

#46233  
Store at +4C**CD3 (UCHT1) Mouse mAb (PE Conjugate)**

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**For Research Use Only. Not for Use in Diagnostic Procedures.**

|                                     |                         |                                   |                                      |                               |                               |
|-------------------------------------|-------------------------|-----------------------------------|--------------------------------------|-------------------------------|-------------------------------|
| <b>Applications:</b><br>FC-FP, FC-L | <b>Reactivity:</b><br>H | <b>Sensitivity:</b><br>Endogenous | <b>Source/Isotype:</b><br>Mouse IgG1 | <b>UniProt ID:</b><br>#P07766 | <b>Entrez-Gene Id:</b><br>916 |
|-------------------------------------|-------------------------|-----------------------------------|--------------------------------------|-------------------------------|-------------------------------|

**Product Usage Information****Application**

Flow Cytometry (Fixed/Permeabilized)  
Flow Cytometry (Live)

**Dilution**

1:20  
1:20

**Storage**

Supplied in 10 mM NaH<sub>2</sub>PO<sub>4</sub>, 150 mM NaCl, 0.09% NaN<sub>3</sub>, 0.1% gelatin, pH7.2. *Do not aliquot the antibody. Protect from light. Do not freeze.*

**Specificity/Sensitivity**

CD3 (UCHT1) Mouse mAb (PE 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 phycoerythrin (PE) 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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