

PE anti-mouse CD45.2 Antibody

Catalog# / Size	109807 / 50 µg 109808 / 200 µg
Clone	104
Regulatory Status	RUO
Other Names	Ly-5.2, LCA
Isotype	Mouse (SJL) IgG2a, κ
Description	CD45.2 is an alloantigen of CD45, expressed by Ly5.2 bearing mouse strains (e.g., A, AKR, BALB/c, CBA/Ca, CBA/J, C3H/He, C57BL, C57BR, C57L, C58, DBA/1, DBA/2, NZB, SWR, 129). 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 the mouse 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 type. 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	B10.S 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 PE 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 ≤ 0.25 µg per 10 ⁶ cells in 100 µl volume. It is recommended that the reagent be titrated for optimal performance for each application.
Excitation Laser	Blue Laser (488 nm) Green Laser (532 nm)/Yellow-Green Laser (561 nm)
Application Notes	The 104 antibody does not react with mouse cells expressing the CD45.1 alloantigen. Additional reported applications (for the relevant formats) include: immunoprecipitation ⁴ , <i>in vivo</i> and <i>in vitro</i> blocking of B cell responses ^{1,2} , and immunohistochemical staining of acetone-fixed frozen sections ³ .
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. Suzuki K, <i>et al.</i> 2000. <i>Immunity</i> 13:691. (IHC) 4. Shen FW, <i>et al.</i> 1986. <i>Immunogenetics</i> 24:146. (IP) 5. Baldwin TA and Hogquist KA. 2007. <i>J. Immunol.</i> 179:837. 6. Pascal V, <i>et al.</i> 2007. <i>J. Immunol.</i> 179:1751. 7. Burman AC, <i>et al.</i> 2007. <i>Blood</i> 110:1064. 8. Kincaid EZ, <i>et al.</i> 2007. <i>J. Immunol.</i> 179:3187. 9. Phan TG, <i>et al.</i> 2007. <i>Nature Immunol.</i> 8:992. 10. Nakano-Yokomizo T, <i>et al.</i> 2011. <i>J. Exp Med.</i> 208:1661. PubMed

11. Wen T, *et al.* 2013. *PNAS*. 110:6067. [PubMed](#)
12. Kohlmeier JE, *et al.* 2008. *Immunity*. 29:101. (FC) [PubMed](#)

