

Alexa Fluor[®] 647 anti-mouse/human CD11b Antibody

Catalog# / Size	101220 / 25 µg 101218 / 100 µg
Clone	M1/70
Regulatory Status	RUO
Other Names	αM integrin, Mac-1, Mo1, CR3, Ly-40, C3biR, ITGAM
Isotype	Rat IgG2b, κ
Description	CD11b is a 170 kD glycoprotein also known as αM integrin, Mac-1 α subunit, Mol, CR3, and Ly-40. CD11b is a member of the integrin family, primarily expressed on granulocytes, monocytes/macrophages, dendritic cells, NK cells, and subsets of T and B cells. CD11b non-covalently associates with CD18 (β2 integrin) to form Mac-1. Mac-1 plays an important role in cell-cell interaction by binding its ligands ICAM-1 (CD54), ICAM-2 (CD102), ICAM-4 (CD242), iC3b, and fibrinogen.

Product Details

Verified Reactivity	Mouse, Human, Cynomolgus, Rhesus
Reported Reactivity	Chimpanzee, Baboon, Rabbit
Antibody Type	Monoclonal
Host Species	Rat
Immunogen	C57BL/10 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 3D IHC - 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. 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 [®] 647 has a maximum emission of 668 nm when it is excited at 633nm / 635nm. Alexa Fluor [®] and Pacific Blue™ are trademarks of Life Technologies Corporation. View full statement regarding label licenses
Excitation Laser	Red Laser (633 nm)
Application Notes	Clone M1/70 has been verified for immunocytochemistry (ICC) and frozen immunohistochemistry (IHC-F). Additional reported applications (for relevant formats of this clone) include: immunoprecipitation ^{1,4} , <i>in vitro</i> blocking ^{3,9,12} , depletion ^{2,8} , immunofluorescence microscopy ^{6,7,10} , immunohistochemistry of acetone-fixed frozen sections ^{5,11-13} , and spatial biology (IBEX) ^{35,36} . For <i>in vivo</i> studies or highly sensitive assays, we recommend Ultra-LEAF™ purified antibody (Endotoxin < 0.01 EU/µg, Azide-Free, 0.2 µm filtered) (Cat. No. 101248).

Application References

(PubMed link indicates
BioLegend citation)

