

# Spark NIR™ 685 anti-human CD45RA

**Catalog # /** 2120835 / 25 tests  
**Size:** 2120840 / 100 tests

**Clone:** HI100

**Isotype:** Mouse IgG2b, κ

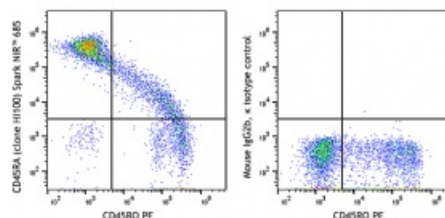
**Reactivity:** Human, Other

**Preparation:** The antibody was purified by affinity chromatography and conjugated with Spark NIR™ 685 under optimal conditions.

**Formulation:** Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and 0.2% (w/v) BSA (origin USA)

**Workshop Number:** IV N906

**Concentration:** Lot-specific



Human peripheral blood lymphocytes were stained with CD45RO PE and CD45RA (clone HI100) Spark NIR™ 685 (left) or CD45RO PE alone (right).

## 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 µL per million cells in 100 µL staining volume or 5 µL per 100 µL of whole blood. It is recommended that the reagent be titrated for optimal performance for each application.

\* Spark NIR™ 685 has a maximum excitation of 665 nm and a maximum emission of 685 nm.

**Application Notes:** Additional reported applications (for relevant formats of this clone) include: inhibition of CD45 functions<sup>2</sup>, immunohistochemical staining of frozen tissue sections<sup>3</sup> and formalin-fixed paraffin-embedded tissue sections<sup>4</sup>, and immunocytochemistry<sup>15,16</sup>.

- Application References:**
1. Knapp W, et al. 1989. Leucocyte Typing IV. Oxford University Press. New York.
  2. Yamada T, et al. 2002. *J. Biol. Chem.* 277:28830. (WB, Block)
  3. Weninger W, et al. 2003 *J. Immunol.* 170:4638. (IHC-F)
  4. Imanguli MM, et al. 2009. *Blood.* 113:3620 (IHC-P)
  5. Roque S, et al. 2007. *J. Immunol.* 178:8028. (FC) [PubMed](#)
  6. Smeltz RB. 2007. *J. Immunol.* 178:4786. (FC) [PubMed](#)
  7. Palendira U, et al. 2008. *Blood* (FC) [PubMed](#)
  8. Kuttruff S, et al. 2009. *Blood* 113:358. (FC) [PubMed](#)
  9. Thakral D, et al. 2008. *J. Immunol.* 180:7431. (FC) [PubMed](#)
  10. Alanio C, et al. 2010. *Blood* 115:3718. (FC) [PubMed](#)
  11. Iannello A, et al. 2010. *J. Immunol.* 184:114. (FC) [PubMed](#)
  12. Yoshino N, et al. 2000. *Exp. Anim. (Tokyo)* 49:97. (FC)
  13. Guereau-de-Arellan M, et al. 2011. *Brain.* 134:3578. [PubMed](#)
  14. Canque B, et al. 2000. *Blood* 96:3748. (ICC)
  15. Imanguli MM, et al. 2009. *Blood* 13:3620. (ICC)
  16. Stoeckius M, et al. 2017. *Nat. Methods.* 14:865. (PG)
  17. Peterson VM, et al. 2017. *Nat. Biotechnol.* 35:936. (PG)

**Description:** CD45RA is a 205-220 kD single chain type I glycoprotein. It is an exon 4 splice variant of the tyrosine phosphatase CD45. The CD45RA isoform is expressed on resting/naïve T cells, medullary thymocytes, B cells and monocytes. CD45RA enhances both T cell receptor and B cell receptor signaling. CD45 non-covalently associates with lymphocyte phosphatase-associated phosphoprotein (LPAP) on T and B lymphocytes. CD45 has been reported to be associated with several other cell surface antigens including CD1, CD2, CD3, and CD4. CD45 has also been reported to bind galectin-1. CD45 isoform expression can change in response to cytokines.

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