

## PE anti-human CD49d Antibody

<b>Catalog# / Size</b>	304303 / 25 tests 304304 / 100 tests
<b>Clone</b>	9F10
<b>Workshop</b>	V S215
<b>Other Names</b>	VLA-4 $\alpha$ chain, $\alpha$ 4 integrin, Integrin $\alpha$ 4 chain, ITGA4
<b>Isotype</b>	Mouse IgG1, $\kappa$
<b>Description</b>	CD49d is a 150 kD $\alpha$ integrin chain known as $\alpha$ <sub>4</sub> integrin or VLA-4 $\alpha$ chain. It forms a heterodimer with either integrin $\beta$ 1 ( $\alpha$ <sub>4</sub> $\beta$ <sub>1</sub> , VLA-4) or $\beta$ 7 ( $\alpha$ <sub>4</sub> $\beta$ <sub>7</sub> ). CD49d is expressed broadly on T lymphocytes, B lymphocytes, monocytes, thymocytes, eosinophils, basophils, mast cells, NK cells, dendritic cells, and some non-hematopoietic cells, but not on normal red blood cells, platelets or neutrophils. VLA-4 binds to VCAM-1 (CD106) and fibronectin. $\alpha$ <sub>4</sub> $\beta$ <sub>7</sub> is the receptor for VCAM-1 and MAdCAM-1. CD49d participates in mononuclear cell trafficking to endothelial sites of inflammation and has roles in cell-cell interactions and cell adhesion to extracellular matrices. CD49d is involved in lymphocyte migration, T cell activation, and hematopoietic stem cell differentiation. CD49d is a marker to isolate pure populations of Treg cells due to its absence on Foxp3 <sup>+</sup> cells.

### Product Details

<b>Reactivity</b>	Human, African Green, Baboon, Cat (Feline), Cattle (Bovine, Cow), Chimpanzee, Common Marmoset, Cynomolgus, Dog (Canine), Horse (Equine), Rhesus, Sheep (Ovine), Squirrel Monkey
<b>Antibody Type</b>	Monoclonal
<b>Host Species</b>	Mouse
<b>Formulation</b>	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and 0.2% (w/v) BSA (origin USA).
<b>Preparation</b>	The antibody was purified by affinity chromatography, and conjugated with PE under optimal conditions.
<b>Concentration</b>	Lot-specific (please contact <a href="#">technical support</a> for concentration and total $\mu$ g amount, or use our <a href="#">Lookup tool</a> if you have a lot number.)
<b>Storage &amp; Handling</b>	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. <b>Do not freeze.</b>
<b>Application</b>	FC - Quality tested
<b>Recommended Usage</b>	Each lot of this antibody is quality control tested by <a href="#">immunofluorescent staining with flow cytometric analysis</a> . For flow cytometric staining, the suggested use of this reagent is 5 $\mu$ l per million cells in 100 $\mu$ l staining volume or 5 $\mu$ l per 100 $\mu$ l of whole blood.
<b>Excitation Laser</b>	Blue Laser (488 nm) Green Laser (532 nm)/Yellow-Green Laser (561 nm)
<b>Application Notes</b>	Additional reported applications (for the relevant formats) include: immunohistochemical staining of acetone-fixed frozen tissue sections, and <i>in vitro</i> T cell costimulation <sup>2,3</sup> . The LEAF™ Purified antibody (Endotoxin <0.1 EU/ $\mu$ g, Azide-Free, 0.2 $\mu$ m filtered) is recommended for functional assays (Cat. No. 304310).
<b>Application References</b>	<ol style="list-style-type: none"> <li>Schlossman S, et al. Eds. 1995. Leucocyte Typing V. Oxford University Press. New York.</li> <li>Jeong SH, et al. 2004. J. Virol. 78:6995. (Costim)</li> <li>Vogel TU, et al. 2002. J. Immunol. 169:4511. (Costim)</li> <li>Kleinewietfeld M, et al. 2009. Blood 113:827. (FC) PubMed</li> <li>Palacios F, et al. 2010. Blood 115:4488. PubMed</li> <li>Yoshino N, et al. 2000. Exp. Anim. (Tokyo) 49:97. (FC)</li> <li>Sestak K, et al. 2007. Vet. Immunol. Immunopathol. 119:21.</li> <li>Mattapallil MJ, et al. 2011. J. Immunol. 187:1977. PubMed</li> </ol>
<b>(PubMed link indicates BioLegend citation)</b>	
<b>Product Citations</b>	<ol style="list-style-type: none"> <li>Ito K, et al. 2008. Matrix Biol. 28:11. PubMed</li> <li>Zhang Z, Shively J 2013. PLoS One. 8:67649. PubMed</li> <li>Velázquez-Avila M, et al. 2019. Leukemia. 33:1337. PubMed</li> </ol>

RRID

AB\_314429 (BioLegend Cat. No. 304303)  
AB\_314430 (BioLegend Cat. No. 304304)

## Antigen Details

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<b>Structure</b>	Integrin, type I transmembrane glycoprotein, 150 kD.
<b>Distribution</b>	T cells, B cells, NK , dendritic cells, thymocytes, monocytes, eosinophils, mast cells.
<b>Function</b>	Lymphocyte migration, T cell activation, stem cell differentiation.
<b>Ligand/Receptor</b>	Fibronectin, VCAM-1, MAdCAM-1
<b>Cell Type</b>	B cells, Dendritic cells, Eosinophils, Mast cells, Monocytes, NK cells, T cells, Thymocytes, Tregs
<b>Biology Area</b>	Cell Adhesion, Cell Biology, Immunology, Innate Immunity
<b>Molecular Family</b>	Adhesion Molecules, CD Molecules
<b>Antigen References</b>	1. Elices M, Ed.1995. Springer Semin. Immunopathol. 16(4). 2. Lobb RR and Helmer ME. et al. 1994. J. Clin. Invest. 94:1722.
<b>Gene ID</b>	3676

## Related Protocols

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[Cell Surface Flow Cytometry Staining Protocol](#)

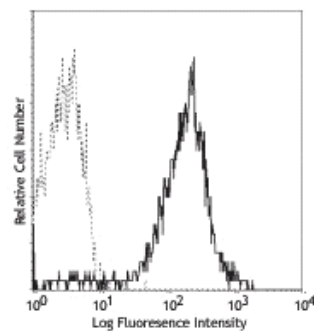
## Other Formats

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APC anti-human CD49d, PE/Cyanine5 anti-human CD49d, Purified anti-human CD49d, Alexa Fluor® 594 anti-human CD49d, PerCP/Cyanine5.5 anti-human CD49d, PE/Cyanine7 anti-human CD49d, FITC anti-human CD49d, Brilliant Violet 510™ anti-human CD49d, Brilliant Violet 421™ anti-human CD49d, Purified anti-human CD49d (Maxpar® Ready), Brilliant Violet 605™ anti-human CD49d, PE/Dazzle™ 594 anti-human CD49d, APC/Cyanine7 anti-human CD49d, Brilliant Violet 711™ anti-human CD49d, Alexa Fluor® 647 anti-human CD49d, Biotin anti-human CD49d, TotalSeq™-A0576 anti-human CD49d, Brilliant Violet 785™ anti-human CD49d, APC/Fire™ 750 anti-human CD49d, Ultra-LEAF™ Purified anti-human CD49d, TotalSeq™-C0576 anti-human CD49d

## Product Data

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Human peripheral blood lymphocytes  
stained with 9F10 PE

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Toll-Free Phone: 1-877-Bio-Legend (246-5343) Phone: (858) 768-5800 Fax: (877) 455-9587