1. Springer T, *et al.* 1978. *Eur. J. Immunol.* 8:539. (IP)
2. Ault K and Springer T. 1981. *J. Immunol.* 126:359. (Deplete)
3. Springer TA, *et al.* 1982. *Immunol. Rev.* 68:171. (Block)
4. Ho MK and Springer TA. 1983. *J. Biol. Chem.* 258:2766. (IP)
5. Flotte TJ, *et al.* 1983. *Am. J. Pathol.* 111:112. (IHC)
6. Noel GJ, *et al.* 1990. *J. Clin. Invest.* 85:208. (IF)
7. Allen LA and Aderem A. 1996. *J. Exp. Med.* 184:627 (IF)
8. D'Amico A and Wu L. 2003. *J. Exp. Med.* 198:293. (Deplete)
9. Brickson SJ, *et al.* 2003. *Appl Physiol.* 95:969. (Block)
10. Clatworthy MR and Smith KG. 2004. *J. Exp. Med.* 199:717. (IF)
11. Hata H, *et al.* 2004. *J. Clin. Invest.* 114:582. (IHC)
12. Zhang Y, *et al.* 2002. *J. Immunol.* 168:3088. (IHC)
13. Iwasaki A and Kelsall BL. 2001. *J. Immunol.* 166:4884 (IHC, FC)
14. Tailleux L. 2003. *J. Exp. Med.* 197:121. (Block, FC)
15. Olver S, *et al.* 2006. *Cancer Research* 66:571. (FC)
16. Tan SL, *et al.* 2006. *J. Immunol.* 176:2872. (FC) [PubMed](#)
17. Ponomarev ED, *et al.* 2006. *J. Immunol.* 176:1402. (FC)
18. Dzhagalov I, *et al.* 2007. *Blood* 109:1620. (FC)
19. Fazilleau N, *et al.* 2007. *Nature Immunol.* 8:753.
20. Rasmussen JW, *et al.* 2006. *Infect. Immun.* 74:6590. [PubMed](#)
21. Napimoga MH, *et al.* 2008. *J. Immunol.* 180:609. [PubMed](#)
22. Elqaraz-Carmon V, *et al.* 2008. *J. Lipid. Res.* 49:1894. [PubMed](#)
23. Kim DD, *et al.* 2008. *Blood* 112:1109. [PubMed](#)
24. Guo Y, *et al.* 2008. *Blood* 112:480. [PubMed](#)
25. Norian LA, *et al.* 2009. *Cancer Res.* 69:3086. (FC) [PubMed](#)
26. Baumgartner CK, *et al.* 2010. *J. Immunol.* 184:573. [PubMed](#)
27. Charles N, *et al.* 2010. *Nat. Med.* 16:701. (FC) [PubMed](#)
28. Whiteland J, *et al.* 1995. *J. Histochem. Cytochem.* 43:313. (IHC)
29. Weber GF, *et al.* 2014. *J Exp Med.* 211:1243. [PubMed](#)
30. Ashok A, *et al.* 2015. *Toxicol Sci.* 143:64. [PubMed](#)
31. Price PJ, *et al.* 2015. *J Immunol.* 194:1164. [PubMed](#)
32. Doni A, *et al.* 2015. *J Exp Med.* 212:905. [PubMed](#)
33. Ferreira R, *et al.* 2016. *J Infect Dis.* 213: 669 - 673. [PubMed](#)
34. Peterson VM, *et al.* 2017. *Nat. Biotechnol.* 35:936. (PG)
35. Radtke AJ, *et al.* 2020. *Proc Natl Acad Sci U S A.* 117:33455-65. (SB) [PubMed](#)
36. Radtke AJ, *et al.* 2022. *Nat Protoc.* 17:378-401. (SB) [PubMed](#)

