Brilliant Violet 421™ anti-mouse CD11c Antibody

Catalog# / Size	117329 / 125 µL 117343 / 50 µg 117330 / 500 µL
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 $\alpha_X\beta_2$ 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 $\alpha_X\beta_2$ 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 and BSA (origin USA).
Preparation	The antibody was purified by affinity chromatography and conjugated with Brilliant Violet 421™ under optimal conditions.
Concentration	µg sizes: 0.2 mg/mL µL sizes: lot-specific (to obtain lot-specific concentration, please enter the lot number in our Concentration and Expiration Lookup or Certificate of Analysis online tools.)
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 IHC - Verified
Recommended Usage	Each lot of this antibody is quality control tested by immunofluorescent staining with flow cytometric analysis. For immunofluorescent staining using the µg size, the suggested use of this reagent is ≤0.25 µg per million cells in 100 µl volume. For immunofluorescent staining using µl sizes, the suggested use of this reagent is 5 µl per million cells in 100 µl staining volume or 5 µl per 100 µl of whole blood. It is recommended that the reagent be titrated for optimal performance for each application. Brilliant Violet 421™ excites at 405 nm and emits at 421 nm. The standard bandpass filter 450/50 nm is recommended for detection. Brilliant Violet 421™ is a trademark of Sirigen Group Ltd. Learn more about Brilliant Violet™. This product is subject to proprietary rights of Sirigen Inc. and is made and sold under license from Sirigen Inc. The purchase of this product conveys to the buyer a non-transferable right to use the purchased product for research purposes only. This product may not be resold or incorporated in any manner into another product for resale. Any use for therapeutics or diagnostics is strictly prohibited. This product is covered by U.S. Patent(s), pending patent applications and foreign equivalents.
Excitation Laser	Violet Laser (405 nm)
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

(PubMed link indicates BioLegend citation)

