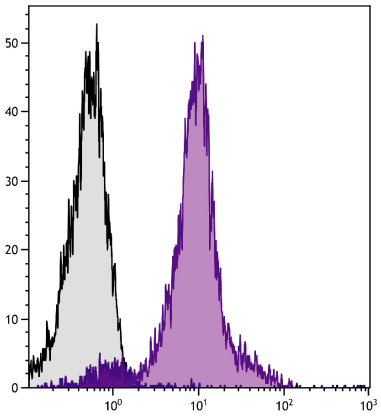
# SouthernBiotech

## Rat Anti-Mouse CD49d

| Cat. No. | Format | Size |
|---|---|---|
| 1520-01 | Purified (UNLB) | 0.5 mg |
| 1520-02 | Fluorescein (FITC) | 0.5 mg |
| 1520-08 | Biotin (BIOT) | 0.5 mg |
| 1520-09 | R-phycoerythrin (PE) | 0.1 mg |
| 1520-09L | R-phycoerythrin (PE) | 0.2 mg |
| 1520-14 | Low Endotoxin, Azide-Free (LE/AF) | 0.5 mg |




BALB/c mouse splenocytes were stained with Rat Anti-Mouse CD49d-PE (SB Cat. No. 1520-09).

### Overview

**Clone** PS/2
**Isotype** Rat (Fisher) $IgG_{2b}\kappa$
**Immunogen** P815 cells
**Specificity** Mouse/Human CD49d; Mr 150 kDa
**Alternate Name(s)** Integrin $\alpha_4$, VLA-4$\alpha$, ITGA4, IA4

### Description

VLA-4 belongs to the $\beta_1$-integrin family, which functions both as cell-matrix and cell-cell receptors. As a matrix receptor VLA-4 binds to an alternatively spliced domain of fibronectin, while as a cellular receptor it associates with its counter-receptor ligand VCAM-1. In addition to CD44/Pgp-1, VLA-4 has been shown to be important for lymphopoiesis, and is also believed to be important for extravasation of lymphocytes into sites of inflammation as a second signal in addition to LFA/ICAM-1. CD49d is expressed in low amounts on resting lymphocytes and monocytes, is absent or minimally detectable on stromal cells, whereas virtually all lymphoid and myeloid cells in bone marrow and in long-term culture are positive. Antibody PS/2 also reacts with human VLA-4.

### Applications

FC – Quality tested [1,4,7,8]
IHC-FS – Reported in literature [2,4]
IP – Reported in literature [1]
Adhesion – Reported in literature [1,3-6]
Block – Reported in literature [1,4-6]

### Working Dilutions

| | | |
|---|---|---|
| **Flow Cytometry** | FITC and BIOT conjugates | $\leq 2$ µg/$10^6$ cells |
| | PE conjugates | $\leq 0.2$ µg/$10^6$ cells |
| | For flow cytometry, the suggested use of these reagents is in a final volume of 100 µL | |
| **Other Applications** | Since applications vary, you should determine the optimum working dilution for the product that is appropriate for your specific need. | |

***For Research Use Only. Not for Diagnostic or Therapeutic Use.***

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## Handling and Storage

- The purified (UNLB) antibody is supplied as 0.5 mg of purified immunoglobulin in 1.0 mL of borate buffered saline, pH 8.2. *No preservatives or amine-containing buffer salts added*. Store at 2-8°C.
- The fluorescein (FITC) conjugate is supplied as 0.5 mg in 1.0 mL of PBS/$NaN_3$. Store at 2-8°C.
- The biotin (BIOT) conjugate is supplied as 0.5 mg in 1.0 mL of PBS/$NaN_3$. Store at 2-8°C.
- The R-phycoerythrin (PE) conjugate is supplied as 0.1 mg in 1.0 mL or 0.2 mg in 2.0 mL of PBS/$NaN_3$ and a stabilizing agent. Store at 2-8°C. **Do not freeze!**
- The low endotoxin, azide-free (LE/AF) antibody is supplied as 0.5 mg purified immunoglobulin in 1.0 mL of PBS. Contains no preservative; handle under aseptic conditions. Store at 2-8°C or aliquot into smaller volumes and store at -20°C. Avoid multiple freeze / thaw cycles.
- Protect fluorochrome-conjugated forms from light. Reagents are stable for the period shown on the label if stored as directed.

## Warning

Some reagents contain sodium azide. Please refer to product specific SDS.

## References


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2. Kaplan RN, Riba RD, Zacharoulis S, Bramley AH, Vincent L, Costa C, et al. VEGFR1-positive haematopoietic bone marrow progenitors initiate the pre-metastatic niche. Nature. 2005;438:820-7. (IHC-FS)
3. Patrick AL, Rullo J, Beaudin S, Liaw P, Fox-Robichaud AE. Hepatic leukocyte recruitment in response to time-limited expression of TNF-α and IL-1β. Am J Physiol Gastrointest Liver Physiol. 2007;293:G663-72. (Adhesion)
4. Miyake K, Medina K, Ishihara K, Kimoto M, Auerbach R, Kincade PW. A VCAM-like adhesion molecule on murine bone marrow stromal cells mediates binding of lymphocyte precursors in culture. J Cell Biol. 1991;114:557-65. (IHC-FS, FC, Adhesion, Block)
5. Sasaki K, Pardee AD, Okada H, Storkus WJ. IL-4 inhibits VLA-4 expression on Tc1 cells resulting in poor tumor infiltration and reduced therapy benefit. Eur J Immunol. 2008;38:2865-73. (Adhesion, Block)
6. Sasaki K, Zhu X, Vasquez C, Nishimura F, Dusak JE, Huang J, et al. Preferential expression of very late antigen-4 on type 1 CTL cells plays a critical role in trafficking into central nervous system tumors. Cancer Res. 2007;67:6451-58. (Adhesion, Block)
7. Qu Y, Taylor JL, Bose A, Storkus WJ. Therapeutic effectiveness of intratumorally-delivered dendritic cells engineered to express the pro-inflammatory cytokine, interleukin IL-32. Cancer Gene Ther. 2011;18:663-73. (FC)
8. Banerjee ER, Henderson WR. Defining the molecular role of gp91phox in the immune manifestation of acute allergic asthma using a preclinical murine model. Clin Mol Allergy. 2012;10:2. (FC)





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