

## APC/Fire™ 750 anti-mouse/human CD45R/B220 Antibody

<b>Catalog# / Size</b>	103259 / 25 µg 103260 / 100 µg
<b>Clone</b>	RA3-6B2
<b>Regulatory Status</b>	RUO
<b>Other Names</b>	B220
<b>Isotype</b>	Rat IgG2a, κ
<b>Description</b>	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<sup>lpr</sup></i> and MRL- <i>Fas<sup>gld</sup></i> 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

<b>Verified Reactivity</b>	Mouse, Human
<b>Reported Reactivity</b>	Cat
<b>Antibody Type</b>	Monoclonal
<b>Host Species</b>	Rat
<b>Immunogen</b>	Abelson murine leukemia virus-induced pre-B tumor cells
<b>Formulation</b>	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide.
<b>Preparation</b>	The antibody was purified by affinity chromatography and conjugated with APC/Fire™ 750 under optimal conditions.
<b>Concentration</b>	0.2 mg/ml
<b>Storage &amp; Handling</b>	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. <b>Do not freeze.</b>
<b>Application</b>	<a href="#">FC - Quality tested</a>
<b>Recommended Usage</b>	Each lot of this antibody is quality control tested by <a href="#">immunofluorescent staining with flow cytometric analysis</a> . 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. * APC/Fire™ 750 has a maximum excitation of 650 nm and a maximum emission of 787 nm.
<b>Application Notes</b>	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 <sup>1</sup> , <i>in vitro</i> and <i>in vivo</i> modulation of B cell responses <sup>2-4</sup> , immunohistochemistry of acetone-fixed frozen sections and formalin-fixed paraffin-embedded sections <sup>5,6</sup> , and spatial biology (IBEX) <sup>14,15</sup> .
<b>Application References</b>	<ol style="list-style-type: none"> <li>1. Coffman RL. 1982. <i>Immunol. Rev.</i> 69:5. (IP)</li> <li>2. George A, <i>et al.</i> 1994. <i>J. Immunol.</i> 152:1014. (Activ)</li> <li>3. Asensi V, <i>et al.</i> 1989. <i>Immunology</i> 68:204. (Activ)</li> <li>4. Domiati-Saad R, <i>et al.</i> 1993. <i>J. Immunol.</i> 151:5936. (Activ)</li> <li>5. Hata H, <i>et al.</i> 2004. <i>J. Clin. Invest.</i> 114:582. (IHC)</li> <li>6. Monteith CE, <i>et al.</i> 1996. <i>Can. J. Vet. Res.</i> 60:193. (IHC)</li> <li>7. Shih FF, <i>et al.</i> 2006. <i>J. Immunol.</i> 176:3438. (FC)</li> <li>8. Chang C L-T, <i>et al.</i> 2007. <i>J. Immunol.</i> 178:6984.</li> </ol>
<b>(PubMed link indicates BioLegend citation)</b>	

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](#)
14. Radtke AJ, *et al.* 2020. *Proc Natl Acad Sci U S A.* 117:33455-65. (SB) [PubMed](#)
15. Radtke AJ, *et al.* 2022. *Nat Protoc.* 17:378-401. (SB) [PubMed](#)

#### Product Citations

1. Weigert A, *et al.* 2022. *Nat Commun.* 13:6078. [PubMed](#)
2. Chen JS, *et al.* 2022. *Sci Immunol.* 7:eabl5652. [PubMed](#)
3. Gomez S, *et al.* 2022. *J Immunother Cancer.* 10:.. [PubMed](#)
4. Teng F, *et al.* 2021. *Cell Rep.* 37:110051. [PubMed](#)
5. Dumitrescu M, *et al.* 2020. *Int J Mol Sci.* 21:00. [PubMed](#)
6. Goc J, *et al.* 2021. *Cell.* :. [PubMed](#)

#### RRID

AB\_2572108 (BioLegend Cat. No. 103259)  
 AB\_2572109 (BioLegend Cat. No. 103260)

