SONY

Product Data Sheet

Spark YG™ 581 anti-mouse/human CD45R/B220

Catalog # / Size: 1116405 / 25 µg
1116410 / 100 µg

Clone: RA3-6B2

Isotype: Rat IgG2a, κ

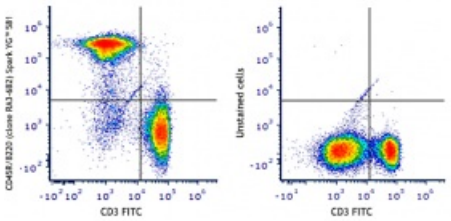
Immunogen: Abelson murine leukemia virus-induced pre-B tumor cells

Reactivity: Human, Mouse

Preparation: The antibody was purified by affinity chromatography and conjugated with Spark YG™ 581 under optimal conditions.

Formulation: Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide

Concentration: 0.5 mg/mL



C57BL/6 mouse splenocytes were stained with anti-mouse CD3 FITC and anti-mouse/human CD45R/B220 (clone RA3-6B2) (left) Spark YG™ 581 or stained with anti-mouse CD3 FITC only (right).

Applications:

Applications: Flow Cytometry, Immunohistochemistry

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 ≤ 0.5 µg per million cells in 100 µL volume. It is recommended that the reagent be titrated for optimal performance for each application.

* Spark YG™ 581 has a maximum excitation of 562 nm and a maximum emission of 581 nm.

Application Notes: Clone RA3-6B2 has been described to react with an epitope on the extracellular domain of the transmembrane CD45 glycoprotein which is dependent upon the expression of exon A and specific carbohydrate residues. Additional reported applications (for the relevant formats) include: immunoprecipitation[1], *in vitro* and *in vivo* modulation of B cell responses[2-4], and immunohistochemistry of acetone-fixed frozen sections and formalin-fixed paraffin-embedded sections[5,6].

Application References:

1. Coffman RL. 1982. *Immunol. Rev.* 69:5. (IP)
2. George A, *et al.* 1994. *J. Immunol.* 152:1014. (Activ)
3. Asensi V, *et al.* 1989. *Immunology* 68:204. (Activ)
4. Domiati-Saad R, *et al.* 1993. *J. Immunol.* 151:5936. (Activ)
5. Hata H, *et al.* 2004. *J. Clin. Invest.* 114:582. (IHC)
6. Monteith CE, *et al.* 1996. *Can. J. Vet. Res.* 60:193. (IHC)
7. Shih FF, *et al.* 2006. *J. Immunol.* 176:3438. (FC)
8. Chang C L-T, *et al.* 2007. *J. Immunol.* 178:6984.
9. Fazilleau N, *et al.* 2007. *Nature Immunol.* 8:753.
10. Lang GL, *et al.* 2008. *Blood* 111:2158. PubMed
11. Charles N, *et al.* 2010. *Nat. Med.* 16:701. (FC) PubMed
12. del Rio ML, *et al.* 2011. *Transpl. Int.* 24:501. (FC) PubMed
13. Murakami R, *et al.* 2013. *PLoS One.* 8:73270. PubMed

Sony Biotechnology Inc. 1730 North First Street, San Jose, CA 95112 www.sonybiotechnology.com

Description: CD45R, also known as B220, is an isoform of CD45. It is a member of the protein tyrosine phosphatase (PTP) family with a molecular weight of approximately 180-240 kD. CD45R is expressed on B cells (at all developmental stages from pro-B cells through mature B cells), activated B cells, and subsets of T and NK cells. CD45R (B220) is also expressed on a subset of abnormal T cells involved in the pathogenesis of systemic autoimmunity in MRL-*Fas*^{lpr} and MRL-*Fas*^{gld} mice. It plays a critical role in TCR and BCR signaling. The primary ligands for CD45 are galectin-1, CD2, CD3, and CD4. CD45R is commonly used as a pan-B cell marker; however, CD19 may be more appropriate for B cell specificity.

Antigen References:

1. Barclay A, *et al.* 1997. The Leukocyte Antigen FactsBook Academic Press.
2. Trowbridge IS, *et al.* 1993. *Annu. Rev. Immunol.* 12:85.
3. Kishihara K, *et al.* 1993. *Cell* 74:143.
4. Pulido R, *et al.* 1988. *J. Immunol.* 140:3851.