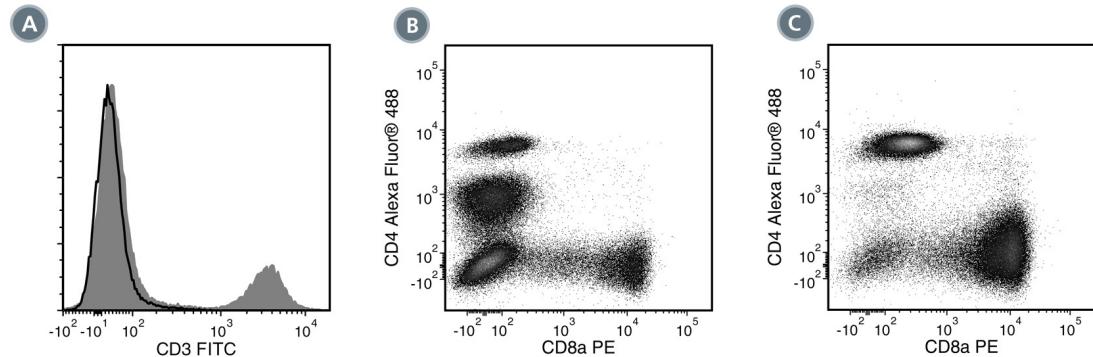
Verified:	CellSep, FC
Reported:	CyTOF®, FA, FC, ICC, IF, IHC, IP, WB
Special Applications:	This antibody clone has been verified for purity assessments of cells isolated with EasySep™ kits, including EasySep™ Human T Cell Enrichment Kit (Catalog #19051) and EasySep™ HLA T Cell Enrichment Kit (Catalog #19051HLA).

Abbreviations: CellSep: Cell separation; ChIP: Chromatin immunoprecipitation; FA: Functional assay; FC: Flow cytometry; ICC: Immunocytochemistry; IF: Immunofluorescence microscopy; IHC: Immunohistochemistry; IP: Immunoprecipitation; WB: Western blotting

Properties

Size:	100 µg
Concentration:	0.5 mg/mL
Formulation:	Phosphate-buffered saline
Purification:	The antibody was purified by affinity chromatography.
Stability and Storage:	Product stable at 2 - 8°C when stored undiluted. Do not freeze. Addition of 0.1% sodium azide (final) is recommended once the vial has been opened. For product expiry date, please request a lot-specific Certificate of Analysis from techsupport@stemcell.com .
Directions for Use:	The suggested use of this antibody is: FC and blocking, <1 µg per 1 x 10 ⁶ cells in 100 µL volume or per 100 µL of whole blood. It is recommended that the antibody be titrated for optimal performance for each application.

Data



(A) Flow cytometry analysis of human peripheral blood mononuclear cells (PBMCs) labeled with Anti-Human CD3 Antibody, Clone UCHT1, followed by goat anti-mouse IgG, FITC (filled histogram). Labeling with a mouse IgG1, kappa isotype control antibody followed by goat anti-mouse IgG, FITC is shown (solid line histogram).

(B) Flow cytometry analysis of PBMCs prior to being processed with EasySep™ Human CD3 Positive Selection Kit (Catalog #18051), which uses Anti-Human CD3 Antibody, Clone UCHT1, to select CD3+ cells. The cells were labeled with Anti-Human CD4 Antibody, Clone OKT4, Alexa Fluor® 488 (Catalog #60016AD) and Anti-Human CD8 Antibody, Clone RPA-T8, PE (Catalog #60022PE).

(C) Flow cytometry analysis of PBMCs processed with EasySep™ Human CD3 Positive Selection Kit and labeled with Anti-Human CD4 Antibody, Clone OKT4, Alexa Fluor® 488 (Catalog #60016AD) and Anti-Human CD8 Antibody, Clone RPA-T8 (Catalog #60022PE).

Related Products

PRODUCT NAME	CATALOG #	SIZE
Anti-Human CD3 Antibody, Clone UCHT1	60011	100 µg
Anti-Human CD3 Antibody, Clone UCHT1, Alexa Fluor® 488	60011AD	100 tests
Anti-Human CD3 Antibody, Clone UCHT1, PE	60011PE	100 tests

References

1. Beverley PC, Callard RE. Distinctive functional characteristics of human "T" lymphocytes defined by E rosetting or a monoclonal anti-T cell antibody. *Eur J Immunol* 11(4): 329-34, 1981
2. McMichael AJ, et al. Eds. *Leucocyte Typing III: White Cell Differentiation Antigens*. Oxford University Press, New York, pp. 417-19, 1987
3. Van Dongen JJM, et al. Cytoplasmic expression of the CD3 antigen as a diagnostic marker for immature T-cell malignancies. *Blood* 71(3): 603-12, 1988 (WB)
4. Graves J, Cantrel DA. An analysis of the role of guanine nucleotide binding proteins in antigen receptor/CD3 antigen coupling to phospholipase C. *J Immunol* 146(7): 2102-27, 1991 (FA)
5. Salmeron A, et al. A conformational epitope expressed upon association of CD3-epsilon with either CD3-delta or CD3-gamma is the main target for recognition by anti-CD3 monoclonal antibodies. *J Immunol* 147(9): 3047-52, 1991 (IP)
6. Yoshino N, et al. Upgrading of flow cytometric analysis for absolute counts, cytokines and other antigenic molecules of cynomolgus monkeys (*Macaca fascicularis*) by using anti-human cross-reactive antibodies. *Exp Anim* 49(2): 97-110, 2000 (FC)
7. Ryschich E, et al. Expression of HLA class I/II antigens and T cell immune response in human neuroendocrine tumors of the pancreas. *Tissue Antigens* 62(1): 48-54, 2003 (IHC)
8. Arnett KL, et al. Crystal structure of a human CD3-epsilon/delta dimer in complex with a UCHT1 single-chain antibody fragment. *Proc Natl Acad Sci USA* 101(46): 16268-73, 2004
9. Thompson AG, et al. T cells signaled by NF-kappa B- dendritic cells are sensitized not anergic to subsequent activation. *J Immunol* 173(3): 1671-80, 2004 (FA)
10. Thakral D, et al. Differential expression of the human CD8beta splice variants and regulation of the M-2 isoform by ubiquitination. *J Immunol* 180(11): 7431-42, 2008 (FC)