

Biotin anti-mouse CD11c Antibody

Catalog# / Size	117303 / 50 µg 117304 / 500 µg
Clone	N418
Regulatory Status	RUO
Other Names	αX integrin, integrin αX chain, CR4, p150, ITGAX
Isotype	Armenian Hamster IgG
Description	CD11c is a 150 kD glycoprotein also known as α _X integrin, CR4, and p150. CD11c forms a α _X β ₂ heterodimer with β ₂ integrin (CD18). It is primarily expressed on dendritic cells, NK cells, a subset of intestinal intraepithelial lymphocytes (IEL), and some activated T cells. The α _X β ₂ integrin plays an important role in cell-cell contact by binding its ligands: iC3b, fibrinogen, and CD54.

Product Details

Verified Reactivity	Mouse
Antibody Type	Monoclonal
Host Species	Armenian Hamster
Immunogen	Mouse spleen dendritic cells
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide.
Preparation	The antibody was purified by affinity chromatography, and conjugated with biotin under optimal conditions.
Concentration	0.5 mg/mL
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C. Do not freeze.
Application	FC - Quality tested IHC-F - Verified
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 other applications.
Application Notes	Additional reported applications (for the relevant formats) include: immunoprecipitation ³ , immunohistochemical staining of acetone-fixed frozen sections ³ , immunofluorescence microscopy ^{5,9} (Alexa Fluor® 488 conjugated N418 was used for IHC in frozen sections ¹⁰), and spatial biology (IBEX) ^{22,23} .
Application References	<ol style="list-style-type: none"> 1. Granucci F, <i>et al.</i> 1997. <i>J. Immunol.</i> 159:1794. 2. Stokes RW, <i>et al.</i> 1998. <i>J. Immunol.</i> 160:5514. 3. Metlay JP, <i>et al.</i> 1990. <i>J. Exp. Med.</i> 171:1753. (IHC, IP) 4. Ma XT, <i>et al.</i> 2006. <i>Cancer Research</i> 66:1169. 5. Chin RK, <i>et al.</i> 2006. <i>J. Immunol.</i> 177:290. (IF) 6. Cervantes-Barragan L, <i>et al.</i> 2007. <i>Blood</i> 109:1131. (FC) PubMed 7. Turnquist HR, <i>et al.</i> 2007. <i>J. Immunol.</i> 178:7018. (FC) PubMed 8. Benson MJ, <i>et al.</i> 2007. <i>J. Exp. Med.</i> doi:10.1084/jem.20070719. (FC) PubMed 9. You Y, <i>et al.</i> 2009. <i>J. Immunol.</i> 182:7343. (IF) PubMed 10. Roland CL, <i>et al.</i> 2009. <i>Mol. Cancer Res.</i> 8:1761. (IHC, FC) PubMed 11. Wikstrom M, <i>et al.</i> 2006. <i>J. Immunol.</i> 177:913. PubMed 12. Pericolini E, <i>et al.</i> 2008. <i>J. Leukocyte Biol.</i> 83:1286. PubMed 13. Randall LM, <i>et al.</i> 2008. <i>Infect. Immun.</i> 76:3312. PubMed 14. Fahlen-Yrild L, <i>et al.</i> 2009. <i>J. Immunol.</i> 183:5032. PubMed 15. Osterholzer JJ, <i>et al.</i> 2009. <i>J. Immunol.</i> 183:8044. PubMed 16. Bankoti J, <i>et al.</i> 2010. <i>Toxicol. Sci.</i> 115:422. (FC) PubMed
(PubMed link indicates BioLegend citation)	

17. Eisenach PA, *et al.* 2010. *J Cell Sci.* 123:4182. [PubMed](#)
18. Leppin K, *et al.* 2014. *Invest. Ophthalmol. Vis. Sci.* 55:3603. [PubMed](#)
19. Sakai F, *et al.* 2014. *PLoS One.* 9:105370. [PubMed](#)
20. Gibbins JD, *et al.* 2014. *Blood.* 124:2953. [PubMed](#)
21. White CE, *et al.* 2015. *J Immunol.* 194:697. [PubMed](#)
22. Lu X, *et al.* 2015. *J Immunol.* 194:2011. [PubMed](#)
23. Radtke AJ, *et al.* 2020. *Proc Natl Acad Sci U S A.* 117:33455-65. (SB) [PubMed](#)
24. Radtke AJ, *et al.* 2022. *Nat Protoc.* 17:378-401. (SB) [PubMed](#)

