

**Biotin anti-mouse CD49d**

**Catalog # / Size:** 1118015 / 50 µg  
1118020 / 500 µg

**Clone:** R1-2

**Isotype:** Rat IgG2b, κ

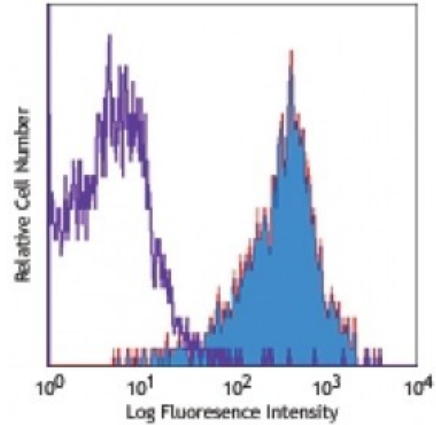
**Immunogen:** AKR/Cum mouse spontaneous T lymphoma line TK1

**Reactivity:** Mouse

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

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

**Concentration:** 0.5



C57BL/6 mouse splenocytes stained with biotinylated R1-2, followed by Sav-PE

**Applications:**

**Applications:** Flow Cytometry

**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 microg per 10<sup>6</sup> cells in 100 microL volume. It is recommended that the reagent be titrated for optimal performance for each application.

**Application Notes:** The R1-2 antibody has been shown to partially block CD49d mediated interactions and, in combination with the 9C10 (MFR4.B) antibody, completely blocks VCAM-1 binding to VLA-4. Additional reported applications (for the relevant formats) include: *in vitro* and *in vivo* blocking of cell-cell adhesion and T cell costimulation<sup>1-4</sup>, immunoprecipitation<sup>1</sup>, and immunohistochemistry of frozen sections<sup>5</sup>. The LEAF™ purified antibody (Endotoxin <0.1 EU/µg, Azide-Free, 0.2 µm filtered) is recommended for functional assays (Cat. No. 103610).

**Application References:**

- Holzmann B, *et al.* 1989. *Cell* 56:37. (IP, Block)
- Ferguson TA, *et al.* 1993. *J. Immunol.* 150:1172. (Block)
- Andrew DP, *et al.* 1994. *J. Immunol.* 153:3847. (Block)
- Kilshaw PJ, *et al.* 1991. *Eur. J. Immunol.* 21:2591. (Block)
- Jaspers M, *et al.* 1995. *Differentiation* 59:79. (IHC)
- Lawson BR, *et al.* 2007. *J. Immunol.* 178:5366. (FC)

**Description:** CD49d is a 150 kD glycoprotein, also known as α<sub>4</sub> integrin or VLA-4 α chain. It is a member of the integrin family, expressed on T and B cells, monocytes, eosinophils, basophils, mast cells, thymocytes, NK cells, and dendritic cells. CD49d is a heterodimer expressed with either of two β chains, β<sub>1</sub> (CD29) or β<sub>7</sub>, to form the VLA-4 (integrin α<sub>4</sub>β<sub>1</sub>) or LPAM-1 (integrin α<sub>4</sub>β<sub>7</sub>) complexes. CD49d plays a critical role in adhesion and T cell costimulation. The primary ligands for CD49d are VCAM-1, MAdCAM-1, and fibronectin.

**Antigen References:**

- Barclay AN, *et al.* 1997. *The Leukocyte Antigen FactsBook* Academic Press.
- Lobb RR, *et al.* 1994 *J. Clin. Invest.* 94:1722.
- Berlin C, *et al.* 1993. *Cell* 74:185.

