

**Brilliant Violet 650™ anti-human CD45**

**Catalog # / Size:** 2120215 / 25 tests  
2120220 / 100 tests

**Clone:** HI30

**Isotype:** Mouse IgG1, κ

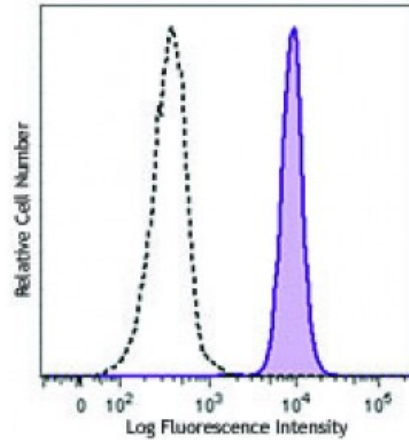
**Reactivity:** Human

**Preparation:** The antibody was purified by affinity chromatography and conjugated with Brilliant Violet 650™ under optimal conditions. The solution is free of unconjugated Brilliant Violet 650™ and unconjugated antibody.

**Formulation:** Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and BSA (origin USA).

**Workshop Number:** IV N816

**Concentration:** Lot-specific



Human peripheral blood lymphocytes were stained with CD45 (clone HI30) Brilliant Violet 650™ (filled histogram) or mouse IgG1, κ Brilliant Violet 650™ isotype control (open histogram).

**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 microL per million cells or 5 microL per 100 microL of whole blood. It is recommended that the reagent be titrated for optimal performance for each application.

Brilliant Violet 650™ excites at 405 nm and emits at 645 nm. The bandpass filter 660/20 nm is recommended for detection, although filter optimization may be required depending on other fluorophores used. **Be sure to verify that your cytometer configuration and software setup are appropriate for detecting this channel.** Refer to your instrument manual or manufacturer for support. Brilliant Violet 650™ is a trademark of Sirigen Group Ltd.

This product is subject to proprietary rights of Sirigen Inc. and is made and sold under license from Sirigen Inc. The purchase of this product conveys to the buyer a non-transferable right to use the purchased product for research purposes only. This product may not be resold or incorporated in any manner into another product for resale. Any use for therapeutics or diagnostics is strictly prohibited. This product is covered by U.S. Patent(s), pending patent applications and foreign equivalents.

**Application Notes:** Additional reported applications (for the relevant formats) include: immunohistochemical staining of acetone-fixed frozen tissue sections and formalin-fixed paraffin-embedded tissue sections<sup>9</sup>, inhibition of CD45 functions<sup>4</sup>, immunofluorescence<sup>11</sup>, and Western blotting<sup>3</sup>.

It was found that the HI30 clone and the 2D1 clone can cross block each other's binding.

**Application References:** 1. Knapp W, *et al.* 1989. Leucocyte Typing IV. Oxford University Press. New York.  
2. Kishihara K, *et al.* 1993. *Cell* 74:143.

3. Esser M, *et al.* 2001. *J. Virol.* 75:6173. (WB)
  4. Yamada T, *et al.* 2002. *J. Biol. Chem.* 277:28830.
  5. Nagano M, *et al.* 2007. *Blood* 110:151.
  6. Jiang Q, *et al.* 2008. *Blood* 112:2858. [PubMed](#)
  7. Morozov A, *et al.* 2010. *Clin Cancer Res.* 16:5630. [PubMed](#)
  8. Yoshino N, *et al.* 2000. *Exp. Anim. (Tokyo)* 49:97. (FC)
  9. Friedman T, *et al.* 1999. *J. Immunol.* 162:5256. (IHC)
  10. Oeztuerk-Winder F, *et al.* 2012. *EMBO J.* 31:3431. (FC) [PubMed](#)
  11. Rees LE, *et al.* 2003. *Clin. Exp. Immunol.* 134:497. (IF)
  12. Lee J, *et al.* 2015. *J Exp Med.* 212:385. [PubMed](#)
  13. Breton G, *et al.* 2015. *J Exp Med.* 212:401. [PubMed](#)
  14. Marquardt N, *et al.* 2015. *J Immunol.* 6:2467. [PubMed](#)
- 

**Description:** CD45 is a 180-240 kD single chain type I membrane glycoprotein also known as leukocyte common antigen (LCA) and T200. It is a tyrosine phosphatase expressed on the plasma membrane of all hematopoietic cells, except erythrocytes and platelets. CD45 is a signaling molecule that regulates a variety of cellular processes including cell growth, differentiation, cell cycle, and oncogenic transformation. CD45 plays a critical role in T and B cell antigen receptor-mediated activation by dephosphorylating substrates including p56Lck, p59Fyn, and other Src family kinases. CD45 non-covalently associates with lymphocyte phosphatase-associated phosphoprotein (LPAP) on T and B lymphocytes. CD45 has been reported to bind galectin-1 and to be associated with several other cell surface antigens including CD1, CD2, CD3, and CD4.

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