

**Purified anti-human CD49d**

**Catalog # / Size:** 2121505 / 25 µg  
2121510 / 100 µg

**Clone:** 9F10

**Isotype:** Mouse IgG1, κ

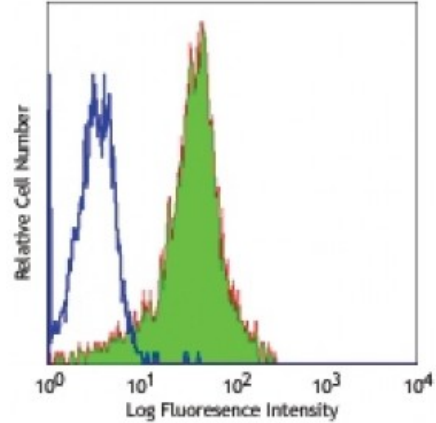
**Reactivity:** Human

**Preparation:** The antibody was purified by affinity chromatography.

**Formulation:** Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide.

**Workshop Number:** V S215

**Concentration:** 0.5



Human peripheral blood lymphocytes stained with purified 9F10, followed by anti-mouse IgGs FITC

**Applications:**

**Applications:** Flow Cytometry, Immunohistochemistry

**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 ≤0.5 microg per million cells in 100 microL volume. It is recommended that the reagent be titrated for optimal performance for each application.

**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/µg, Azide-Free, 0.2 µm filtered) is recommended for functional assays (Cat. No. 304310).

- Application References:**
- Schlossman S, *et al.* Eds. 1995. Leucocyte Typing V. Oxford University Press. New York.
  - Jeong SH, *et al.* 2004. *J. Virol.* 78:6995. (Costim)
  - Vogel TU, *et al.* 2002. *J. Immunol.* 169:4511. (Costim)
  - Kleinewietfeld M, *et al.* 2009. *Blood* 113:827. (FC) [PubMed](#)
  - Palacios F, *et al.* 2010. *Blood* 115:4488. [PubMed](#)
  - Yoshino N, *et al.* 2000. *Exp. Anim. (Tokyo)* 49:97. (FC)
  - Sestak K, *et al.* 2007. *Vet. Immunol. Immunopathol.* 119:21.
  - Mattapallil MJ, *et al.* 2011. *J. Immunol.* 187:1977. [PubMed](#)

**Description:** CD49d is a 150 kD α integrin chain known as α<sub>4</sub> integrin or VLA-4 α chain. It forms a heterodimer with either integrin β1 (α<sub>4</sub>β<sub>1</sub>, VLA-4) or β7 (α<sub>4</sub>β<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. α<sub>4</sub>β<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.

**Antigen**  
**References:**

1. Elices M, Ed.1995. *Springer Semin. Immunopathol.* 16(4).
2. Lobb RR and Helmer ME. *et al.* 1994. *J. Clin. Invest.* 94:1722.