Product Citations

1. Gordan S, *et al.* 2020. *Cell Reports*. 29(10):3033-3046.e4.. [PubMed](#)
2. Takihara Y, *et al.* 2022. *Commun Biol*. 5:776. [PubMed](#)
3. McNamara HA, *et al.* 2020. *Cell Host Microbe*. 572:28. [PubMed](#)
4. Lee S, *et al.* 2021. *JCI Insight*. 6:. [PubMed](#)
5. Sharma GP, *et al.* 2021. *PLoS One*. 16:e0259042. [PubMed](#)
6. Pessoa Rodrigues C, *et al.* 2021. *Sci Adv*. 7:. [PubMed](#)
7. Pack AD, *et al.* 2021. *Cell Reports*. 36(8):109586. [PubMed](#)
8. Hirano KI, *et al.* 2021. *eLife*. 0.4166666666666667. [PubMed](#)
9. Koon H, *et al.* 2012. *J Vis Exp*. 68: 4208. [PubMed](#)
10. Chen J *et al.* 2018. *Cell reports*. 25(12):3393-3404 . [PubMed](#)
11. Yang X, *et al.* 2020. *Blood Sci*. 2:89. [PubMed](#)
12. Bonnet C, *et al.* 2021. *iScience*. 24:103399. [PubMed](#)
13. Davila S, *et al.* 2014. *J Immunol*. 192:4284. [PubMed](#)
14. Okuniewska M, *et al.* 2021. *Cell Reports*. 36(2):109368. [PubMed](#)
15. Kosack L, *et al.* 2017. *Sci Rep*. 7:11289. [PubMed](#)
16. Yang F, *et al.* 2020. *Cancer Res*. 80:3677. [PubMed](#)
17. Sugimoto C, *et al.* 2022. *Elife*. 11:. [PubMed](#)
18. Paprckova D, *et al.* 2022. *Front Immunol*. 13:1009198. [PubMed](#)
19. Mitchell JE, *et al.* 2021. *Cell Reports*. 35(2):108966. [PubMed](#)
20. Kitano M, *et al.* 2016. *Proc Natl Acad Sci U S A*. 113: 1044 - 1049. [PubMed](#)
21. Uchimura T *et al.* 2018. *Immunity*. 49(6):1049-1061 . [PubMed](#)
22. Anastasiou M, *et al.* 2021. *JCI Insight*. 6:. [PubMed](#)
23. Amor C, *et al.* 2020. *Nature*. 583:127. [PubMed](#)
24. Sokol CL *et al.* 2018. *Immunity*. 49(3):449-463 . [PubMed](#)
25. Ramos CV, *et al.* 2020. *Cell Reports*. 32(3):107910. [PubMed](#)
26. Rengarajan S, *et al.* 2020. *Cell Rep Med*. :1. [PubMed](#)
27. He L, *et al.* 2019. *iScience*. 0.790972222. [PubMed](#)
28. Kaplan BLF *et al.* 2018. *Current protocols in toxicology*. 75:11:00 25. [PubMed](#)
29. Xu L *et al.* 2017. *Immunity*. 47(3):538-551 . [PubMed](#)
30. Chen X *et al.* 2017. *Cell stem cell*. 21(6):747-760 . [PubMed](#)
31. Kinkel SA, *et al.* 2022. *iScience*. 25:104684. [PubMed](#)
32. He Y, *et al.* 2021. *Cell Metabolism*. 33(5):988-1000.e7. [PubMed](#)
33. Chen D, *et al.* 2021. *Molecular Cell*. . [PubMed](#)
34. Kim C, *et al.* 2019. *Cell Rep*. 29:2202. [PubMed](#)
35. Russler-Germain EV, *et al.* 2021. *Elife*. 10:. [PubMed](#)
36. Mansell E, *et al.* 2020. *Cell Stem Cell*. . [PubMed](#)
37. Bayik D, *et al.* 2020. *Cancer Discov*. 1.256944444. [PubMed](#)
38. Markey K, *et al.* 2014. *J Immunol*. 192:5426. [PubMed](#)
39. Horiguchi H, *et al.* 2019. *Genes Dev*. 33:1641. [PubMed](#)
40. Wu J *et al.* 2019. *Immunity*. 50(5):1218-1231 . [PubMed](#)
41. Ndeupen S, *et al.* 2022. *STAR Protoc*. 3:101350. [PubMed](#)
42. Zhang X, *et al.* 2021. *Proc Natl Acad Sci U S A*. 118:. [PubMed](#)
43. Kretschmer L, *et al.* 2020. *Nat Commun*. 0.536805556. [PubMed](#)
44. Tang Q, *et al.* 2021. *Immunity*. 54:1961. [PubMed](#)
45. Wang X, *et al.* 2021. *EMBO J*. 40:e105926. [PubMed](#)
46. Hirata T, *et al.* 2012. *Int Immunol*. 24:705. [PubMed](#)
47. Bagadia P, *et al.* 2019. *Nat Immunol*. 20:1174. [PubMed](#)
48. Waight JD, *et al.* 2018. *Cancer Cell*. 33:1033. [PubMed](#)
49. Fang F, *et al.* 2021. *Cell Rep*. 37:109981. [PubMed](#)
50. Evrard M *et al.* 2018. *Immunity*. 48(2):364-379 . [PubMed](#)
51. Xiong J, *et al.* 2011. *Int Immunol*. 23:56. [PubMed](#)
52. Jing Y, *et al.* 2021. *Front Immunol*. 12:651860. [PubMed](#)
53. Zhang C, *et al.* 2021. *J Immunother Cancer*. 9:. [PubMed](#)
54. Chen C, *et al.* 2020. *Cell Rep*. 2136:30. [PubMed](#)
55. Contreras NA, *et al.* 2019. *PLoS Pathog*. 15:e1007890. [PubMed](#)
56. Wang X, *et al.* 2021. *Cell*. 184:5357. [PubMed](#)
57. Koide S, *et al.* 2022. *iScience*. 25:103603. [PubMed](#)
58. Sun Y, *et al.* 2020. *J Immunol*. 205:2649. [PubMed](#)
59. Wu G, *et al.* 2021. *Nat Cancer*. 2:1170. [PubMed](#)
60. Kwok I, *et al.* 2020. *Immunity*. 53(2):303-318.e5. [PubMed](#)
61. Sindrilaru A, *et al.* 2009. *Blood*. 113:5266. [PubMed](#)
62. Suzuki D, *et al.* 2020. *Stem Cell Reports*. 14:49. [PubMed](#)
63. Lu Y, *et al.* 2018. *Cancer Cell*. 33:1048. [PubMed](#)
64. Wang X, *et al.* 2022. *Elife*. 11:. [PubMed](#)
65. Xu G, *et al.* 2015. *Free Radic Biol Med*. 87: 15-25. [PubMed](#)
66. Heyde A, *et al.* 2021. *Cell*. 184(5):1348-1361.e22. [PubMed](#)
67. Huang X, *et al.* 2021. *Immunity*. . [PubMed](#)
68. Radulovic V, *et al.* 2020. *Cell Reports*. 27(10):2826-2836.e5.. [PubMed](#)
69. Spath S, *et al.* 2022. *iScience*. 25:104998. [PubMed](#)
70. Young K, *et al.* 2021. *Cell Stem Cell*. . [PubMed](#)
71. Jackson C, *et al.* 2016. *Clin Cancer Res*. 22: 1161 - 1172. [PubMed](#)
72. Pessoa Rodrigues C, *et al.* 2020. *Sci Adv*. 6:eaaz4815. [PubMed](#)
73. Finklin S *et al.* 2019. *Immunity*. 51(2):324-336 . [PubMed](#)
74. Huang LH *et al.* 2018. *Cell metabolism*. 29(2):475-487 . [PubMed](#)
75. Kaw S, *et al.* 2020. *EMBO J*. 39:e105594. [PubMed](#)

