

Anti-Human CD45RO Antibody, Clone UCHL1, APC



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TOLL FREE PHONE 1 800 667 0322 • PHONE +1 604 877 0713

INFO@STEMCELL.COM • TECHSUPPORT@STEMCELL.COM

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Antibodies

Mouse monoclonal IgG2a antibody
against human, chimpanzee, common
marmoset CD45RO, APC-conjugated

Catalog #60097AZ
#60097AZ.1

100 Tests 5 µL/test
25 Tests 5 µL/test

Product Description

The UCHL1 antibody reacts with an extracellular epitope on CD45RO, which is the shortest isoform of CD45, a type I transmembrane glycoprotein, and member of the protein tyrosine phosphatase family (receptor class 1/6 subfamily). Alternative splicing of exons 4, 5, and 6 that encode the extracellular RA, RB, and RC polypeptides of CD45 gives rise to up to 8 isoforms with molecular masses of 180 - 240 kDa. Excision of all three exons generates the ~180 kDa CD45RO isoform, which is expressed on activated and memory (but not naïve) T cells, some B cell subsets, activated monocytes and macrophages, and granulocytes. CD45RO enhances both T cell receptor- and B cell receptor-mediated activation and is a known ligand for CD22 on B cells. The UCHL1 antibody has been used to identify T cell lymphomas and leukemia, and is commonly used in combination with antibodies against CD45RA to discern memory and naïve T cells. The proportion of CD45RO+ (memory) T cells typically increases with age. The UCHL1 epitope is destroyed by treatment with neuraminidase or O-glycosidase.

Target Antigen Name:	CD45RO
Alternative Names:	B220, CD45, GP180, LCA, L-CA, LY5, Protein tyrosine phosphatase receptor type C, PTPRC, T200
Gene ID:	5788
Species Reactivity:	Human, Chimpanzee, Common Marmoset; reportedly cross-reacts to varying extents with Mouse, Rat, Cow, Dog, some macaques (Rhesus, Pig-tailed)
Host Species:	Mouse (BALB/c)
Clonality:	Monoclonal
Clone:	UCHL1
Isotype:	IgG2a, kappa
Immunogen:	Human IL-2-dependent T cell line CA1
Conjugate:	APC (Allophycocyanin)

Applications

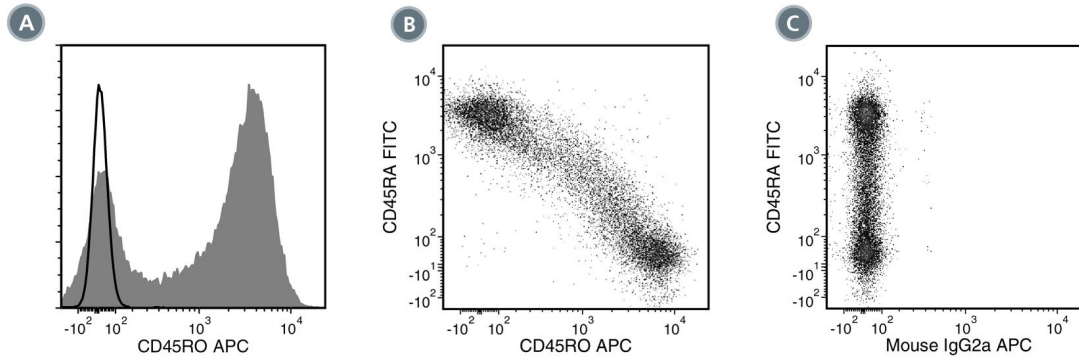
Verified:	FC
Reported:	FC
Special Applications:	This antibody clone has been verified for purity assessments of cells isolated with EasySep™ kits, including EasySep™ Human Memory CD4+ T Cell Enrichment Kit (Catalog #19157) and EasySep™ Human Memory CD8+ T Cell Enrichment Kit (Catalog #19159).