Product Citations

1. Kellermayer Z, *et al.* 2019. *J Immunol.* 202:1833. [PubMed](#)
2. Hu J, *et al.* 2019. *Am J Transl Res.* 3:043055556. [PubMed](#)
3. Grigsby SM, *et al.* 2021. *Cancers (Basel).* 13:. [PubMed](#)
4. Liu S, *et al.* 2020. *Neuron.* S0896-6273(20)30532-8.. [PubMed](#)
5. Florentin J, *et al.* 2022. *Front Immunol.* 13:882484. [PubMed](#)
6. Schloss MJ, *et al.* 2022. *Nat Immunol.* 23:605. [PubMed](#)
7. Lin YH, *et al.* 2021. *Front Immunol.* 12:626418. [PubMed](#)
8. Zhou L, *et al.* 2021. *Cell Mol Immunol.* 18:698. [PubMed](#)
9. Palumbo R, *et al.* 2012. *J Control Release.* 159:232. [PubMed](#)
10. Hu Z, *et al.* 2015. *J Exp Med.* 101084/jm20150178. [PubMed](#)
11. Preglej T, *et al.* 2020. *JCI Insight.* 5(4):. [PubMed](#)
12. Yu VWC *et al.* 2016. *Cell.* 167(5):1310-1322 . [PubMed](#)
13. Pokrovskii M, *et al.* 2020. *EMBO J.* 39:e104159. [PubMed](#)
14. Mori T, *et al.* 2014. *J Immunol.* 193:1728. [PubMed](#)
15. Xu X, *et al.* 2020. *J Cell Biol.* 219:00:00. [PubMed](#)
16. Liu X, *et al.* 2021. *eLife.* 0.4166666666666667. [PubMed](#)
17. Li Q *et al.* 2018. *Immunity.* 48(2):258-270 . [PubMed](#)
18. Stone MB *et al.* 2017. *eLife.* 6 pii: e19891. [PubMed](#)
19. Tian D, *et al.* 2020. *FASEB J.* 34:3367. [PubMed](#)
20. Dey A *et al.* 2019. *The EMBO journal.* 38(7) pii: e100293. [PubMed](#)
21. She L, *et al.* 2021. *JCI Insight.* 6:e143509. [PubMed](#)
22. Suah AN, *et al.* 2021. *J Clin Invest.* 131:. [PubMed](#)
23. Paiva RS, *et al.* 2021. *Eur J Immunol.* 51:1968. [PubMed](#)
24. Levine LS, *et al.* 2021. *Immunity.* 54(4):829-844.e5. [PubMed](#)
25. Paiva RA, *et al.* 2021. *Cell Reports.* 35(2):108967. [PubMed](#)
26. Khaw YM, *et al.* 2020. *J Neuroinflammation.* 17:49. [PubMed](#)
27. Ramos CV, *et al.* 2020. *Cell Reports.* 32(3):107910. [PubMed](#)
28. He J, *et al.* 2020. *Cell Reports.* 29(9):2718-2730.e6.. [PubMed](#)
29. Khiew SH, *et al.* 2020. *J Clin Invest.* 130:3453. [PubMed](#)
30. Köchl R, *et al.* 2020. *Elife.* 9:00. [PubMed](#)
31. Hurrell BP, *et al.* 2019. *Cell Rep.* 29:4509. [PubMed](#)
32. Yu VWC, *et al.* 2017. *Cell.* 168:944. [PubMed](#)
33. Onodera T, *et al.* 2019. *J Immunol.* 203:3282. [PubMed](#)
34. Xu L *et al.* 2017. *Immunity.* 47(3):538-551 . [PubMed](#)
35. Matsumura T *et al.* 2019. *Cell Rep.* 27(2):561-571 . [PubMed](#)
36. Chen Y, *et al.* 2015. *PLoS One.* 10: 0135217. [PubMed](#)
37. Spinner C, *et al.* 2015. *Sci Rep.* 5:16269. [PubMed](#)
38. Dietmar Herndler-Brandstetter *et al.* 2018. *Immunity.* 48(4):716-729 . [PubMed](#)
39. Yang Z *et al.* 2016. *eLife.* 5 pii: e21238. [PubMed](#)
40. Progatzy F, *et al.* 2021. *Nature.* 599:125. [PubMed](#)
41. Lei G, *et al.* 2015. *Infect Immun.* 83:572. [PubMed](#)
42. Frodermann V, *et al.* 2019. *Nat Med.* 25:1761. [PubMed](#)
43. Pilonas KA, *et al.* 2020. *Cancer Immunol Res.* 8:1054. [PubMed](#)
44. Onodera T, *et al.* 2021. *Immunity.* 54:2385. [PubMed](#)
45. Jawhara S, *et al.* 2012. *J Immunol.* 189:2468. [PubMed](#)
46. Coquery C, *et al.* 2014. *PLoS One.* 9:102284. [PubMed](#)
47. Wang F, *et al.* 2021. *Cell.* 184(2):422-440.e17. [PubMed](#)
48. Trefzer A, *et al.* 2021. *Cell Reports.* 34(6):108748. [PubMed](#)
49. Galle-Treger L, *et al.* 2016. *Nat Commun.* 7:13202. [PubMed](#)
50. Cheng Q, *et al.* 2014. *J Immunol.* 192:3686. [PubMed](#)
51. Andersen L, *et al.* 2020. *Cell Reports.* 29(13):4447-4459.e6.. [PubMed](#)
52. Kubota S, *et al.* 2019. *Nat Commun.* 10:1653. [PubMed](#)
53. Galle-Treger L, *et al.* 2020. *J Allergy Clin Immunol.* 145:502. [PubMed](#)
54. Baptista A, *et al.* 2014. *Elife.* 3:4433. [PubMed](#)
55. Galle-Treger L, *et al.* 2019. *Nat Commun.* 10:713. [PubMed](#)
56. Yang BH, *et al.* 2020. *Cell Reports.* 27(12):3629-3645.e6.. [PubMed](#)
57. Akkaya B, *et al.* 2017. *J Immunol Methods.* 441:67. [PubMed](#)
58. Zhai X, *et al.* 2021. *Sci Adv.* 7:eabk0490. [PubMed](#)
59. Frohner IE, *et al.* 2020. *Cell Rep.* 30:3171. [PubMed](#)
60. Vasamsetti SB, *et al.* 2018. *Immunity.* 49:93. [PubMed](#)
61. Lehrke MJ, *et al.* 2021. *Elife.* 10:. [PubMed](#)
62. Zeis P, *et al.* 2020. *Immunity.* 53:775. [PubMed](#)
63. Nasarre P, *et al.* 2021. *Cancers (Basel).* 13: . [PubMed](#)
64. Hu G, *et al.* 2018. *Immunity.* 48:227. [PubMed](#)
65. Adachi Y, *et al.* 2019. *Nat Commun.* 10:3883. [PubMed](#)
66. Nagashima H *et al.* 2019. *Immunity.* 51(4):682-695 . [PubMed](#)
67. Scortegagna M, *et al.* 2020. *Nat Commun.* 11:99. [PubMed](#)
68. Zhang MH, *et al.* 2020. *Front Immunol.* 11:560. [PubMed](#)
69. Murata T, *et al.* 2020. *Sci Rep.* 10:13560. [PubMed](#)

