# Antibodies

**Anti-Human CD45RO Antibody, Clone UCHL1, Alexa Fluor® 488**

Mouse monoclonal IgG2a antibody against human, chimpanzee, common marmoset CD45RO, Alexa Fluor® 488-conjugated

Catalog #60097AD 100 Tests 5 µL/test

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

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| 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: | Alexa Fluor® 488 |

## Applications

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| 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

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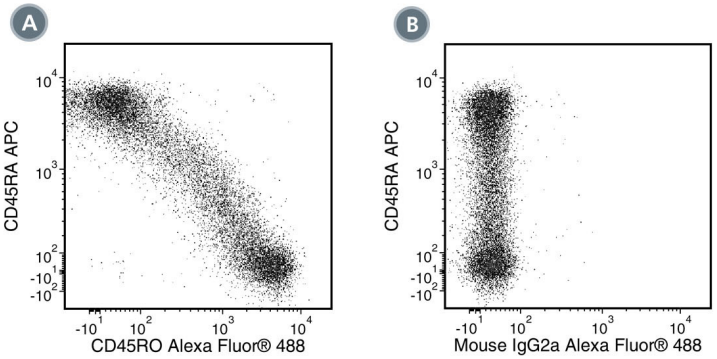
| Formulation: | Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and 0.2% (w/v) bovine serum albumin |
| Purification: | The antibody was purified by affinity chromatography and conjugated with Alexa Fluor® 488 under optimal conditions. The solution is free of unconjugated Alexa Fluor® 488. |
| 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 x 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; gated on CD3+ cells) labeled with Anti-Human CD45RO Antibody, Clone UCHL1, Alexa Fluor® 488 and an anti-human CD45RA antibody, APC.
(B) Flow cytometry analysis of human PBMCs (gated on CD3+ cells) labeled with Mouse IgG2a, kappa Isotype Control Antibody, Clone MOPC-173, Alexa Fluor® 488 (Catalog #60071AD) and an anti-human CD45RA antibody, APC.

## 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

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12. 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)