

Alexa Fluor® 647 anti-mouse CD45.1 Antibody

Catalog# / Size	110720 / 100 µg
Clone	A20
Regulatory Status	RUO
Other Names	T200, Ly-5.1, LCA
Isotype	Mouse (A.SW) IgG2a, κ
Description	CD45.1 is an alloantigen of CD45, expressed by Ly5.1 bearing mouse strains (e.g., RIII, SJL/J, STS/A, DA). CD45, a member of the protein tyrosine phosphatase (PTP) family, is a 180-240 kD glycoprotein expressed on all hematopoietic cells except mature erythrocytes and platelets. There are multiple isoforms in mice that play key roles in TCR and BCR signal transduction. These isoforms are very specific to the activation and maturation states of the cell as well as specific cell types. The primary ligands for CD45 are galectin-1, CD2, CD3, CD4, TCR, CD22, and Thy-1.

Product Details

Verified Reactivity	Mouse
Antibody Type	Monoclonal
Host Species	Mouse
Immunogen	SJL mouse thymocytes and splenocytes
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide.
Preparation	The antibody was purified by affinity chromatography and conjugated with Alexa Fluor® 647 under optimal conditions.
Concentration	0.5 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	<p>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 ≤ 0.25 µg per 10⁶ cells in 100 µL volume. It is recommended that the reagent be titrated for optimal performance for other applications.</p> <p>* Alexa Fluor® 647 has a maximum emission of 668 nm when it is excited at 633nm / 635nm.</p> <p>Alexa Fluor® and Pacific Blue™ are trademarks of Life Technologies Corporation.</p> <p>View full statement regarding label licenses</p>
Excitation Laser	Red Laser (633 nm)
Application Notes	The A20 antibody does not react with leukocytes or mouse cells expressing the CD45.2 alloantigen. Additional reported applications (for relevant formats of this clone) include: immunoprecipitation ³ , <i>in vitro</i> blocking of B cell responses ^{1,2} , immunohistochemical staining of frozen sections: OCT embedded ⁷ and acetone-fixed ⁴⁻⁶ (direct immunofluorescence detection with fluorochrome conjugated A20 was used in (5) and (6)).
Application References	<ol style="list-style-type: none"> 1. Yakura H, <i>et al.</i> 1983. <i>J. Exp. Med.</i> 157:1077. (Block) 2. Yakura H, <i>et al.</i> 1986. <i>J. Immunol.</i> 136:2729. (Block) 3. Shen FW, <i>et al.</i> 1986. <i>Immunogenetics</i> 24:146. (IP) 4. Suzuki K, <i>et al.</i> 2000. <i>Immunity</i> 13:691. (IHC-F) 5. Werner N, <i>et al.</i> 2002. <i>Arterioscler. Thromb. Vasc. Biol.</i> 22:1567. (IHC-F) 6. Lessner SM, <i>et al.</i> 2002. <i>Am. J. Pathol.</i> 160:2145. (FC, IHC-F)
(PubMed link indicates BioLegend citation)	

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9. Mende I, *et al.* 2006. *Blood* 107:1383. (IHC-F, FC)
10. Phan TG, *et al.* 2007. *Nature Immunol.* 8:992. (FC)
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Product Citations

1. Gazit R, *et al.* 2014. *J Exp Med.* 211:1315. [PubMed](#)
2. Wen T, *et al.* 2013. *Proc Natl Acad Sci U S A.* 110:6067. [PubMed](#)
3. Fumagalli V, *et al.* 2020. *J Exp Med.* :217. [PubMed](#)
4. Ly A, *et al.* 2020. *Cell Reports.* 29(8):2257-2269.e6.. [PubMed](#)
5. Canton J, *et al.* 2021. *Nat Immunol.* 22:140. [PubMed](#)
6. Duc D *et al.* 2019. *Cell Rep.* 29(2):378-390 . [PubMed](#)
7. Bäuerlein C, *et al.* 2013. *BMC Med.* 11:134. [PubMed](#)
8. Swanson P, *et al.* 2016. *PLoS Pathog.* 12:e1006022. [PubMed](#)
9. Lever JM, *et al.* 2019. *JCI Insight.* 4:e125503. [PubMed](#)
10. Di Pilato M, *et al.* 2021. *Cell.* 184(17):4512-4530.e22. [PubMed](#)
11. Astuti Y, *et al.* 2017. *Stem Cell Reports.* 8(1):177-190. [PubMed](#)

RRID AB_492864 (BioLegend Cat. No. 110720)

Antigen Details

Structure	Protein tyrosine phosphatase (PTP) family, 180-240 kD
Distribution	All hematopoietic cells except mature erythrocytes and platelets of the CD45.1 strain of mice
Function	Phosphatase, T and B cell activation
Ligand/Receptor	Galectin-1, CD2, CD3, CD4
Biology Area	Cell Biology, Immunology, Inhibitory Molecules, Neuroscience, Neuroscience Cell Markers
Molecular Family	CD Molecules
Antigen References	<ol style="list-style-type: none"> 1. Barclay A, <i>et al.</i> 1997. <i>The Leukocyte Antigen FactsBook</i> 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

Related Protocols

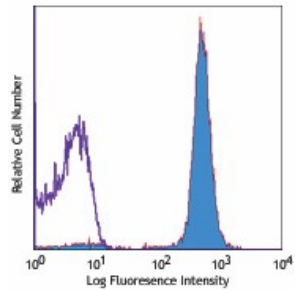
[Cell Surface Flow Cytometry Staining Protocol](#)

Other Formats

Biotin anti-mouse CD45.1, FITC anti-mouse CD45.1, PE anti-mouse CD45.1, Purified anti-mouse CD45.1, APC anti-mouse CD45.1, APC/Cyanine7 anti-mouse CD45.1, Alexa Fluor® 488 anti-mouse CD45.1, Alexa Fluor® 647 anti-mouse CD45.1, Pacific Blue™ anti-mouse CD45.1, Alexa Fluor® 700 anti-mouse CD45.1, Brilliant Violet 650™ anti-mouse CD45.1, PerCP anti-mouse CD45.1, PerCP/Cyanine5.5 anti-mouse CD45.1, PE/Cyanine7 anti-mouse CD45.1, Brilliant Violet 421™ anti-mouse CD45.1, Brilliant Violet 570™ anti-mouse CD45.1, Brilliant Violet 605™ anti-mouse CD45.1, Brilliant Violet 711™ anti-mouse CD45.1, Brilliant Violet 510™ anti-mouse CD45.1, Brilliant Violet 785™ anti-mouse CD45.1, Purified anti-mouse CD45.1 (Maxpar® Ready), PE/Dazzle™ 594 anti-mouse CD45.1, Alexa Fluor® 594 anti-mouse CD45.1, APC/Fire™ 750 anti-mouse CD45.1, TotalSeq™-A0178 anti-mouse CD45.1, TotalSeq™-B0178 anti-mouse CD45.1, TotalSeq™-C0178 anti-mouse CD45.1

Product Data

SJL mouse splenocytes stained with A20
Alexa Fluor® 647



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