SONY

Product Data Sheet

Brilliant Violet 785™ anti-human CD45

Catalog # / Size: 2120240 / 100 tests
2120235 / 25 tests

Clone: HI30

Isotype: Mouse IgG1, κ

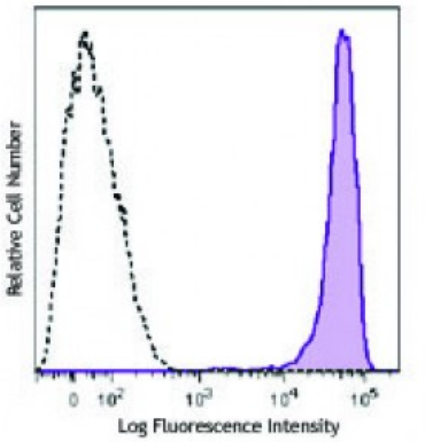
Reactivity: Human

Preparation: The antibody was purified by affinity chromatography and conjugated with Brilliant Violet 785™ under optimal conditions. The solution is free of unconjugated Brilliant Violet 785™ 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 785™ (filled histogram) or mouse IgG1, κ Brilliant Violet 785™ 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 785™ excites at 405 nm and emits at 785 nm. The bandpass filter 780/60 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 785™ 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[9], inhibition of CD45 functions4, immunofluorescence[11], and Western blotting3.

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.

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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 References:

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