

## APC/Fire™ 810 anti-mouse/human CD45R/B220 Antibody

<b>Catalog# / Size</b>	103277 / 25 µg 103278 / 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™ 810 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 ≤ 0.125 µg per million cells in 100 µL volume. It is recommended that the reagent be titrated for optimal performance for each application.  * APC/Fire™ 810 has a maximum excitation of 650 nm and a maximum emission of 810 nm.  Excessive exposure to light, and commonly used fixation, permeabilization buffers can affect APC/Fire™ 810 fluorescence signal intensity and spread. Please keep conjugates protected from light exposure. For more information and representative data, visit our <a href="#">Fire Dyes</a> page.
<b>Excitation Laser</b>	Red Laser (633 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>	1. Coffman RL. 1982. <i>Immunol. Rev.</i> 69:5. (IP)

**(PubMed link indicates BioLegend citation)**

- George A, et al. 1994. *J. Immunol.* 152:1014. (Activ)
- Asensi V, et al. 1989. *Immunology* 68:204. (Activ)
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- Murakami R, et al. 2013. *PLoS One.* 8:73270. [PubMed](#)
- Radtke AJ, et al. 2020. *Proc Natl Acad Sci U S A.* 117:33455-65. (SB) [PubMed](#)
- Radtke AJ, et al. 2022. *Nat Protoc.* 17:378-401. (SB) [PubMed](#)

**Product Citations**

- Hobbs BE, et al. 2021. *Pathogens.* 10:. [PubMed](#)

**RRID**

AB\_2860603 (BioLegend Cat. No. 103277)  
AB\_2860603 (BioLegend Cat. No. 103278)

## 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>Barclay A, et al. 1997. <i>The Leukocyte Antigen FactsBook</i> Academic Press.</li><li>Trowbridge IS, et al. 1993. <i>Annu. Rev. Immunol.</i> 12:85.</li><li>Kishihara K, et al. 1993. <i>Cell</i> 74:143.</li><li>Pulido R, et al. 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](#)

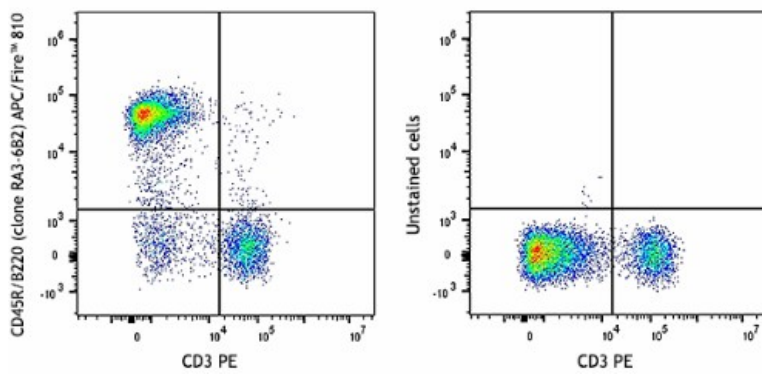
## Other Formats

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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-

## Product Data

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C57BL/6 mouse splenocytes were stained with CD3 PE and CD45R/B220 (clone RA3-6B2) APC/Fire™ 810 (left) or CD3 PE only (right).

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