Product Data Sheet

PE/Fire™ 640 anti-human CD45RO

Catalog # / Size:	2121320 / 100 tests 2121315 / 25 tests
Clone:	UCHL1
Isotype:	Mouse IgG2a, κ
Immunogen:	IL-2 dependent T cell line, CA1
Reactivity:	Human, Non-human primate, Other
Preparation:	The antibody was purified by affinity chromatography and conjugated with PE/Fire™ 640 under optimal conditions.
Formulation:	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and 0.2% (w/v) BSA (origin USA)
Workshop Number:	IV N31
Concentration:	Lot-specific

Human peripheral blood lymphocytes were stained with CD45RA FITC and CD45RO (clone UCHL1) PE/Fire™ 640 (left), or CD45RA FITC only (right).

Applications:

Applications:	Flow Cytometry
Recommended Usage:	Each lot of this antibody is quality control tested by immunofluorescent staining with flow cytometric analysis. For flow cytometric staining, the suggested use of this reagent is 5 µL per million cells in 100 µL staining volume or 5 µL per 100 µL of whole blood. It is recommended that the reagent be titrated for optimal performance for each application. * PE/Fire™ 640 has a maximum excitation of 566 nm and a maximum emission of 639 nm.
Application Notes:	The UCHL1 antibody is commonly used in combination with antibodies against CD45RA to discern memory and naïve T cells. Additional reported applications (for the relevant formats) include: immunohistochemical staining of acetone-fixed frozen tissue sections[5] and formalin-fixed paraffin-embedded tissue sections[4], Western blotting[2], and immunoprecipitation[3].

Application References:

1. Knapp W, *et al.* Eds. 1989. Leucocyte Typing IV. Oxford University Press. New York. (FC)
2. Ishii T, *et al.* 2001. *P. Natl. Acad. Sci. USA* 98:12138. (WB)
3. Ponsford M, *et al.* 2001. *Clin. Exp. Immunol.* 124:315. (IP)
4. Yamada M, *et al.* 1996. *Stroke* 27:1155. (IHC)
5. Sakkas LI, *et al.* 1998. *Clin. Diagn. Lab. Immunol.* 5:430. (IHC)
6. Baba N, *et al.* 2010. *Int. Immunol.* 22:237. PubMed
7. Thakral D, *et al.* 2008. *J. Immunol.* 180:7431. (FC) PubMed
8. Weiss L, *et al.* 2010. *P. Natl. Acad. Sci. USA* 107:10632. PubMed
9. Wu YY, *et al.* 2007. *Infect. Immun.* 75:4357. PubMed
10. Mozaffarian N, *et al.* 2008. *Rheumatology* 47:1335. PubMed
11. Roque S, *et al.* 2007. *J. Immunol.* 178:8028. PubMed
12. Yoshino N, *et al.* 2000. *Exp. Anim. (Tokyo)* 49:97. (FC)
13. Smith SH, *et al.* 1986. *Immunology* 58:63. (Immunogen)
14. Peterson VM, et al. 2017. Nat. Biotechnol. 35:936. (PG)

Description: CD45RO is a 180 kD single chain membrane glycoprotein. It is a splice variant of tyrosine phosphatase CD45, lacking the A, B, and C determinants. The CD45RO isoform is expressed on activated and memory T cells, some B cell subsets, activated monocytes/macrophages, and granulocytes. CD45RO enhances both T cell receptor and B cell receptor signaling mediated activation. CD45 and its isoforms non-covalently associate with lymphocyte phosphatase-associated phosphoprotein (LPAP) on T and B lymphocytes. CD45 has been reported to be associated with several other cell surface antigens including CD1, CD2, CD3, and CD4. CD45 has also been reported to bind galectin-1 and CD22. CD45 isoform expression can change in response to cytokines.

Antigen References:

1. Thomas M. 1989. *Annu. Rev. Immunol.* 7:339.
2. Trowbridge I, *et al.* 1994. *Annu. Rev. Immunol.* 12:85.