## Antigen Details

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<b>Structure</b>	Protein tyrosine phosphatase (PTP) family, 180-240 kD
<b>Distribution</b>	B cells, T cell subset, NK cell subset
<b>Function</b>	Phosphatase, T and B cell activation
<b>Ligand/Receptor</b>	Galectin-1, CD2, CD3, CD4
<b>Cell Type</b>	B cells, NK cells, T cells
<b>Biology Area</b>	Cell Biology, Immunology, Inhibitory Molecules, Neuroscience, Neuroscience Cell Markers
<b>Molecular Family</b>	CD Molecules
<b>Antigen References</b>	<ol style="list-style-type: none"> <li>1. Barclay A, <i>et al.</i> 1997. <i>The Leukocyte Antigen FactsBook</i> Academic Press.</li> <li>2. Trowbridge IS, <i>et al.</i> 1993. <i>Annu. Rev. Immunol.</i> 12:85.</li> <li>3. Kishihara K, <i>et al.</i> 1993. <i>Cell</i> 74:143.</li> <li>4. Pulido R, <i>et al.</i> 1988. <i>J. Immunol.</i> 140:3851.</li> </ol>
<b>Gene ID</b>	<a href="#">19264</a> <a href="#">5788</a>

## Related Protocols

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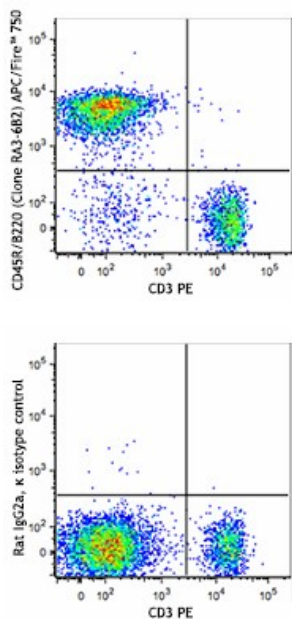
[Cell Surface Flow Cytometry Staining Protocol](#)

## Other Formats

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Alexa Fluor® 594 anti-mouse/human CD45R/B220, APC anti-mouse/human CD45R/B220, Biotin anti-mouse/human CD45R/B220, FITC anti-mouse/human CD45R/B220, PE anti-mouse/human CD45R/B220, PE/Cyanine5 anti-mouse/human CD45R/B220, Purified anti-mouse/human CD45R/B220, PE/Cyanine7 anti-mouse/human CD45R/B220, APC/Cyanine7 anti-mouse/human CD45R/B220, Alexa Fluor® 488 anti-mouse/human CD45R/B220, Alexa Fluor® 647 anti-mouse/human CD45R/B220, 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, Brilliant Violet 421™ anti-mouse/human CD45R/B220, Brilliant Violet 570™ 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 510™ anti-mouse/human CD45R/B220, Purified anti-mouse/human CD45R/B220 (Maxpar® Ready), Brilliant Violet 711™ anti-mouse/human CD45R/B220, PE/Dazzle™ 594 anti-mouse/human CD45R/B220, APC/Fire™ 750 anti-mouse/human CD45R/B220, Brilliant Violet 750™ anti-mouse/human CD45R/B220, TotalSeq™-A0103 anti-mouse/human CD45R/B220, Spark Blue™ 550 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, TotalSeq™-C0103 anti-mouse/human CD45R/B220, PE/Fire™ 640 anti-mouse/human CD45R/B220, APC/Fire™ 810 anti-mouse/human CD45R/B220, PE/Fire™ 700 anti-mouse/human CD45R/B220, Spark Violet™ 538 anti-mouse/human CD45R/B220, Spark YG™ 581 anti-mouse/human CD45R/B220, Spark YG™ 570 anti-mouse/human CD45R/B220, PE/Fire™ 810 anti-mouse/human CD45R/B220, Spark Blue™ 574 anti-mouse/human CD45R/B220 Antibody, Spark Violet™ 423 anti-mouse/human CD45R/B220 Antibody, Spark Red™ 718 anti-mouse/human CD45R/B220

## Product Data



C57BL/6 mouse splenocytes were stained with CD3 PE and B220 (clone RA3-6B2) APC/Fire™ 750 (top) or rat IgG2a, κ APC/Fire™ 750 isotype control (bottom).

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