1. Granucci F, *et al.* 1997. *J. Immunol.* 159:1794.
2. Stokes RW, *et al.* 1998. *J. Immunol.* 160:5514.
3. Metlay JP, *et al.* 1990. *J. Exp. Med.* 171:1753. (IHC, IP)
4. Ma XT, *et al.* 2006. *Cancer Research* 66:1169.
5. Chin RK, *et al.* 2006. *J. Immunol.* 177:290. (IF)
6. Cervantes-Barragan L, *et al.* 2007. *Blood* 109:1131. (FC) PubMed
7. Turnquist HR, et al. 2007. *J. Immunol.* 178:7018. (FC) PubMed
8. Benson MJ, *et al.* 2007. *J. Exp. Med.* doi:10.1084/jem.20070719. (FC) PubMed
9. You Y, *et al.* 2009. *J. Immunol.* 182:7343. (IF) PubMed
10. Roland CL, *et al.* 2009. *Mol. Cancer Res.* 8:1761. (IHC, FC) PubMed
11. Wikstrom M, *et al.*2006. *J. Immunol.* 177:913. PubMed
12. Pericolini E, *et al.* 2008. *J. Leukocyte Biol.* 83:1286. PubMed
13. Randall LM, *et al.* 2008. *Infect. Immun.*76:3312. PubMed
14. Fahlen-Yrild L, *et al.* 2009. *J. Immunol.* 183:5032. PubMed
15. Osterholzer JJ, *et al.* 2009. *J. Immunol.* 183:8044. PubMed
16. Bankoti J, *et al.* 2010. *Toxicol. Sci.* 115:422. (FC) PubMed
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. Liu J, *et al.* 2019. Immunity. 50:600. PubMed
2. Kim EH, *et al.* 2020. Elife. 9:00. PubMed
3. Frisbee AL, *et al.* 2019. Nat Commun. 10:2712. PubMed
4. Romain Bouziat *et al.* 2018. Cell host & microbe. 24(5):677-688 . PubMed
5. Szulc-D&acedil;browska L, *et al.* 2017. PLoS One. 12(6):e0179166. PubMed
6. Rødahl I, *et al.* 2021. STAR Protoc. 2:100842. PubMed
7. Ortiz G, *et al.* 2020. Front Immunol. 11:1713. PubMed
8. Evans H, *et al.* 2015. J Immunol. 195: 2973 - 2984. PubMed
9. Uzhachenko RV, *et al.* 2021. Cell Reports. 35(1):108944. PubMed
10. Saleh MM, *et al.* 2019. Cell Host Microbe. 25:756. PubMed
11. Baptista AP *et al.* 2019. Immunity. 50(5):1188-1201 . PubMed
12. Kim CJ, *et al.* 2018. Immunity. 49:1034. PubMed
13. Park S, *et al.* 2021. Front Immunol. 11:620166. PubMed
14. Adachi Y, *et al.* 2022. Nat Commun. 13:5117. PubMed
15. Tyagi AM *et al.* 2018. Immunity. 49(6):1116-1131 . PubMed
16. Chen J, *et al.* 2022. J Nanobiotechnology. 20:283. PubMed
17. Nagatake T, *et al.* 2022. Mucosal Immunol. 15:289. PubMed
18. Saito S, *et al.* 2020. Nutrients. 12:. PubMed
19. Molina-Sanchez P, *et al.* 2020. Gastroenterology. 2203:159. PubMed
20. Nguyen SL, *et al.* 2021. Sci Rep. 11:4217. PubMed
21. Jenkins RW, *et al.* 2018. Cancer Discov. 8:196. PubMed
22. Jassinskaja M, *et al.* 2021. Cell Reports. 34(12):108894. PubMed
23. Zhang X, *et al.* 2021. Front Immunol. 12:680068. PubMed
24. James BR, *et al.* 2014. Cancer Immunol Immunother. 63:1213-1227. PubMed
25. Smith AS, *et al.* 2022. J Immunother Cancer. 10:. PubMed
26. Gao H, *et al.* 2021. Cells. 10:. PubMed
27. Zheng J, *et al.* 2020. bioRxiv. . PubMed
28. Hossain DMS, *et al.* 2018. J Clin Invest. 128:644. PubMed
29. Synn CB, *et al.* 2022. Clin Transl Immunology. 11:e1364. PubMed
30. Grigoryan L, *et al.* 2022. NPJ Vaccines. 7:55. PubMed
31. Ringel AE, *et al.* 2020. Cell. 183(7):1848-1866.e26. PubMed
32. Bayik D, *et al.* 2020. Cancer Discov. 1.256944444. PubMed
33. Jürchott K, *et al.* 2016. PLoS One. 11: 0150812. PubMed
34. O'Connor T, *et al.* 2020. Cancer Cell. 36(3):250-267. PubMed
35. Bradley KC, *et al.* 2019. Cell Rep. 28:245. PubMed
36. Kumar MP, *et al.* 2018. Cell Rep. 25:1458. PubMed
37. Lee DH, *et al.* 2019. PLoS One. 14:e0215727. PubMed
38. Chen G, *et al.* 2021. Sci Adv. 7:eabg5686. PubMed
39. Kim SH, *et al.* 2021. Cell Reports. 35(2):108995. PubMed
40. Zhang J, *et al.* 2018. Sci Rep. 8:2373. PubMed
41. Matundan H, *et al.* 2019. J Virol. 93. PubMed
42. Matundan HH, *et al.* 2021. J Virol. 95:e0103621. PubMed
43. Zheng J, *et al.* 2020. Nature. . PubMed
44. Kälin S *et al.* 2017. Cell metabolism. 26(3):475-492 . PubMed
45. Otvos B, *et al.* 2021. Clin Cancer Res. 27:2038. PubMed
46. Jaggi U, *et al.* 2021. PLoS Pathog. 17:e1009999. PubMed
47. Giampazolias E, *et al.* 2021. Cell. . PubMed
48. Gomez S, *et al.* 2022. J Immunother Cancer. 10:. PubMed
49. Nagatake T, *et al.* 2018. J Allergy Clin Immunol. 142:470. PubMed
50. Xu G, *et al.* 2022. Front Pharmacol. 13:896601. PubMed

