



## CELL LAB Rat Anti-Mouse CD49d/VLA-4

<u>Cat. No.</u>	<u>Form</u>	<u>Quantity</u>
731968	Purified (UNLB) Antibody	0.5 mg
731969	Fluorescein (FITC) Conjugate	0.5 mg
731970	Biotin (BIOT) Conjugate	0.5 mg
731971	Phycoerythrin (PE) Conjugate	0.1 mg

### For Laboratory Use Only

#### DESCRIPTION

**Clone:** PS/2

**Isotype:** Rat IgG2b $\kappa$

**Specificity:** CD49d, the  $\alpha$ 4 chain (100 kDa) of the VLA-4 integrin heterodimer (Mr 150-kDa)

VLA-4 belongs to the  $\beta$ <sub>1</sub>-integrin family, which functions both as cell-matrix and cell-cell receptors.<sup>1-3</sup> 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.<sup>1,2</sup> 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.<sup>2,3</sup> CD49d/VLA-4 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.<sup>1,2</sup> Antibody PS/2 also reacts with human VLA-4.<sup>1</sup>

#### APPLICATIONS

- Identification and enumeration of CD49d<sup>+</sup> cells by flow cytometry<sup>1,2</sup>
- Studies of cell-cell interaction<sup>1,2</sup> and tumor cell metastasis and adhesion<sup>4</sup>
- Immunohistochemical studies<sup>3</sup>
- Inhibition of lymphopoiesis in Whitlock-Witte long-term bone marrow cultures<sup>1</sup>
- Retardation of myelopoiesis in Dexter-type cultures<sup>1</sup>
- Immunoprecipitation<sup>1</sup>

#### CHARACTERIZATION

To ensure lot-to-lot consistency, each batch of product is tested to conform with characteristics of a standard reference reagent using immunofluorescence staining and flow cytometry.

#### WORKING DILUTIONS

<b>Flow Cytometry:</b>	Fluorescein conjugate	$\leq 2 \mu\text{g}/10^6$ cells
	Biotin conjugate	$\leq 2 \mu\text{g}/10^6$ cells
	Phycoerythrin conjugate	$\leq 0.2 \mu\text{g}/10^6$ cells

**Other Applications:** Since applications vary, determine the optimum working dilution of the product that is appropriate for your specific needs.

## HANDLING AND STORAGE

- The purified (UNLB) antibody is supplied as 0.5 mg of purified immunoglobulin in 1.0 mL of 100 mM borate buffered saline, pH 8.0. No preservatives or amine-containing buffer salts added.
- The fluorescein (FITC) conjugate is supplied as 0.5 mg in 1.0 mL of PBS/NaN<sub>3</sub>.
- The biotin (BIOT) conjugate is supplied as 0.5 mg in 1.0 mL of PBS/NaN<sub>3</sub>.
- The Phycoerythrin (PE) conjugate is supplied as 0.1 mg in 1.0 mL of PBS/NaN<sub>3</sub> and a stabilizing agent.
- Protect fluorochrome-conjugated forms from light. Do not freeze.
- Reagent is stable until the expiration date on the vial when stored at 2-8°C.

## STATEMENT OF WARNINGS

1. Specimens, samples and all material coming in contact with them should be handled as if capable of transmitting infection and disposed of with proper precautions.
2. Never pipet by mouth and avoid contact of samples with skin and mucous membranes.
3. Do not use reagent beyond the expiration date on the vial label.
4. Minimize exposure of reagent to light during storage or incubation.
5. Avoid microbial contamination of reagent or erroneous results may occur.
6. Use Good Laboratory Practice (GLP) when handling this reagent.
7. Harmful if swallowed.
8. After contact with skin, wash immediately with plenty of water.
9. Contains sodium azide. Sodium azide under acidic conditions yields hydrazoic acid, an extremely toxic compound. Azide compounds should be flushed with running water while being discarded. These precautions are recommended to avoid deposits in metal piping in which explosive conditions can develop. If skin or eye contact occurs, immediately wash excessively with water.

## TRADEMARKS

The Beckman Coulter logo is a trademark of Beckman Coulter, Inc.

For additional information or if damaged product is received, contact your local Beckman Coulter Representative.

## REFERENCES

1. Miyake K, Weissman IL, Greenberger JS, and Kincade PW. 1991. Evidence for a role of the integrin VLA-4 in lympho-hemopoiesis. *J Exp Med*, 173:599-607.
2. Christensen JP, Andersson EC, Scheynius A, Marker O, and Thomsen AR. 1995. Alpha 4 integrin directs virus-activated CD8+ T cells to sites of infection. *J Immunol*, 154:5293-5301.
3. Henseleit U, Steinbrink K, Sunderkotter C, Goebeler M, Roth J, and Sorg C. 1994. Expression of murine VCAM-1 in vitro and in different models of inflammation in vivo: correlation with immigration of monocytes. *Exp Dermatol*, 3:249-256.
4. Lauri D, De Giovanni C, Biondelli T, Lalli E, Landuzzi L, Facchini A, Nicoletti G, Nanni P, Dejana E, and Lollini PL. 1993. Decreased adhesion to endothelial cells and matrix proteins of H-2Kb gene transfected tumour cells. *Br J Cancer*, 68:862-867.



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