

Store at  
4°C

#96708

# Human Essential T Cell Markers Flow Cytometry Panel

1 Kit  
(50 assays)



**Support:** +1-978-867-2388 (U.S.)  
www.cellsignal.com/support

**Orders:** 877-616-2355 (U.S.)  
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**For Research Use Only. Not For Use In Diagnostic Procedures.**

Product Includes	Item #	Dilution	Species Reactivity
CD3 (UCHT1) Mouse mAb (PE Conjugate)	46233	1:20	H
CD4 (RPA-T4) Mouse mAb (violetFluor™ 450 Conjugate)	26755	1:20	H
FoxP3 (D6O8C) Rabbit mAb (Alexa Fluor® 488 Conjugate)	12853	1:50	H
CD8α (RPA-T8) Mouse mAb (PE-Cy7® Conjugate)	27442	1:20	H
Granzyme B (D2H2F) Rabbit mAb (Alexa Fluor® 647 Conjugate)	50590	1:50	H, M

**Description:** The Human Essential T Cell Markers Flow Cytometry Panel can be used to identify major subsets of human T cells.

T cells are identified by expression of CD3. There are two major subsets of conventional T cells: helper T cells which express CD4, and cytotoxic T cells which express CD8. Regulatory CD4+ T cells express FoxP3. Upon antigen stimulation, T cells upregulate expression of Granzyme B, a serine protease that is secreted by these cells to mediate target cell cytotoxicity.

**Specificity/Sensitivity:** Each antibody in the Human Essential T Cell Markers Flow Cytometry Panel detects endogenous levels of its target protein. CD3 (UCHT1) Mouse mAb (PE Conjugate) detects an epitope within the extracellular domain of CD3ε protein. CD4 (RPA-T4) Mouse mAb (violetFluor™ 450 Conjugate) and CD8α (RPA-T8) Mouse mAb (PE-Cy7® Conjugate) detect epitopes within the extracellular domains. FoxP3 (D6O8C) Rabbit mAb (Alexa Fluor® 488 Conjugate) and Granzyme B (D2H2F) Rabbit mAb (Alexa Fluor® 647 Conjugate) detect epitopes within the intracellular domains.

**Source/Purification:** Monoclonal antibodies were purified from tissue culture supernatant via affinity chromatography. The purified antibodies were conjugated under optimal conditions, with unreacted dye removed from the preparation.

**Storage:** CD3 (UCHT1) Mouse mAb (PE Conjugate), CD4 (RPA-T4) Mouse mAb (violetFluor™ 450 Conjugate), and CD8α (RPA-T8) Mouse mAb (PE-Cy7® Conjugate) antibodies are supplied in 10 mM NaH<sub>2</sub>PO<sub>4</sub>, 150 mM NaCl, 0.09% Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub>, 0.1% gelatin, pH7.2. FoxP3 (D6O8C) Rabbit mAb (Alexa Fluor® 488 Conjugate) and Granzyme B (D2H2F) Rabbit mAb (Alexa Fluor® 647 Conjugate) are supplied in PBS (pH 7.2), less than 0.1% sodium azide and 2 mg/ml BSA. Store at 4°C. *Do not aliquot the antibodies. Protect from light. Do not freeze.*

All components in this kit are stable in accordance with the date printed on the outer packaging label when stored at the recommended temperature. Please refer to product labels, datasheets, or web pages for specific "Best By" dates for each individual component.

**Directions for Use:** All antibodies in this kit are compatible with the FoxP3/Transcription Factor Fixation/Permeabilization Kit #43481 and can be used in a single staining mix on fixed and permeabilized cells. Prior to fixation and antibody incubation, we recommend adding a fixable viability dye such as the Ghost Dye™ Violet 510 Viability Dye to enable identification and exclusion of dead cells from analysis.

**Gating strategy for identifying essential T cell subsets:** If a fixable viability dye was used, first gate on viable cells. Next, gate on lymphocytes based on forward scatter and side scatter. Conventional helper T cells are the CD3+CD4+ cells within the lymphocyte gate. Regulatory CD3+CD4+ T cells are positive for expression of FoxP3. Conventional cytotoxic T cells are the CD3+CD8+ cells within the lymphocyte gate. Both CD3+CD4+ and CD3+CD8+ can be positive for expression of the cytotoxic molecule Granzyme B.

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