



**Orders:** 877-616-CELL (2355)  
orders@cellsignal.com

**Support:** 877-678-TECH (8324)

**Web:** info@cellsignal.com  
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

#44330 store at +4C

## CD3 (UCHT1) Mouse mAb (redFluor™ 710 Conjugate)

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

<b>Applications:</b> FC-FP, FC-L	<b>Reactivity:</b> H	<b>Sensitivity:</b> Endogenous	<b>Source/Isotype:</b> Mouse IgG1	<b>UniProt ID:</b> #P07766	<b>Entrez-Gene Id:</b> 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 (redFluor™ 710 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 redFluor™ 710 and tested in-house for direct flow cytometric 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

### Trademarks and Patents

Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc.

All other trademarks are the property of their respective owners. Visit [cellsignal.com/trademarks](http://cellsignal.com/trademarks) for more information.

### Limited Uses

Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.