76. Liu Y, *et al.* 2021. Nat Commun. 12:6831. [PubMed](#)
77. Zhang J, *et al.* 2021. Stem Cell Res Ther. 12:579. [PubMed](#)
78. Chang MH, *et al.* 2021. Cell Rep. 37:109902. [PubMed](#)

RRID AB_313444 (BioLegend Cat. No. 109807)
AB_313445 (BioLegend Cat. No. 109808)

Antigen Details

Structure	Protein tyrosine phosphatase (PTP) family, 180-240 kD
Distribution	All hematopoietic cells except mature erythrocytes and platelets of the CD45.2 strain of mice
Function	Phosphatase, T and B cell activation
Ligand/Receptor	Galectin-1, CD2, CD3, CD4
Biology Area	Cell Biology, Immunology, Inhibitory Molecules, Innate Immunity, Neuroscience, Neuroscience Cell Markers
Molecular Family	CD Molecules
Antigen References	1. Suzuki K, <i>et al.</i> 2000. <i>Immunity</i> 13:691.
Gene ID	19264

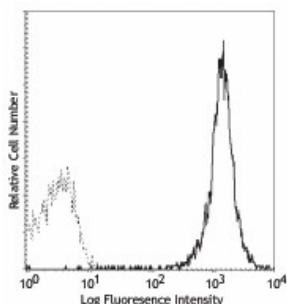
Related Protocols

[Cell Surface Flow Cytometry Staining Protocol](#)

Other Formats

Biotin anti-mouse CD45.2, FITC anti-mouse CD45.2, PE anti-mouse CD45.2, Purified anti-mouse CD45.2, APC anti-mouse CD45.2, Alexa Fluor® 488 anti-mouse CD45.2, Alexa Fluor® 647 anti-mouse CD45.2, Pacific Blue™ anti-mouse CD45.2, Alexa Fluor® 700 anti-mouse CD45.2, APC/Cyanine7 anti-mouse CD45.2, PerCP anti-mouse CD45.2, PerCP/Cyanine5.5 anti-mouse CD45.2, PE/Cyanine7 anti-mouse CD45.2, Brilliant Violet 421™ anti-mouse CD45.2, Brilliant Violet 570™ anti-mouse CD45.2, Brilliant Violet 650™ anti-mouse CD45.2, Brilliant Violet 510™ anti-mouse CD45.2, Brilliant Violet 785™ anti-mouse CD45.2, Brilliant Violet 605™ anti-mouse CD45.2, Purified anti-mouse CD45.2 (Maxpar® Ready), PE/Dazzle™ 594 anti-mouse CD45.2, Brilliant Violet 711™ anti-mouse CD45.2, Alexa Fluor® 594 anti-mouse CD45.2, APC/Fire™ 750 anti-mouse CD45.2, TotalSeq™-A0157 anti-mouse CD45.2, TotalSeq™-B0157 anti-mouse CD45.2, TotalSeq™-C0157 anti-mouse CD45.2, Brilliant Violet 750™ anti-mouse CD45.2, Spark Blue™ 550 anti-mouse CD45.2, Spark NIR™ 685 anti-mouse CD45.2

Product Data



BALB/c (solid line) and SJL (broken line) splenocytes stained with 104 PE

For research use only. Not for diagnostic use. Not for resale. BioLegend will not be held responsible for patent infringement or other violations that may occur with the use of our products.

*These products may be covered by one or more Limited Use Label Licenses (see the BioLegend Catalog or our website, www.biolegend.com/ordering#license). BioLegend products may not be transferred to third parties, resold, modified for resale, or used to manufacture commercial products, reverse engineer functionally similar materials, or to provide a service to third parties without written approval of BioLegend. By use of these products you accept the terms and conditions of all

applicable Limited Use Label Licenses. Unless otherwise indicated, these products are for research use only and are not intended for human or animal diagnostic, therapeutic or commercial use.

BioLegend Inc., 8999 BioLegend Way, San Diego, CA 92121 www.biolegend.com
Toll-Free Phone: 1-877-Bio-Legend (246-5343) Phone: (858) 768-5800 Fax: (877) 455-9587