70. Bajaan S, *et al.* 2022. *iScience*. 25:103732. [PubMed](#)
 71. Miyauchi K, *et al.* 2021. *Nat Commun*. 12:3789. [PubMed](#)
 72. Zhu J *et al.* 2017. *Cell stem cell*. 20(3):374-384 . [PubMed](#)
 73. Jain A, *et al.* 2020. *Nat Immunol*. 0.920138889. [PubMed](#)
 74. Zheng C, *et al.* 2022. *Acta Pharm Sin B*. 12:3726. [PubMed](#)
 75. Jaeger N, *et al.* 2020. *Cell Rep*. 33:108331. [PubMed](#)
 76. Heyde A, *et al.* 2021. *Cell*. 184(5):1348-1361.e22. [PubMed](#)
 77. Arima Y *et al.* 2017. *eLife*. 6 pii: e25517. [PubMed](#)
 78. Hayashi K, *et al.* 2020. *Nat Commun*. 4.832638889. [PubMed](#)
 79. Amend A, *et al.* 2021. *Int J Mol Sci*. 22:. [PubMed](#)

RRID AB_313772 (BioLegend Cat. No. 117303)
 AB_313773 (BioLegend Cat. No. 117304)

Antigen Details

Structure	Integrin α -chain, associates with integrin β_2 (CD18), 150 kD
Distribution	Dendritic cells, NK cells, intestinal intraepithelial lymphocytes (IEL), some activated T cells
Function	Cellular adhesion
Ligand/Receptor	iC3b, fibrinogen
Cell Type	Dendritic cells, Epithelial cells, NK cells, T cells, Tregs
Biology Area	Cell Adhesion, Cell Biology, Costimulatory Molecules, Immunology, Innate Immunity, Neuroscience, Neuroscience Cell Markers
Molecular Family	Adhesion Molecules, CD Molecules
Antigen References	1. Barclay A, <i>et al.</i> 1997. <i>The Leukocyte Antigen Facts Book</i> Academic Press. 2. Springer TA. 1994. <i>Cell</i> 76:301. 3. Lopez-Rodriguez C, <i>et al.</i> 1996. <i>J. Immunol.</i> 156:3780.
Gene ID	16411

