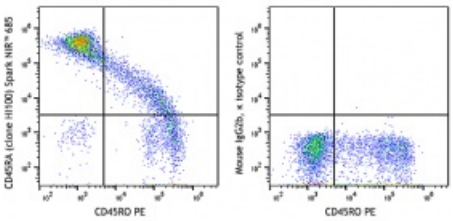
SONY

Product Data Sheet

Spark NIR™ 685 anti-human CD45RA

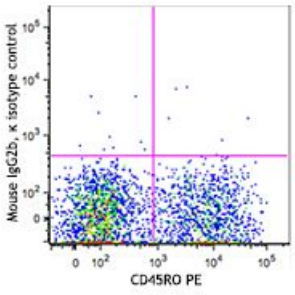
Catalog # / Size:	2120840 / 100 tests 2120835 / 25 tests
Clone:	HI100
Isotype:	Mouse IgG2b, κ
Immunogen:	Human T cells from a T-ALL patient.
Reactivity:	Human, Other
Preparation:	The antibody was purified by affinity chromatography and conjugated with Spark NIR™ 685 under optimal conditions.
Formulation:	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[2], immunohistochemical staining of frozen tissue sections[3] and formalin-fixed paraffin-embedded tissue sections[4], and immunocytochemistry[15,16].



Human peripheral blood lymphocytes were stained with anti-human CD4 FITC and anti-human CD25 (clone M-A251) Spark YG™ 581 (left) or anti-human CD4 FITC only (right).

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 References:

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