

**Brilliant Violet 711™ anti-human CD45**

**Catalog # / Size:** 2120250 / 100 tests  
2120245 / 25 tests

**Clone:** HI30

**Isotype:** Mouse IgG1, κ

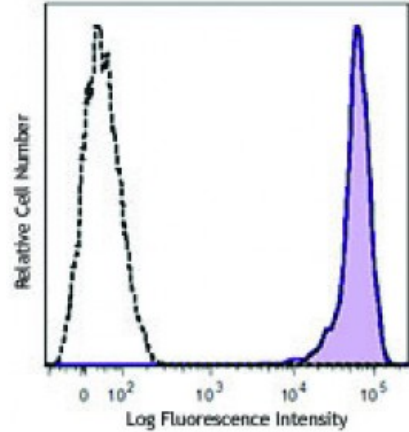
**Reactivity:** Human

**Preparation:** The antibody was purified by affinity chromatography and conjugated with Brilliant Violet 711™ under optimal conditions. The solution is free of unconjugated Brilliant Violet 711™ 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 711™ (filled histogram) or mouse IgG1, κ Brilliant Violet 711™ 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 711™ excites at 405 nm and emits at 711 nm. The bandpass filter 710/50 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 711™ is a trademark of Sirigen Group Ltd.

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**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](#)
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**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.