

Technical Data Sheet

BV605 Mouse Anti-Human CD45RO**Product Information**

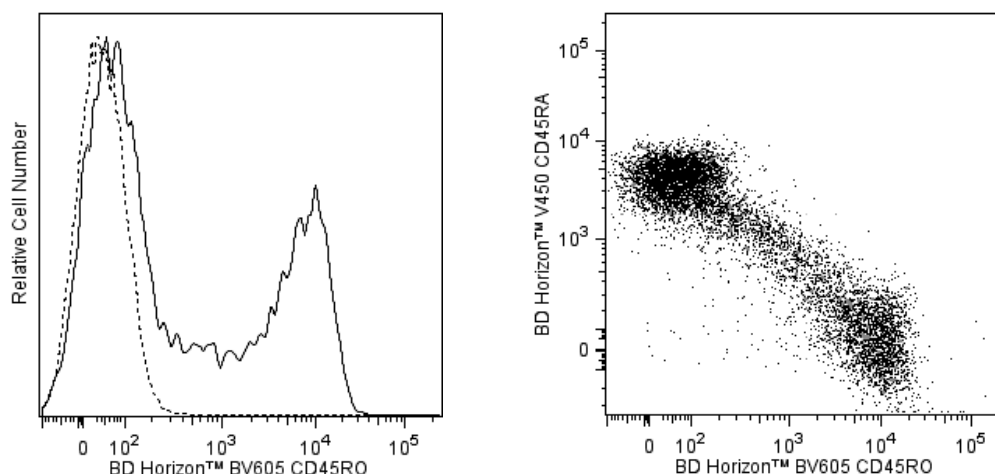
Material Number:	562791
Alternate Name:	CD45R; PTPRC; LCA; Leukocyte common antigen; GP180; LY5; T200
Size:	100 Tests
Vol. per Test:	5 µl
Clone:	UCHL1
Immunogen:	Human IL-2-dependent T-cell line
Isotype:	Mouse (BALB/c) IgG2a, κ
Reactivity:	QC Testing: Human
Workshop:	IV N31
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

The UCHL1 monoclonal antibody specifically binds to the 180 kDa isoform of CD45 (aka, the Leukocyte Common Antigen). CD45RO is a type I transmembrane glycoprotein that has cytoplasmic protein tyrosine phosphatase activity and functions in signal transduction pathways. This CD45 isoform does not include amino acid sequences encoded by the variable CD45 exons A, B, or C. CD45RO is expressed on most thymocytes, activated T cells, memory T cells, granulocytes and monocytes, but only on a proportion of resting T cells. CD45RO and CD45RA antibodies seem to define complementary, predominantly non-overlapping, populations in resting peripheral T cells, demonstrating heterogeneity within the CD8 and CD4 subpopulations. CD45RO binds to CD22.

This antibody is conjugated to BD Horizon BV605 which is part of the BD Horizon Brilliant™ Violet family of dyes. With an Ex Max of 407-nm and Em Max of 602-nm, BD Horizon BV605 can be excited by a violet laser and detected with a standard 610/20-nm filter set. BD Horizon BV605 is a tandem fluorochrome of BD Horizon BV421 and an acceptor dye with an Em max at 605-nm. Due to the excitation of the acceptor dye by the green (532 nm) and yellow-green (561 nm) lasers, there will be significant spillover into the PE and BD Horizon PE-CF594 detectors off the green or yellow-green lasers. BD Horizon BV605 conjugates are very bright, often exhibiting brightness equivalent to PE conjugates and can be used as a third color off of the violet laser.

For optimal and reproducible results, BD Horizon Brilliant Stain Buffer should be used anytime two or more BD Horizon Brilliant dyes are used in the same experiment. Fluorescent dye interactions may cause staining artifacts which may affect data interpretation. The BD Horizon Brilliant Stain Buffer was designed to minimize these interactions. More information can be found in the Technical Data Sheet of the BD Horizon Brilliant Stain Buffer (Cat. No. 563794).



