

## Alexa Fluor® 488 anti-mouse/human CD45R/B220 Antibody

<b>Catalog# / Size</b>	103228 / 25 µg 103225 / 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 Alexa Fluor® 488 under optimal conditions.
<b>Concentration</b>	0.5 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> <a href="#">IHC-F, 3D IHC - Verified</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 ≤ 2.0 µg per million cells in 100 µl volume. For immunohistochemistry on frozen tissue sections, a concentration range of 2.5 - 5.0 µg/ml is suggested. For 3D immunohistochemistry on formalin-fixed tissues, a concentration of 5.0 µg/mL is suggested. It is recommended that the reagent be titrated for optimal performance for each application.  * Alexa Fluor® 488 has a maximum emission of 519 nm when it is excited at 488 nm.  Alexa Fluor® and Pacific Blue™ are trademarks of Life Technologies Corporation.  <a href="#">View full statement regarding label licenses</a>
<b>Excitation Laser</b>	Blue Laser (488 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> .

## Application References

(PubMed link indicates  
BioLegend citation)

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## RRID

AB\_492874 (BioLegend Cat. No. 103228)  
AB\_389308 (BioLegend Cat. No. 103225)

## 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. The Leukocyte Antigen FactsBook 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

[Immunohistochemistry Protocol for Frozen Sections](#)

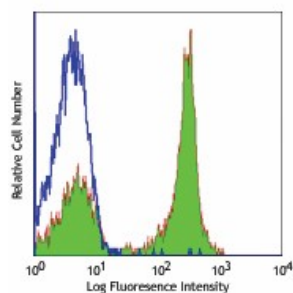
[Cell Surface Flow Cytometry Staining Protocol](#)

[Ce3D™ Tissue Clearing Kit](#)

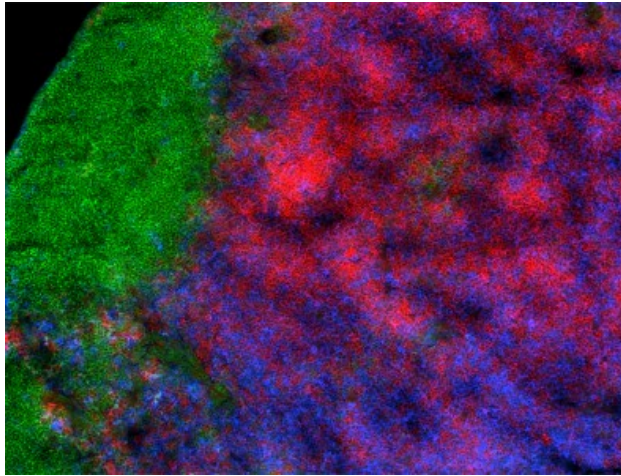
## Other Formats

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

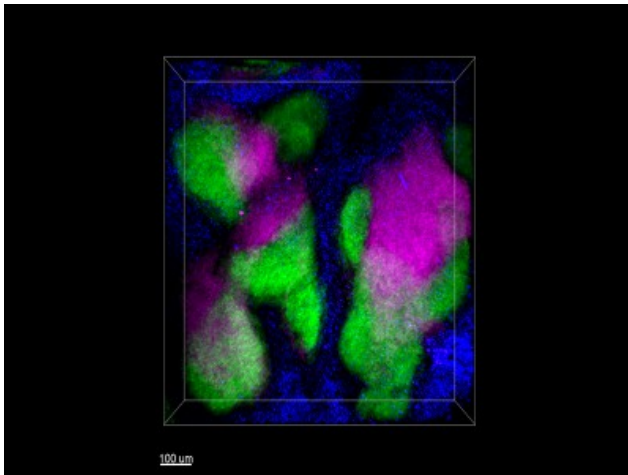
## Product Data



C57BL/6 mouse splenocytes stained with RA3-6B2 Alexa Fluor® 488



C57BL/6 mouse frozen lymph node section was fixed with 4% paraformaldehyde (PFA) for 10 minutes at room temperature and blocked with 5% FBS plus 5% rat serum for 1 hour at room temperature. Then the section was stained with 5 µg/ml of CD8 (clone 53-6.7) Alexa Fluor® 594 (red), 5 µg/ml of CD4 (clone GK1.5) Alexa Fluor® 647 (blue), and 5 µg/ml of B220 (clone RA3-6B2) Alexa Fluor® 488 (green) overnight at 4°C. The image was captured by 10X objective.



Paraformaldehyde-fixed (4%), 500 µm-thick mouse spleen section was processed according to the Ce3D™ Tissue Clearing Kit protocol (Cat. No. 427701). The section was costained with anti-mouse/human CD45R/B220 Antibody (clone RA3-6B2) Alexa Fluor® 488 at 5 µg/mL (green), anti-mouse CD68 Antibody (clone FA-11) Alexa Fluor® 594 at 5 µg/mL (blue), and anti-mouse CD3ε Antibody (clone 145-2C11) Alexa Fluor® 647 at 5 µg/mL (magenta). The section was then optically cleared and mounted in a sample chamber. The image was captured with a 10X objective using Zeiss 780 confocal microscope and processed by Imaris image analysis software.

[Watch the video.](#)

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