Product Citations

1. Sweet R, *et al.* 2017. *J Immunol.* 10.4049/jimmunol.1600861. [PubMed](#)
2. Jackson A, *et al.* 2014. *J Leukoc Biol.* 92:609. [PubMed](#)
3. Abels ER *et al.* 2019. *Cell Rep.* 28(12):3105-3119. [PubMed](#)
4. Miller EB, *et al.* 2019. *Proc Natl Acad Sci U S A.* 116:16603. [PubMed](#)
5. Ortiz G, *et al.* 2020. *Front Immunol.* 11:1713. [PubMed](#)
6. Chen G, *et al.* 2017. *Biosens Bioelectron.* 10.1016/j.bios.2016.10.015. [PubMed](#)
7. Farsakoglu Y *et al.* 2019. *Cell reports.* 26(9):2307-2315. [PubMed](#)
8. Karlen SJ, *et al.* 2018. *J Neuroinflammation.* 15:344. [PubMed](#)
9. Pham THM, *et al.* 2020. *Cell Host & Microbe.* 27(1):54-67.e5. [PubMed](#)
10. Feng Y, *et al.* 2018. *Kidney Dis (Basel).* 4:95. [PubMed](#)
11. Davidson S, *et al.* 2020. *Cell Reports.* 31(7):107628. [PubMed](#)
12. Miller EB, *et al.* 2021. *J Neuroinflammation.* 18:235. [PubMed](#)
13. Salei N, *et al.* 2020. *J Am Soc Nephrol.* 31:257. [PubMed](#)
14. Socodato R, *et al.* 2020. *Sci Signal.* 13: . [PubMed](#)
15. Singh A, *et al.* 2020. *Mol Oncol.* 1.901388889. [PubMed](#)
16. Wongchana W, *et al.* 2015. *J Immunol.* 195: 5337 - 5346. [PubMed](#)
17. Pronin A, *et al.* 2019. *Front Mol Neurosci.* 12:36. [PubMed](#)
18. Pierce H, *et al.* 2017. *Cell Stem Cell.* 1.283333333. [PubMed](#)
19. Pinho S *et al.* 2018. *Developmental cell.* 44(5):634-641. [PubMed](#)
20. Baxter PS, *et al.* 2021. *Cell Rep.* 34:108882. [PubMed](#)
21. Philip E Boulais *et al.* 2018. *Immunity.* 49(4):627-639. [PubMed](#)
22. Balzano M *et al.* 2019. *Cell reports.* 26(12):3257-3271. [PubMed](#)
23. Wei Q, *et al.* 2020. *Dev Cell.* 53:503. [PubMed](#)
24. Nowak W, *et al.* 2020. *EBioMedicine.* 50:290-305. [PubMed](#)
25. Cunha LD *et al.* 2018. *Cell.* 175(2):429-441. [PubMed](#)
26. Szeifert V, *et al.* 2021. *Front Immunol.* 12:671995. [PubMed](#)
27. Richardson ET, *et al.* 2015. *PLoS One.* 10: 1371. [PubMed](#)
28. Laban H, *et al.* 2018. *J Cell Biol.* 217:1503. [PubMed](#)
29. Chen ST *et al.* 2019. *Cell host & microbe.* 25(4):602-616. [PubMed](#)
30. Richardson E, *et al.* 2015. *Infect Immun.* 83: 2242-2254. [PubMed](#)
31. Sanders K, *et al.* 2015. *Cancer Immunol Res.* 3: 891-901. [PubMed](#)
32. Canedo T, *et al.* 2021. *Neuropsychopharmacology.* 46:2358. [PubMed](#)
33. Chen W, *et al.* 2016. *Nat Commun.* 7: 11302. [PubMed](#)
34. Anderson DA, *et al.* 2022. *J Exp Med.* 219: . [PubMed](#)
35. Mesa-Nuñez C, *et al.* 2022. *Mol Ther Methods Clin Dev.* 26:459. [PubMed](#)
36. Bade RM, *et al.* 2021. *Molecular Oncology.* . [PubMed](#)
37. Halder LD, *et al.* 2020. *Nat Commun.* 2.077083333. [PubMed](#)
38. Catarinella M, *et al.* 2016. *EMBO Mol Med.* 8: 155 - 170. [PubMed](#)
39. Oh B, *et al.* 2017. *Plast Reconstr Surg Glob Open.* 5:e1595. [PubMed](#)
40. Silva HM, *et al.* 2019. *J Exp Med.* 216:786. [PubMed](#)
41. Cruz F, *et al.* 2016. *Stem Cells Trans Med.* 5: 488-499. [PubMed](#)

42. Alberts A, *et al.* 2020. *Front Immunol.* 11:596103. [PubMed](#)
 43. Kim SI, *et al.* 2020. *Molecular Cancer Therapeutics.* 20(1):173-182. [PubMed](#)
 44. Li Z *et al.* 2018. *Immunity.* 49(4):640-653. [PubMed](#)
 45. Rasmussen J, *et al.* 2006. *Infect Immun.* 74:6590. [PubMed](#)
 46. Maas SLN, *et al.* 2020. *J Neuroinflammation.* 17:120. [PubMed](#)
 47. Wu L, *et al.* 2021. *Cell Death Dis.* 12:1064. [PubMed](#)

RRID AB_493546 (BioLegend Cat. No. 101220)
 AB_389327 (BioLegend Cat. No. 101218)

Antigen Details

Structure	Integrin family, associates with integrin β_2 (CD18), 170 kD
Distribution	Granulocytes, monocytes/macrophages, dendritic cells, NK cells, subsets of T and B cells
Function	Adhesion, chemotaxis
Ligand/Receptor	ICAM-1 (CD54), ICAM-2 (CD102), ICAM-4 (CD242), iC3b, fibrinogen
Cell Type	B cells, Dendritic cells, Granulocytes, Macrophages, Monocytes, Neutrophils, 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 FactsBook</i> Academic Press. 2. Springer TA. 1994. <i>Cell</i> 76:301. 3. Coxon A, <i>et al.</i> 1996. <i>Immunity</i> 5:653.
Gene ID	16409 3684

