

Monoclonal Antibody to CD49d / ITGA4 - FITC

Alternate names:	CD49 antigen-like family member D, Integrin alpha-4, Integrin alpha-IV, VLA-4, VLA4
Catalog No.:	SM037F
Quantity:	0.1 mg
Concentration:	0.1 mg/ml
Background:	<p>Integrin $\alpha 4$ (also called CD49d) is a ~150 kDa protein that possesses a large extracellular domain involved in ligand binding, a single transmembrane domain, and an intracellular regulatory domain possessing multiple sites for phosphorylation. Integrin $\alpha 4$ forms heterodimers with integrins $\beta 1$ and $\beta 7$. Integrin $\alpha 4$ is expressed on leukocytes and leukocyte precursors, neural crest cells, and developing skeletal muscles and is essential for embryogenesis, hematopoiesis, and immune responses. The presence of integrin $\alpha 4$ promotes cell migration and inhibits cell spreading and contractility. Integrin $\alpha 4$ function has been implicated in the pathogenesis of multiple diseases including asthma, rheumatoid arthritis, Crohn's disease, ulcerative colitis, hepatitis C, and multiple sclerosis, and therefore, modulation of integrin $\alpha 4$ function has become an important target for drug discovery. Phosphorylation of the serine 988 residue on the integrin $\alpha 4$ cytoplasmic tail inhibits its interaction with the focal adhesion complex-associated protein paxillin, and modulates its effects on cell motility and spreading.</p>
Uniprot ID:	P13612
NCBI:	NP_000876.3
GeneID:	3676
Host / Isotype:	Rat / IgG2b
Clone:	PS/2
Format:	<p>State: Liquid purified IgG fraction. Purification: Affinity chromatography on Protein G. Buffer System: PBS, pH 7.4 containing 0.09% Sodium Azide as preservative and 1% BSA as stabilizer. Label: FITC – Fluorescein Isothiocyanate Isomer 1</p>
Applications:	<p>Flow Cytometry: Use 10 μl of 1/5-1/10 diluted antibody to label 10e6 cells in 100 μl. The Fc region of monoclonal antibodies may bind non-specifically to cells expressing low affinity Fc receptors.</p> <p>Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.</p>

For research and in vitro use only. Not for diagnostic or therapeutic work.

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- Specificity:** This antibody recognises murine alpha 4 integrin (CD49d). Clone PS/2 has also been reported to block the binding of CD49d to its ligands. We recommend the use of SM037LE for this purpose.
Species: Mouse.
Other species not tested.
- Storage:** Store the antibody undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer. Avoid repeated freezing and thawing.
This product is photosensitive and should be protected from light.
Shelf life: one year from despatch.
- General References:** 1. Miyake, K. et al. (1991) Evidence for a role of the integrin VLA-4 in lympho-hemopoiesis. *J. Exp. Med.* 173: 599 - 607.
2. Miyake, K. et al. (1991) A VCAM-like adhesion molecule on murine bone marrow stromal cells mediates binding of lymphocyte precursors in culture. *J. Cell Biol.* 114: 557 - 565.
3. Andrew, D.P. et al. (1994) Distinct but overlapping epitopes are involved in alpha4 beta7-mediated adhesion to vascular cell adhesion molecule-1, mucosal addressin-1, fibronectin, and lymphocyte aggregation. *J. Immunol.* 153:3847 - 3861.

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