

# Product Data Sheet

## PE/Cy7 anti-human CD49d

**Catalog # / Size:** 304313 / 25 tests  
304314 / 100 tests

**Clone:** 9F10

**Isotype:** Mouse IgG1,  $\kappa$

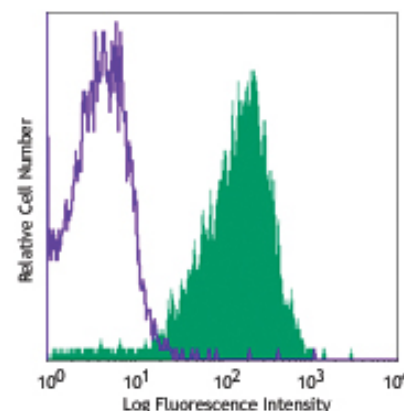
**Workshop Number:** V S215

**Reactivity:** Human, **Cross-Reactivity:** Baboon, Chimpanzee, Common Marmoset, Cynomolgus, Rhesus, Squirrel Monkey, Horse (Equine), Cattle (Bovine, Cow), Sheep (Ovine), Dog (Canine), Cat (Feline)

**Preparation:** The antibody was purified by affinity chromatography and conjugated with PE/Cy7 under optimal conditions. The solution is free of unconjugated PE/Cy7 and unconjugated antibody.

**Formulation:** Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and 0.2% (w/v) BSA (origin USA).

**Storage:** The antibody solution should be stored undiluted at 4°C and protected from prolonged exposure to light. **Do not freeze.**



Human peripheral blood lymphocytes stained with 9F10 PE/Cy7

## Applications:

**Applications:** FC - Quality tested

**Recommended Usage:** Each lot of this antibody is quality control tested by immunofluorescent staining with flow cytometric analysis. **Test size products are transitioning from 20  $\mu$ l to 5  $\mu$ l per test.** Please check your vial or your CoA to find the suggested use of this reagent per million cells in 100  $\mu$ l staining volume or per 100  $\mu$ l of whole blood. It is recommended that the reagent be titrated for optimal performance for each application. Read more at [www.biolegend.com/testsize](http://www.biolegend.com/testsize) regarding the test size change.

**Application Notes:** Additional reported applications (for the relevant formats) include: immunohistochemical staining of acetone-fixed frozen tissue sections, and *in vitro* 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).

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**Application References:** 1. Schlossman S, *et al.* Eds. 1995. Leucocyte Typing V. Oxford University Press. New York.

2. Jeong S-H, *et al.* 2004. *J. Virol.* 78:6995. (Costim)
3. Vogel TU, *et al.* 2002. *J. Immunol.* 169:4511. (Costim)
4. Kleinewietfeld M, *et al.* 2009. *Blood* 113:827. (FC) PubMed
5. Palacios F, *et al.* 2010. *Blood* 115:4488. PubMed
6. Yoshino N, *et al.* 2000. *Exp. Anim. (Tokyo)* 49:97. (FC)
7. Sestak K, *et al.* 2007. *Vet. Immunol. Immunopathol.* 119:21.
8. Mattapallil MJ, *et al.* 2011 *J. Immunol.* 187:197. PubMed
9. Schaffner F, *et al.* 2013. *PLoS One.* 9:61071. PubMed

**Description:** CD49d is a 150 kD  $\alpha$  integrin chain known as  $\alpha_4$  integrin or VLA-4  $\alpha$  chain. It forms a heterodimer with either integrin  $\beta_1$  ( $\alpha_4\beta_1$ , VLA-4) or  $\beta_7$  ( $\alpha_4\beta_7$ ). 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.  $\alpha_4\beta_7$  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+ cells.

**Antigen References:** 1. Elices M, Ed. 1995. *Springer Semin. Immunopathol.* 16(4).  
2. Lobb R, *et al.* 1994. *J. Clin. Invest.* 94:1722.

### Related Products:

**Product**  
PE/Cy7 Mouse IgG1,  $\kappa$  Isotype Ctrl  
Cell Staining Buffer  
RBC Lysis Buffer (10X)  
Human TruStain FcX™ (Fc Receptor Blocking Solution)

**Clone**  
MOPC-21

**Application**  
FC, ICFC  
FC, ICC, ICFC  
FC, ICFC  
FC, ICC, ICFC



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