51. Huang L, *et al.* 2021. Frontiers in Cellular and Infection Microbiology. 10:606340. PubMed
52. Wang S, *et al.* 2022. J Inflamm Res. 14:7107. PubMed
53. Sanders K, *et al.* 2015. Cancer Immunol Res. 3: 891-901. PubMed
54. Xu W, *et al.* 2021. Immunity. 54(3):526-541.e7. PubMed
55. Serr I, *et al.* 2016. Proc Natl Acad Sci U S A. 113: E6659 - E6668. PubMed
56. Seenappa LM, *et al.* 2022. NPJ Vaccines. 7:128. PubMed
57. Cardoso M, *et al.* 2015. Infect Immun . 83: 3534-3544. PubMed
58. Serr I, *et al.* 2016. Nat Commun. 7:10991. PubMed
59. Chmielewski M and Abken H 2017. Cell Rep.. 10.1016/j.celrep.2017.11.063. PubMed
60. Lytle NK *et al.* 2019. Cell. 177(3):572-586 . PubMed
61. Tanegashima K *et al.* 2017. EBioMedicine. 24:247-256 . PubMed
62. Boguslawski KM, *et al.* 2020. Sci Adv. 6:eaax7515. PubMed
63. Wang Y, *et al.* 2020. Vaccines (Basel). 8:. PubMed
64. Lee A, *et al.* 2022. Nat Commun. 13:549. PubMed
65. Spiljar M, *et al.* 2021. Cell Metab. 33:2231. PubMed
66. Avgustinova A, *et al.* 2021. Cell Stem Cell. . PubMed
67. Cardoso F, *et al.* 2015. PLoS One. 10: 0131904. PubMed
68. Song W, *et al.* 2022. Immunity. 55:290. PubMed

RRID

AB_10897814 (BioLegend Cat. No. 117329)
AB_2563099 (BioLegend Cat. No. 117343)
AB_11219593 (BioLegend Cat. No. 117330)

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, *et al.* 1997. The Leukocyte Antigen Facts Book Academic Press. 2. Springer TA. 1994. *Cell* 76:301. 3. Lopez-Rodriguez C, *et al.* 1996. *J. Immunol.* 156:3780.
Gene ID	16411

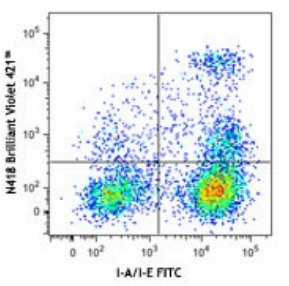
Related Protocols

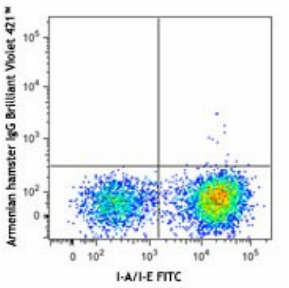
Cell Surface Flow Cytometry Staining Protocol

Other Formats

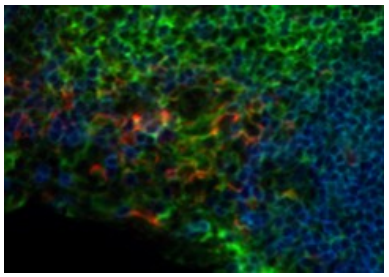
APC anti-mouse CD11c, Biotin anti-mouse CD11c, FITC anti-mouse CD11c, PE anti-mouse CD11c, Purified anti-mouse CD11c, Alexa Fluor® 488 anti-mouse CD11c, Alexa Fluor® 647 anti-mouse CD11c, PE/Cyanine5 anti-mouse CD11c, PE/Cyanine7 anti-mouse CD11c, Brilliant Violet 605™ anti-mouse CD11c, Alexa Fluor® 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 were stained with mouse I-A/I-E FITC and CD11c (clone N418) Brilliant Violet 421™ (top) or Armenian hamster IgG Brilliant Violet 421™ isotype control (bottom).



C57BL/6 mouse lymph nodes, fixed O/N in PLP, blocked with 10% rat serum, and stained with CD11c- BV421™(red), B220-Alexa Fluor® 647 (blue), and I-A/I-E-FITC (green) in 1% BSA and 0.1% Tween-20 in PBS. Images were acquired with an automated widefield microscope (Nikon Eclipse Ti) and a CCD camera (QImaging Retiga 2000R). Emitted light was collected through 440/40, 525/50, and 700/75 nm bandpass filters. Images provided by Ann Haberman and Christine Podolski, Yale University.

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