

Alexa Fluor® 647 anti-mouse CD106 Antibody

Catalog# / Size	105711 / 25 µg 105712 / 100 µg
Clone	429 (MVCAM.A)
Regulatory Status	RUO
Other Names	VCAM-1, INCAM-110
Isotype	Rat IgG2a, κ
Description	CD106 is a 110 kD glycosylphosphatidylinositol (GPI)-linked transmembrane protein, also known as VCAM-1 and INCAM-110. It is constitutively expressed on bone marrow stromal cells, myeloid progenitors, splenic dendritic cells, activated endothelial cells, as well as some lymphocytes. CD106 expression can be upregulated on endothelial cells by inflammatory cytokines. CD106 is involved in adhesion and acts as a counter-receptor for VLA-4 (α4β1 integrin) and LPAM-1 (α4β7 integrin). The 429 antibody has been reported to partially block VCAM-1-mediated binding.

Product Details

Verified Reactivity	Mouse
Antibody Type	Monoclonal
Host Species	Rat
Immunogen	Mouse preadipose cell line PA6
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 IHC-F, 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 immunohistochemical staining on frozen tissue sections, the suggested use is 2.5 - 10 µg/mL. 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 other applications. * 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	Additional reported applications (for the relevant formats) include: immunohistochemical staining ^{2,3,5-7} of acetone-fixed frozen sections, blocking ^{4,5,8} of ligand binding <i>in vitro</i> and <i>in vivo</i> , immunoprecipitation ¹ , and spacial biology (IBEX) ^{11,12} . The Ultra-LEAF™ purified antibody (Endotoxin < 0.01 EU/µg, Azide-Free, 0.2 µm filtered) is recommended for functional assays (Cat. No. 105727 & 105728).
Application References	1. Kinashi T, <i>et al.</i> 1995. <i>J. Leukoc. Biol.</i> 57:168. (IP) 2. Koni PA, <i>et al.</i> 2001. <i>J. Exp. Med.</i> 193:741. (IHC)
(PubMed link indicates	

BioLegend citation)

3. Ishiyama N, *et al.* 1998. *Pathobiology* 66:274. (IHC)
4. Kinashi T, *et al.* 1994. *Blood Cells* 20:25. (Block)
5. Baron JL, *et al.* 1994. *J. Clin. Invest.* 93:1700. (Block IHC)
6. Buck CA, *et al.* 1996. *Cell Adhes. Commun.* 4:69. (IHC)
7. Hata H, *et al.* 2004. *J. Clin. Invest.* 114:582. (IHC)
8. Meunier MC, *et al.* 2005. *Nature Medicine* 11:1222. (Block) [PubMed](#)
9. Monnier J, *et al.* 2012. *J. Immunol.* 189:956. [PubMed](#)
10. Motohashi N, *et al.* 2013. *J Cell Sci.* 126:2678. [PubMed](#)
11. Radtke AJ, *et al.* 2020. *Proc Natl Acad Sci U S A.* 117:33455-65. (SB) [PubMed](#)
12. Radtke AJ, *et al.* 2022. *Nat Protoc.* 17:378-401. (SB) [PubMed](#)

Product Citations

1. Philpott J, *et al.* 2022. *Immunohorizons.* 6:366. [PubMed](#)
2. Krausgruber T, *et al.* 2020. *Nature.* 583:296. [PubMed](#)
3. Adamiak M, *et al.* 2015. *Leukemia.* . [PubMed](#)
4. Sung SJ, *et al.* 2020. *Bio Protoc.* 10:e3663. [PubMed](#)
5. Wang C, *et al.* 2021. *Cell Rep.* 37:110021. [PubMed](#)
6. Rodriguez AB, *et al.* 2021. *Cell Reports.* 36(3):109422. [PubMed](#)
7. Nakagawa R, *et al.* 2013. *J Immunol.* 190:3309. [PubMed](#)
8. Onder L *et al.* 2017. *Immunity.* 47(1):80-92 . [PubMed](#)
9. Bonnardel J, *et al.* 2019. *Immunity.* 51:638. [PubMed](#)
10. Pietronigro E, *et al.* 2019. *Sci Rep.* 9:12055. [PubMed](#)
11. Bolkhovitina EL, *et al.* 2022. *Int J Mol Sci.* 23:. [PubMed](#)
12. Nanou A, *et al.* 2021. *Cell Reports.* 35(8):109168. [PubMed](#)
13. Armaka M, *et al.* 2018. *Nat Commun.* 9:618. [PubMed](#)
14. Sun D, *et al.* 2020. *PLoS Pathog.* 16:e1008361. [PubMed](#)

