Revision 8

Store at +4C

#62670

CD3 (UCHT1) Mouse mAb (PE-Cy7® Conjugate)

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
FC-FP, FC-L	H	Mouse IgG1	#P07766	916

Product Usage Information

Application	Dilution
Flow Cytometry (Fixed/Permeabilized)	1:20
Flow Cytometry (Live)	1:20

Storage

Supplied in 10 mM NaH_2PO_4, 150 mM NaCl, 0.09% NaN_3, 0.1% gelatin, pH 7.2. This product is stable for 6 months when stored at 4ºC. *Do not aliquot the antibody. Protect from light. Do not freeze.*

Specificity/Sensitivity

CD3 (UCHT1) Mouse mAb (PE-Cy7® Conjugate) recognizes endogenous levels of total CD3ε protein. This antibody detects an epitope within the extracellular domain of CD3ε protein.

Source / Purification

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.

Description

This Cell Signaling Technology antibody is conjugated to PE-Cy7® and tested in-house for direct flow cytometry analysis in human cells.

Background

When T cells encounter antigens via the T cell receptor (TCR), information about the quantity and quality of antigens is relayed to the intracellular signal transduction machinery (1). This activation process depends mainly on CD3 (Cluster of Differentiation 3), a multiunit protein complex that directly associates with the TCR. CD3 is composed of four polypeptides: ζ, γ, ε, and δ. Each of these polypeptides contains at least one immunoreceptor tyrosine-based activation motif (ITAM) (2). Engagement of the TCR complex with foreign antigens induces tyrosine phosphorylation in the ITAM motifs and phosphorylated ITAMs function as docking sites for signaling molecules such as ZAP-70 and the p85 subunit of PI-3 kinase (3,4). TCR ligation also induces a conformational change in CD3ε, such that a proline region is exposed and then associates with the adaptor protein Nck (5).
The UCHT1 antibody is widely used as a marker for phenotyping human T cells (6-8).

Background References

1. Kuhns, M.S. et al. (2006) *Immunity* 24, 133-139.
2. Pitcher, L.A. and van Oers, N.S. (2003) *Trends Immunol.* 24, 554-560.
3. Osman, N. et al. (1996) *Eur. J. Immunol.* 26, 1063-1068.
4. Hatada, M.H. et al. (1995) *Nature* 377, 32-38.
5. Gil, D. et al. (2002) *Cell* 109, 901-912.
6. Londei, M. et al. (1989) *Proc Natl Acad Sci U S A* 86, 8502-6.
7. Sallusto, F. et al. (1999) *Nature* 401, 708-12.
8. Walker, M.R. et al. (2003) *J Clin Invest* 112, 1437-43.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Applications Key

FC-FP: Flow Cytometry (Fixed/Permeabilized) **FC-L:** Flow Cytometry (Live)

Cross-Reactivity Key

H: Human

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Limited Uses

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