Related Protocols

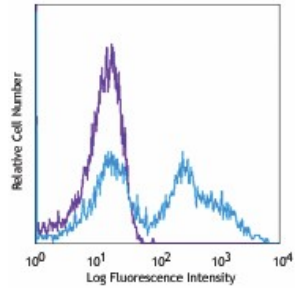
[Cell Surface Flow Cytometry Staining Protocol](#)

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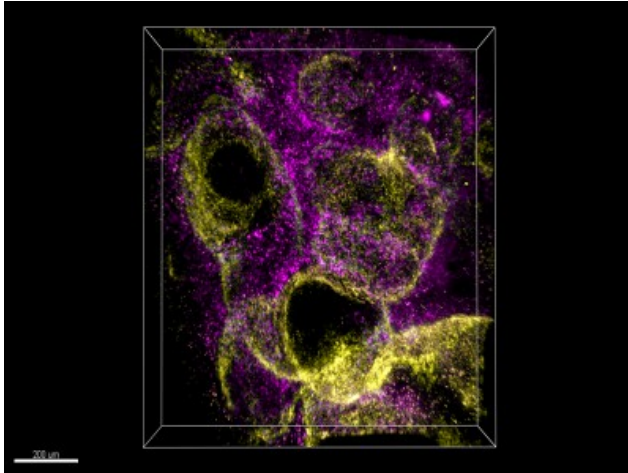
Other Formats

APC anti-mouse/human CD11b, Biotin anti-mouse/human CD11b, FITC anti-mouse/human CD11b, PE anti-mouse/human CD11b, PE/Cyanine5 anti-mouse/human CD11b, Purified anti-mouse/human CD11b, PE/Cyanine7 anti-mouse/human CD11b, Alexa Fluor® 488 anti-mouse/human CD11b, Alexa Fluor® 647 anti-mouse/human CD11b, Alexa Fluor® 700 anti-mouse/human CD11b, Pacific Blue™ anti-mouse/human CD11b, APC/Cyanine7 anti-mouse/human CD11b, PerCP/Cyanine5.5 anti-mouse/human CD11b, PerCP anti-mouse/human CD11b, Brilliant Violet 421™ anti-mouse/human CD11b, Brilliant Violet 570™ anti-mouse/human CD11b, Brilliant Violet 605™ anti-mouse/human CD11b, Brilliant Violet 650™ anti-mouse/human CD11b, Brilliant Violet 711™ anti-mouse/human CD11b, Brilliant Violet 785™ anti-mouse/human CD11b, Brilliant Violet 510™ anti-mouse/human CD11b, Ultra-LEAF™ Purified anti-mouse/human CD11b, Purified anti-mouse/human CD11b (Maxpar® Ready), Alexa Fluor® 594 anti-mouse/human CD11b, PE/Dazzle™ 594 anti-mouse/human CD11b, APC/Fire™ 750 anti-mouse/human CD11b, TotalSeq™-A0014 anti-mouse/human CD11b, Brilliant Violet 750™ anti-mouse/human CD11b, TotalSeq™-B0014 anti-mouse/human CD11b, TotalSeq™-C0014 anti-mouse/human CD11b, Spark NIR™ 685 anti-mouse/human CD11b, PE/Fire™ 640 anti-mouse/human CD11b, Spark YG™ 593 anti-mouse/human CD11b, Spark YG™ 570 anti-mouse/human CD11b, PE/Fire™ 810 anti-mouse/human CD11b, APC/Fire™ 810 anti-mouse/human CD11b Antibody, Spark Blue™ 550 anti-mouse/human CD11b, Spark UV™ 387 anti-mouse/human CD11b

Product Data



C57BL/6 mouse bone marrow cells were stained with CD11b (clone M1/70) Alexa Fluor® 647 or rat IgG2b, κ Alexa Fluor® 647 isotype control (gated on total cells).



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 CD169 (Siglec-1) Antibody (clone 3D6.112) Alexa Fluor® 594 at 5 μg/mL (yellow), and anti-mouse/human CD11b Antibody (clone M1/70) 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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