RRID

AB_493430 (BioLegend Cat. No. 105711)
AB_493429 (BioLegend Cat. No. 105712)

Antigen Details

Structure	Ig superfamily, 47 kD
Distribution	Bone marrow stromal cells, myeloid progenitors, splenic dendritic cells, activated endothelial cells
Function	Adhesion
Ligand/Receptor	VLA-4 ($\alpha_4\beta_1$ integrin) and LPAM-1 ($\alpha_4\beta_7$ integrin)
Cell Type	Dendritic cells, Endothelial cells, Mesenchymal Stem Cells
Biology Area	Cell Adhesion, Cell Biology, Immunology, Neuroinflammation, Neuroscience, Stem Cells
Molecular Family	Adhesion Molecules, CD Molecules
Antigen References	<ol style="list-style-type: none">1. Barclay AN, <i>et al.</i> 1997. <i>The Leukocyte Antigen FactsBook</i> Academic Press.2. Kinashi T, <i>et al.</i> 1995. <i>J. Leukoc. Biol.</i> 57:168.3. Bevilacqua MP. 1993. <i>Annu. Rev. Immunol.</i> 11:767.4. Koni PA, <i>et al.</i> 2001. <i>J. Exp. Med.</i> 193:741.
Gene ID	22329

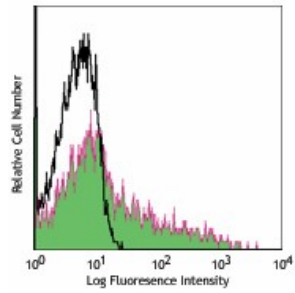
Related Protocols

[Cell Surface Flow Cytometry Staining Protocol](#)

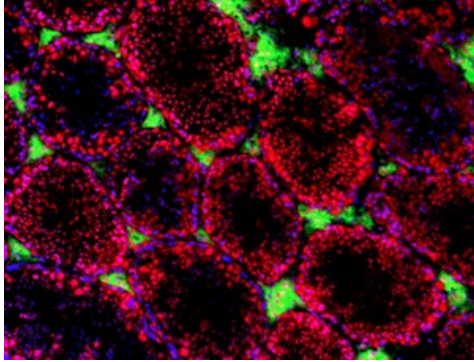
[Ce3D™ Tissue Clearing Kit](#)

Other Formats

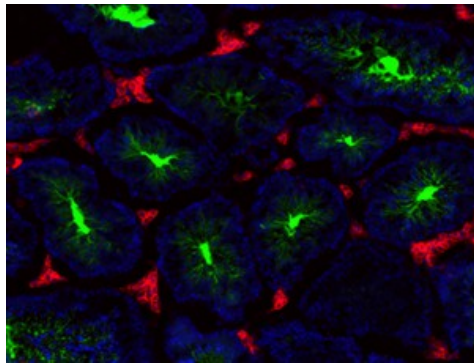
Biotin anti-mouse CD106, FITC anti-mouse CD106, LEAF™ Purified anti-mouse CD106, Purified anti-mouse CD106, Alexa Fluor® 488 anti-mouse CD106, Alexa Fluor® 647 anti-mouse CD106, PE anti-mouse CD106, PerCP/Cyanine5.5 anti-mouse CD106, APC anti-mouse CD106, PE/Cyanine7 anti-mouse CD106, Pacific Blue™ anti-mouse CD106, Alexa Fluor® 594 anti-mouse CD106, TotalSeq™-A0226 anti-mouse CD106, Ultra-LEAF™ Purified anti-mouse CD106, TotalSeq™-C0226 anti-mouse CD106, TotalSeq™-B0226 anti-mouse CD106