Abbreviations: CellSep: Cell separation; ChIP: Chromatin immunoprecipitation; FA: Functional assay; FACS: Fluorescence-activated cell sorting; FC: Flow cytometry; ICC: Immunocytochemistry; IF: Immunofluorescence microscopy; IHC: Immunohistochemistry; IP: Immunoprecipitation; RIA: Radioimmunoassay; WB: Western blotting

Properties

Formulation:	Aqueous buffer containing 0.09% sodium azide, may contain carrier protein/stabilizer
Purification:	The antibody was purified by affinity chromatography and conjugated with APC under optimal conditions. The solution is free of unconjugated APC and unconjugated antibody.
Stability and Storage:	Product stable at 2 - 8°C when stored undiluted. Do not freeze. Protect product from prolonged exposure to light. For product expiry date, please contact techsupport@stemcell.com .
Directions for Use:	For flow cytometry the suggested use of this antibody is ≤ 5 µL per 1 × 10 ⁶ cells in 100 µL 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 CD45RO Antibody, Clone UCHL1, APC (filled histogram) or Mouse IgG2a, kappa Isotype Control Antibody, Clone MOPC-173, APC (Catalog #60071AZ) (solid line histogram)

(B) Flow cytometry analysis of human PBMCs (gated on CD3⁺ cells) labeled with Anti-Human CD45RO Antibody, Clone UCHL1, APC and an anti-human CD45RA antibody, FITC.

(C) Flow cytometry analysis of human PBMCs (gated on CD3⁺ cells) labeled with Mouse IgG2a, kappa Isotype Control Antibody, Clone MOPC-173, APC and an anti-human CD45RA antibody, FITC.

Related Products

For a complete list of antibodies, including other conjugates, sizes and clones, as well as related products available from STEMCELL Technologies, please visit our website at www.stemcell.com/antibodies or contact us at techsupport@stemcell.com.

References

- Buggert M et al. (2014) Multiparametric bioinformatics distinguish the CD4/CD8 ratio as a suitable laboratory predictor of combined T cell pathogenesis in HIV infection. *J Immunol* 192(5): 2099–108. (FC)
- Tarhini AA et al. (2014) Immune monitoring of the circulation and the tumor microenvironment in patients with regionally advanced melanoma receiving neoadjuvant ipilimumab. *PLoS One* 9(2): e87705. (FC, IHC)
- Valentine M et al. (2013) Expression of the memory marker CD45RO on helper T cells in macaques. *PLoS One* 8(9): e73969. (ELISA, FA/Immunotoxicity, FC)
- Zlobec I et al. (2013) Next-generation tissue microarray (ngTMA) increases the quality of biomarker studies: an example using CD3, CD8, and CD45RO in the tumor microenvironment of six different solid tumor types. *J Transl Med* 11(1): 104. (IHC)
- Thakral D et al. (2008) Differential expression of the human CD8beta splice variants and regulation of the M-2 isoform by ubiquitination. *J Immunol* 180(11): 7431–42. (FC)
- Kim M-O et al. (2006) Anti-CD45RO suppresses human immunodeficiency virus type 1 replication in microglia: role of Hck tyrosine kinase and implications for AIDS dementia. *J Virol* 80(1): 62–72. (FA/Blocking, FC, WB)
- Ishii T et al. (2001) CD26-mediated signaling for T cell activation occurs in lipid rafts through its association with CD45RO. *Proc Natl Acad Sci USA* 98(21): 12138–43. (ICC, IF, WB)
- Sakkas LI et al. (1998) T cells and T-cell cytokine transcripts in the synovial membrane in patients with osteoarthritis. *Clin Diagn Lab Immunol* 5(4): 430–7. (IHC)
- Morimoto C. (1995) CD45 cluster report. In: Schlossman et al. (Eds.). *Leukocyte Typing V: White cell differentiation antigens* (pp. 386–9). Oxford: Oxford University Press.
- Pulido R et al. (1994) Identification of amino acids at the junction of exons 3 and 7 that are used for the generation of glycosylation-related human CD45RO and CD45RO-like antigen specificities. *J Exp Med* 179(3): 1035–40. (FC, IP)
- Davey FR et al. (1990) Immunophenotyping of hematologic neoplasms in paraffin-embedded tissue sections. *Am J Clin Pathol* 93(4, Suppl 1): S17–26. (IHC)
- Smith SH et al. (1986) Functional subsets of human helper-inducer cells defined by a new monoclonal antibody, UCHL1. *Immunology* 58(1): 63–70. (FC, IHC, IP)

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