Multicolor flow cytometric analysis of CD45RO expression on human peripheral blood lymphocytes. **Left Panel:** Whole blood was stained with BD Horizon™ BV605 Mouse Anti-Human CD45RO antibody (Cat. No. 562791/562790; solid line histogram), or with a BD Horizon™ BV605 Mouse IgG2a, κ Isotype Control (Cat. No. 562778; dashed line histogram). **Right Panel:** Whole blood was stained with BD Horizon™ BV605 Mouse Anti-Human CD45RO antibody in conjunction with a BD Horizon™ V450 Mouse Anti-Human CD45RA antibody (Cat. No. 560362/ 560363).

Erythrocytes were lysed with BD Pharm Lyse™ Lysing Buffer (Cat. No. 555899). The fluorescence histograms and dot plot (CD45RO versus CD45RA expression) were derived from gated events with the forward and side light-scatter characteristics of viable lymphocytes. Flow cytometry was performed using a BD™ LSR II Flow Cytometer System.

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Preparation and Storage

Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze.

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

The antibody was conjugated with BD Horizon™ BV605 under optimum conditions, and unconjugated antibody and free BD Horizon™ BV605 were removed.

Application Notes

Application

Flow cytometry

Routinely Tested

Suggested Companion Products

Catalog Number	Name	Size	Clone
554656	Stain Buffer (FBS)	500 mL	(none)
562778	BV605 Mouse IgG2a, k Isotype Control	50 µg	G155-178
562790	BV605 Mouse Anti-Human CD45RO	25 Tests	UCHL1
555899	Lysing Buffer	100 mL	(none)
560362	V450 Mouse Anti-Human CD45RA	120 Tests	HI100
560363	V450 Mouse Anti-Human CD45RA	30 Tests	HI100
563794	Brilliant Stain Buffer	5 mL	(none)

Product Notices

1. This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use 1×10^6 cells in a 100-µl experimental sample (a test).
2. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
3. An isotype control should be used at the same concentration as the antibody of interest.
4. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
5. Please observe the following precautions: Absorption of visible light can significantly alter the energy transfer occurring in any tandem fluorochrome conjugate; therefore, we recommend that special precautions be taken (such as wrapping vials, tubes, or racks in aluminum foil) to prevent exposure of conjugated reagents, including cells stained with those reagents, to room illumination.
6. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
7. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
8. Although every effort is made to minimize the lot-to-lot variation in the efficiency of the fluorochrome energy transfer, differences in the residual emission from BD Horizon™ BV421 may be observed. Therefore, we recommend that individual compensation controls be performed for every BD Horizon™ BV605 conjugate.
9. CF™ is a trademark of Biotium, Inc.

References

Akbar AN, Terry L, Timms A, Beverley PC, Janossy G. Loss of CD45R and gain of UCHL1 reactivity is a feature of primed T cells. *J Immunol.* 1988; 140(7):2171-2178. (Clone-specific: Flow cytometry)

Knapp W, Dörken B, Gilks WR, et al, ed. *Leucocyte Typing IV*. New York, NY: Oxford University Press; 1989:1-1182. (Clone-specific)

Norton AJ, Ramsay AD, Smith SH, Beverley PC, Isaacson PG. Monoclonal antibody (UCHL1) that recognises normal and neoplastic T cells in routinely fixed tissues. *J Clin Pathol.* 1986; 39(4):399-405. (Immunogen: Immunohistochemistry)

Smith SH, Brown MH, Rowe D, Callard RE, Beverley PC. Functional subsets of human helper-inducer cells defined by a new monoclonal antibody, UCHL1. *Immunology.* 1986; 58(1):63-70. (Clone-specific: Flow cytometry, Immunohistochemistry, Immunoprecipitation)

Zola H, Swart B, Nicholson I, Voss E. *Leukocyte and Stromal Cell Molecules. The CD Markers*. Hoboken, New Jersey: John Wiley & Sons, Inc.; 2007:1-581. (Clone-specific)

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