

PE/Fire™ 744 anti-mouse/human CD45R/B220 Antibody

Catalog# / Size	103252 / 25 µg 103253 / 100 µg
Clone	RA3-6B2
Regulatory Status	RUO
Other Names	B220
Isotype	Rat IgG2a, κ
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- <i>Fas</i> ^{pr} and MRL- <i>Fas</i> ^{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.

Product Details

Verified Reactivity	Mouse, Human
Antibody Type	Monoclonal
Host Species	Rat
Immunogen	Abelson murine leukemia virus-induced pre-B tumor cells
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide
Preparation	The antibody was purified by affinity chromatography and conjugated with PE/Fire™ 744 under optimal conditions.
Concentration	0.2 mg/mL
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. Do not freeze.
Application	FC - Quality tested
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 ≤ 0.06 µg per million cells in 100 µL volume. It is recommended that the reagent be titrated for optimal performance for each application. True-Stain Monocyte Blocker™ (Cat No. 426102) is recommended to minimize non-specific staining of PE/Fire™ 744 on monocytes and macrophages. * PE/Fire™ 744 has a maximum excitation of 565 nm and a maximum emission of 744 nm.
Excitation Laser	Blue Laser (488 nm) Green Laser (532 nm)/Yellow-Green Laser (561 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 , <i>in vitro</i> and <i>in vivo</i> modulation of B cell responses ²⁻⁴ , immunohistochemistry of acetone-fixed frozen sections and formalin-fixed paraffin-embedded sections ^{5,6} , and spatial biology (IBEX) ^{14,15} .

Application References

(PubMed link indicates
BioLegend citation)

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](#)

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Antigen Details

Structure	Protein tyrosine phosphatase (PTP) family, 180-240 kD
Distribution	B cells, T cell subset, NK cell subset
Function	Phosphatase, T and B cell activation
Ligand/Receptor	Galectin-1, CD2, CD3, CD4
Cell Type	B cells, NK cells, T cells
Biology Area	Cell Biology, Immunology, Inhibitory Molecules, Neuroscience, Neuroscience Cell Markers
Molecular Family	CD Molecules
Antigen References	1. Barclay A, <i>et al.</i> 1997. The Leukocyte Antigen FactsBook Academic Press. 2. Trowbridge IS, <i>et al.</i> 1993. <i>Annu. Rev. Immunol.</i> 12:85. 3. Kishihara K, <i>et al.</i> 1993. <i>Cell</i> 74:143. 4. Pulido R, <i>et al.</i> 1988. <i>J. Immunol.</i> 140:3851.
Gene ID	19264 5788

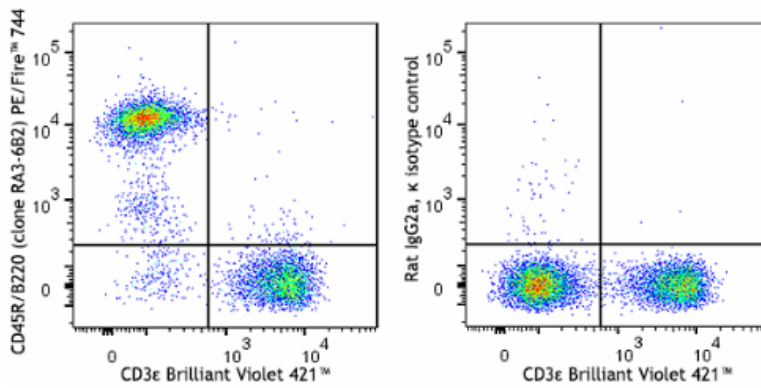
Related Protocols

- [Cell Surface Flow Cytometry Staining Protocol](#)

Other Formats

Spark YG™ 581 anti-mouse/human CD45R/B220, PE/Fire™ 810 anti-mouse/human CD45R/B220, Spark Blue™ 574 anti-mouse/human CD45R/B220 Antibody, Spark Red™ 718 anti-mouse/human CD45R/B220, Spark UV™ 387 anti-mouse/human CD45R/B220, Spark YG™ 570 anti-mouse/human CD45R/B220, Spark Violet™ 423 anti-mouse/human CD45R/B220 Antibody, PE/Dazzle™ 594 anti-mouse/human CD45R/B220, APC/Fire™ 750 anti-mouse/human CD45R/B220, Brilliant Violet 421™ anti-mouse/human CD45R/B220, Brilliant Violet 650™ anti-mouse/human CD45R/B220, Brilliant Violet 605™ anti-mouse/human CD45R/B220, Brilliant Violet 785™ anti-mouse/human CD45R/B220, Brilliant Violet 570™ anti-mouse/human CD45R/B220, Purified anti-mouse/human CD45R/B220 (Maxpar® Ready), Spark PLUS UV395™ anti-mouse/human CD45R/B220, PerCP/Fire™ 780 anti-mouse/human CD45R/B220 Antibody, Spark YG™ 593 anti-mouse/human CD45R/B220 (Flexi-Fluor™) Antibody, Alexa Fluor® 488 anti-mouse/human CD45R/B220, Alexa Fluor® 647 anti-mouse/human CD45R/B220, PE/Fire™ 744 anti-mouse/human CD45R/B220 Antibody, Pacific Blue™ anti-mouse/human CD45R/B220, Alexa Fluor® 700 anti-mouse/human CD45R/B220, PerCP anti-mouse/human CD45R/B220, PerCP/Cyanine5.5 anti-mouse/human CD45R/B220, PE/Cyanine5 anti-mouse/human CD45R/B220, Purified anti-mouse/human CD45R/B220, Brilliant Violet 750™ anti-mouse/human CD45R/B220, TotalSeq™-A0103 anti-mouse/human CD45R/B220, TotalSeq™-C0103 anti-mouse/human CD45R/B220, PE/Cyanine7 anti-mouse/human CD45R/B220, APC/Fire™ 810 anti-mouse/human CD45R/B220, Brilliant Violet 510™ anti-mouse/human CD45R/B220, FITC anti-mouse/human CD45R/B220, PE anti-mouse/human CD45R/B220, Spark NIR™ 685 anti-mouse/human CD45R/B220, TotalSeq™-B0103 anti-mouse/human CD45R/B220, Ultra-LEAF™ Purified anti-mouse/human CD45R/B220, APC/Cyanine7 anti-mouse/human CD45R/B220, PE/Fire™ 640 anti-mouse/human CD45R/B220, PE/Fire™ 700 anti-mouse/human CD45R/B220, Spark Violet™ 538 anti-mouse/human CD45R/B220, Alexa Fluor® 594 anti-mouse/human CD45R/B220, Brilliant Violet 711™ anti-mouse/human CD45R/B220, APC anti-mouse/human CD45R/B220, Biotin anti-mouse/human CD45R/B220, Spark Blue™ 550 anti-mouse/human CD45R/B220

Product Data



C57BL/6 mouse splenocytes were stained with anti-mouse CD3ε (clone 145-2C11) Brilliant Violet 421™ and anti-mouse/human CD45R/B220 (clone RA3-6B2) PE/Fire™ 744 (left) or rat IgG2a, κ PE/Fire™ 744 isotype control (right).

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