

## Technical Data Sheet

## V500 Mouse Anti-Human CD45

## Product Information

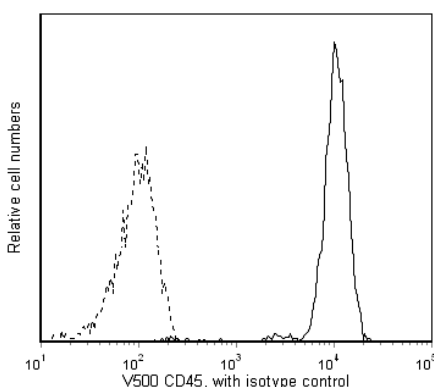
<b>Material Number:</b>	560777
<b>Alternate Name:</b>	PTPRC; LCA; L-CA; Leukocyte Common Antigen; T200; GP180; LY5
<b>Size:</b>	100 Tests
<b>Vol. per Test:</b>	5 µl
<b>Clone:</b>	HI30
<b>Immunogen:</b>	Human Peripheral Blood Leucocytes
<b>Isotype:</b>	Mouse IgG1, κ
<b>Reactivity:</b>	QC Testing: Human
<b>Workshop:</b>	IV N816
<b>Storage Buffer:</b>	Aqueous buffered solution containing protein stabilizer, glycerol and ≤0.09% sodium azide.

## Description

The HI30 monoclonal antibody specifically binds to the 180, 190, 205, 220 kDa protein isoforms of CD45. CD45 is encoded by the *PTPRC* (Protein tyrosine phosphatase receptor type C) gene. CD45, also known as the leukocyte common antigen (LCA), is a member of the protein tyrosine phosphatase (PTP) family. It is present on all human leukocytes including lymphocytes, monocytes, granulocytes, eosinophils, and thymocytes. CD45 is absent from circulating erythrocytes, platelets, or mature erythroid cells of bone marrow and non-hemopoietic tissues.

The antibody is conjugated to BD Horizon™ V500, which has been developed for use in multicolor flow cytometry experiments and is available exclusively from BD Biosciences. It is excited by the Violet laser with an Ex max of 415 nm and Em Max at 500 nm. BD Horizon V500 conjugates emit at a similar wavelength to Amcyan yet exhibit reduced spillover into the FITC channel. For more information on BD Horizon V500, visit [bdbiosciences.com/colors](http://bdbiosciences.com/colors).

When compensating dyes in this spectral range (such as Horizon™ V500 and AmCyan), the most accurate compensation can be obtained using single stained cellular controls. Due to spectral differences between cells and beads in this channel, using BD CompBeads can result in spillover errors for V500 and AmCyan reagents. Therefore, the use of BD CompBeads or BD CompBeads Plus to determine spillover values for these reagents is not recommended. Different V500 reagents (e.g. CD4 vs. CD45) can have slightly different fluorescence spillover therefore, it may also be necessary to use clone specific compensation controls when using these reagents.



**Flow cytometric analysis of CD45 expression on human lymphocytes.** Whole blood was stained with either BD Horizon™ V500 Mouse Anti-Human CD45 (Cat. No. 560777/560779; solid line histogram) or BD Horizon™ V500 Mouse IgG1, κ Isotype Control (Cat. No. 560787; dashed line histogram). Erythrocytes were lysed with BD FACS™ Lysing Solution (Cat. No. 349202). Fluorescent histograms were derived from gated events with the side and forward light-scatter characteristics of viable lymphocytes. Flow cytometry was performed on a BD FACSCanto™ flow cytometry system.

## 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™ V500 under optimum conditions, and unreacted BD Horizon™ V500 was removed.

## Application Notes

## Application

Flow cytometry	Routinely Tested
----------------	------------------

## BD Biosciences

[bdbiosciences.com](http://bdbiosciences.com)

United States 877.232.8995 Canada 866.979.9408 Europe 32.2.400.98.95 Japan 0120.8555.90 Asia Pacific 65.6861.0633 Latin America/Caribbean 55.11.5185.9995

For country contact information, visit [bdbiosciences.com/contact](http://bdbiosciences.com/contact)

*Conditions: The information disclosed herein is not to be construed as a recommendation to use the above product in violation of any patents. BD Biosciences will not be held responsible for patent infringement or other violations that may occur with the use of our products. Purchase does not include or carry any right to resell or transfer this product either as a stand-alone product or as a component of another product. Any use of this product other than the permitted use without the express written authorization of Becton, Dickinson and Company is strictly prohibited.*

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Not for resale.

© 2016 BD. BD, the BD Logo and all other trademarks are property of Becton, Dickinson and Company.

560777 Rev. 2



## Suggested Companion Products

<u>Catalog Number</u>	<u>Name</u>	<u>Size</u>	<u>Clone</u>
560787	V500 Mouse IgG1, $\kappa$ Isotype Control	0.1 mg	X40
554656	Stain Buffer (FBS)	500 mL	(none)
554657	Stain Buffer (BSA)	500 mL	(none)
349202	BD FACST <sup>™</sup> Lysing Solution	100 mL	(none)
555899	Lysing Buffer	100 mL	(none)
560779	V500 Mouse Anti-Human CD45	25 Tests	HI30

### Product Notices

1. This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use  $1 \times 10^6$  cells in a 100- $\mu$ l experimental sample (a test).
2. An isotype control should be used at the same concentration as the antibody of interest.
3. 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.
4. BD Horizon V500 has a maximum absorption of 415 nm and maximum emission of 500 nm. Before staining with this reagent, please confirm that your flow cytometer is capable of exciting the fluorochrome and discriminating the resulting fluorescence.
5. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at [www.bdbiosciences.com/colors](http://www.bdbiosciences.com/colors).
6. BD Horizon V500 is covered by one or more of the following US patents: 8,431,416.
7. Please refer to [www.bdbiosciences.com/pharming/protocols](http://www.bdbiosciences.com/pharming/protocols) for technical protocols.

### References

- Bradstock KF, Janossy G, Pizzolo G, et al. Subpopulations of normal and leukemic human thymocytes: an analysis with the use of monoclonal antibodies. *J Natl Cancer Inst.* 1980; 65(1):33-42. (Biology)
- Hermiston ML, Xu Z, Weiss A. CD45: a critical regulator of signaling thresholds in immune cells. *Annu Rev Immunol.* 2003; 21:107-137. (Biology)
- Knapp W. W. Knapp .. et al., ed. *Leucocyte typing IV : white cell differentiation antigens*. Oxford New York: Oxford University Press; 1989:1-1182. (Clone-specific)
- Loken MR, Brosnan JM, Bach BA, Ault KA. Establishing optimal lymphocyte gates for immunophenotyping by flow cytometry. *Cytometry.* 1990; 11(4):453-459. (Biology)
- Terry LA, Brown MH, Beverley PC. The monoclonal antibody, UCHL1, recognizes a 180,000 MW component of the human leucocyte-common antigen, CD45. *Immunology.* 1988; 64(2):331-336. (Biology)
- Terstappen LW, Levin J. Bone marrow cell differential counts obtained by multidimensional flow cytometry. *Blood Cells.* 1992; 18(2):311-330. (Biology)
- Trowbridge IS, Thomas ML. CD45: an emerging role as a protein tyrosine phosphatase required for lymphocyte activation and development. *Annu Rev Immunol.* 1994; 12:85-116. (Biology)
- Zola H. *Leukocyte and stromal cell molecules : the CD markers*. Hoboken, N.J.: Wiley-Liss; 2007(Biology)