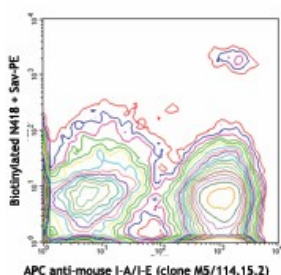
Related Protocols

[Cell Surface Flow Cytometry Staining Protocol](#)

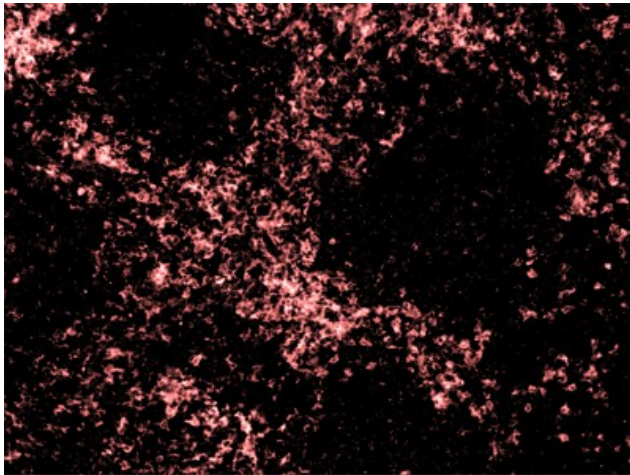
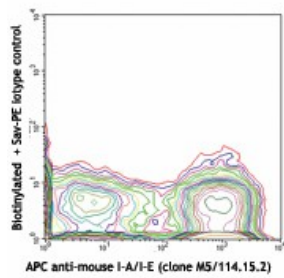
Other Formats

APC anti-mouse CD11c, Biotin anti-mouse CD11c, FITC anti-mouse CD11c, PE anti-mouse CD11c, Purified anti-mouse CD11c, Alexa Fluor® 488 anti-mouse CD11c, Alexa Fluor® 647 anti-mouse CD11c, PE/Cyanine5 anti-mouse CD11c, PE/Cyanine7 anti-mouse CD11c, Brilliant Violet 605™ anti-mouse CD11c, Alexa Fluor® 700 anti-mouse CD11c, Pacific Blue™ anti-mouse CD11c, APC/Cyanine7 anti-mouse CD11c, PerCP/Cyanine5.5 anti-mouse CD11c, PerCP anti-mouse CD11c, Brilliant Violet 421™ anti-mouse CD11c, Brilliant Violet 570™ anti-mouse CD11c, Brilliant Violet 785™ anti-mouse CD11c, Brilliant Violet 510™ anti-mouse CD11c, Brilliant Violet 650™ anti-mouse CD11c, Purified anti-mouse CD11c (Maxpar® Ready), Alexa Fluor® 594 anti-mouse CD11c, PE/Dazzle™ 594 anti-mouse CD11c, Brilliant Violet 711™ anti-mouse CD11c, APC/Fire™ 750 anti-mouse CD11c, TotalSeq™-A0106 anti-mouse CD11c, Brilliant Violet 750™ anti-mouse CD11c, TotalSeq™-B0106 anti-mouse CD11c, TotalSeq™-C0106 anti-mouse CD11c, KIRAVIA Blue 520™ anti-mouse CD11c, Spark Blue™ 550 anti-mouse CD11c, Spark NIR™ 685 anti-mouse CD11c, Spark UV™ 387 anti-mouse CD11c, Spark Red™ 718 anti-mouse CD11c

Product Data



C57BL/6 mouse splenocytes stained with APC anti-mouse I-A/I-E (clone M5/114.15.2) and biotinylated N418 (top) or biotinylated Armenian hamster IgG isotype control (bottom), followed by Sav-PE



Frozen mouse spleen sections. Endogenous biotin blocking applied prior to incubation of primary antibody anti-mouse CD11c biotin followed by secondary detection with Alexa Fluor® 555 streptavidin. Images were acquired with an automated widefield microscope (Nikon Eclipse Ti) and a CCD camera (QImaging Retiga 2000R). Images provided by Ann Haberman and Tingting Zhang, Yale University.

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