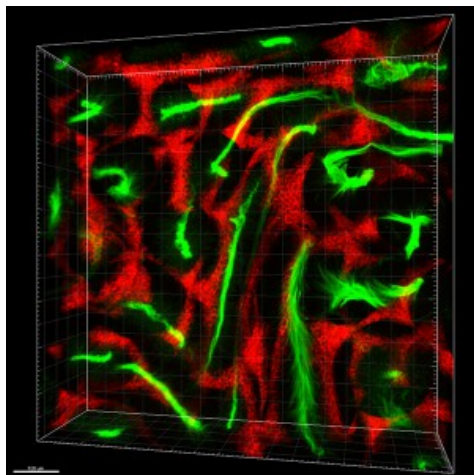
C57BL/6 bone marrow myeloid cells stained with 429 Alexa Fluor® 647



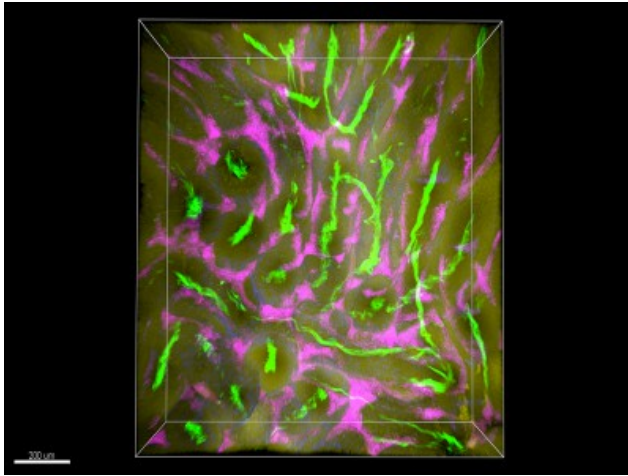
C57BL/6 mouse frozen testis section was fixed with 4% paraformaldehyde (PFA) for 10 minutes at room temperature and blocked with 5% FBS for 30 minutes at room temperature. Then the section was stained with 10 µg/mL of CD106 (clone 429 (MVCAM.A)) Alexa Fluor® 647 (green) and 10 µg/mL of CD117 (clone 2B8) Alexa Fluor® 594 (red) overnight at 4°C. Nuclei were counterstained with DAPI (blue). The image was captured by 10X objective.



Dissected C57/B6 mouse testis was immersed in 4% paraformaldehyde (PFA) overnight followed by 30% sucrose immersion overnight and frozen in OCT. Frozen section was blocked with 5% FBS and 5% mouse serum for 30 minutes at room temperature. Then the tissue section was stained with 5 µg/mL of anti-mouse CD147 (clone OX-114) Alexa Fluor® 594 (green) and CD106 (clone 429 (MVCAM.A)) Alexa Fluor® 647 (red) overnight at 4°C. Nuclei were counterstained with DAPI (blue). The image was captured by 10X objective.



Formalin-fixed, 300 micron-thick mouse testis section was blocked, permeabilized and stained overnight with CD106 (clone 429, MCVAM.A) Alexa Fluor® 647 (red), and CD147 (clone OX-114) Alexa Fluor® 488 (green) both at 5 µg/mL, optically cleared, and analyzed at 225 µm imaging depth on a confocal microscope. [Watch the video.](#)



Paraformaldehyde-fixed (4%), 500 μm-thick mouse testis section was processed according to the Ce3D™ Tissue Clearing Kit protocol (Cat. No. 427701). The section was costained with anti-mouse CD147 Antibody (clone OX-114) Alexa Fluor® 488 at 5 μg/mL (green), anti-mouse CD117 (c-Kit) Antibody (clone 2B8) Alexa Fluor® 594 at 5 μg/mL (yellow), and anti-mouse CD106 Antibody (clone 429 (MVCAM.A)) Alexa Fluor® 647 at 5 μg/mL (magenta) and counterstained with DAPI (blue). 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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