Technical Data Sheet

BV650 Mouse Anti-Human CD45RO

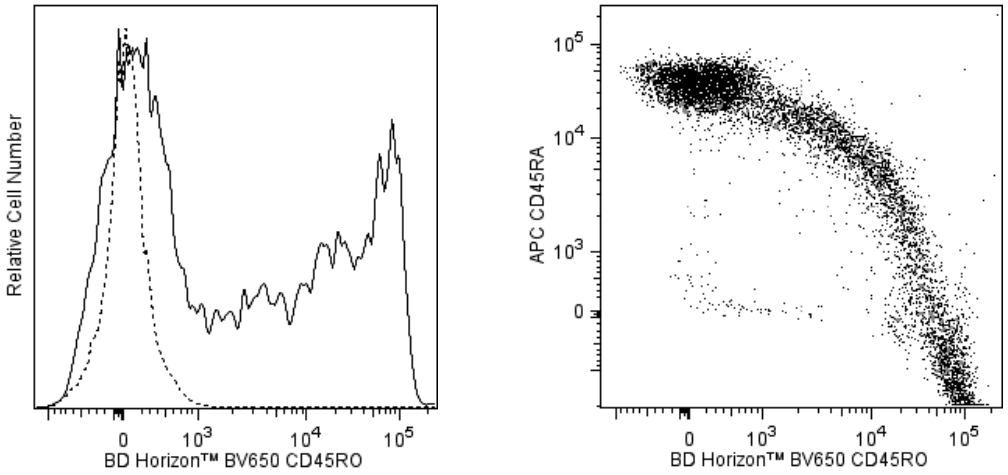
Product Information

Material Number:	**563749**
Alternate Name:	CD45R; PTPRC; LCA; Leukocyte common antigen; GP180; LY5; T200
Size:	25 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.

The antibody was conjugated to BD Horizon™ BV650 which is part of the BD Horizon™ Brilliant Violet™ family of dyes. This dye is a tandem fluorochrome of BD Horizon™ BV421 with an Ex Max of 405-nm and an acceptor dye with an Em Max at 650-nm. BD Horizon™ BV650 can be excited by the violet laser and detected in a filter used to detect APC-like dyes (eg, 660/20-nm filter). Due to the excitation and emission characteristics of the acceptor dye, there will be spillover into the APC and Alexa Fluor® 700 detectors. However, the spillover can be corrected through compensation as with any other dye combination.



Multicolor flow cytometric analysis of CD45RO expression on human peripheral blood lymphocytes.
Left Panel: *Whole blood was stained with BD Horizon™ BV650 Mouse Anti-Human CD45RO antibody (Cat. No. 563749/563750; solid line histogram), or with a BD Horizon™ BV650 Mouse IgG2a, κ Isotype Control (Cat. No. 563417; dashed line histogram).* ***Right Panel:*** *Whole blood was stained with BD Horizon™ BV650 Mouse Anti-Human CD45RO and APC Mouse Anti-Human CD45RA (Cat. No. 550855/561884) antibodies. Erythrocytes were lysed with BD FACS™ Lysing Solution (Cat. No. 349202). The fluorescence histograms and dot plot (CD45RO versus CD45RA expression) were derived from gated events with the forward and side light-scatter characteristics of intact 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™ BV650 under optimum conditions, and unconjugated antibody and free BD Horizon™ BV650 were removed.

Application Notes

Application

Flow cytometry	Routinely Tested

Suggested Companion Products

Catalog Number	Name	Size	Clone
554656	Stain Buffer (FBS)	500 ml	(none)
563417	BV650 Mouse IgG2a, κ Isotype Control	50 µg	G155-178
563750	BV650 Mouse Anti-Human CD45RO	100 tests	UCHL1
349202	BD FACS™ Lysing Solution	100 ml	(none)
555899	Lysing Buffer	100 ml	(none)
550855	APC Mouse Anti-Human CD45RA	100 tests	HI100
561884	APC Mouse Anti-Human CD45RA	25 tests	HI100

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. An isotype control should be used at the same concentration as the antibody of interest.
3. Brilliant Violet™ 650 is a trademark of Sirigen.
4. Alexa Fluor® is a registered trademark of Molecular Probes, Inc., Eugene, OR.
5. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
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. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.

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: Flow cytometry)

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. (Biology)

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