



Antibodies

1P-171-T100

## Monoclonal Antibody to CD49d / Integrin alpha 4 Phycoerythrin (PE) conjugated (100 tests)

<b>Clone:</b>	9F10
<b>Isotype:</b>	Mouse IgG1
<b>Specificity:</b>	The mouse monoclonal antibody 9F10 recognizes CD49d (alpha 4 integrin), a 145-180 kDa type I transmembrane glycoprotein expressed on B and T cells, monocytes, eosinophils, basophils, NK cells, and dendritic cells, but not platelets. HLDA V; WS Code S215
<b>Regulatory Status:</b>	RUO
<b>Species Reactivity:</b>	Human, Non-Human Primates, Bovine, Canine (Dog), Equine (Horse), Feline (Cat), Sheep
<b>Preparation:</b>	The purified antibody is conjugated with R-Phycoerythrin (PE) under optimum conditions. The conjugate is purified by size-exclusion chromatography and adjusted for direct use. No reconstitution is necessary.
<b>Storage Buffer:</b>	The reagent is provided in stabilizing phosphate buffered saline (PBS) solution containing 15mM sodium azide.
<b>Storage / Stability:</b>	Store in the dark at 2-8°C. Do not freeze. Avoid prolonged exposure to light. Do not use after expiration date stamped on vial label.
<b>Usage:</b>	The reagent is designed for Flow Cytometry analysis of human blood cells using 10 µl reagent / 100 µl of whole blood or 10 <sup>6</sup> cells in a suspension. The content of a vial (1 ml) is sufficient for 100 tests.
<b>Expiration:</b>	See vial label
<b>Lot Number:</b>	See vial label
<b>Background:</b>	CD49d / integrin alpha 4, unlike other alpha integrins, neither contains an I-domain, nor undergoes disulfide-linked cleavage. It associates with beta 7 chain to form alpha 4 / beta 7 integrin, and with beta 1 chain (CD29) to form VLA-4 integrin. These complexes are important for lymphocyte migration from circulation into tissue (binding VCAM-1) and homing of T cell subsets to Peyer's patches (binding MadCAM-1), but VLA-4 is also target for invasive bacteria which contain invasin. CD49d is essential for differentiation and migration of hematopoietic stem cells by their adhesion to bone marrow stromal cells, and provides a costimulatory signal to TCR-CD3 complex by inducing phosphorylation of some focal adhesion proteins.

**For laboratory research only, not for drug, diagnostic or other use.**

**Antibodies****References:**

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- \*Schneider-Hohendorf T, Rossaint J, Mohan H, Böning D, Breuer J, Kuhlmann T, Gross CC, Flanagan K, Sorokin L, Vestweber D, Zarbock A, Schwab N, Wiendl H: VLA-4 blockade promotes differential routes into human CNS involving PSGL-1 rolling of T cells and MCAM-adhesion of TH17 cells. *J Exp Med*. 2014 Aug 25;211(9):1833-46.
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- \*Zhang XF, Feng MF: Adherence of human monocytes and NK cells to human TNF-alpha-stimulated porcine endothelial cells. *Immunol Cell Biol*. 2000 Dec;78(6):633-40.
- \*Soler D, Chapman T, Yang LL, Wyant T, Egan R, Fedyk ER: The binding specificity and selective antagonism of vedolizumab, an anti-alpha4beta7 integrin therapeutic antibody in development for inflammatory bowel diseases. *J Pharmacol Exp Ther*. 2009 Sep;330(3):864-75.

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EXBIO Praha | Nad Safinou II 341 | 252 50 Vestec u Prahy | Czech Republic  
Tel: +420 261 090 666 | Fax: +420 261 090 660 | [orders@exbio.cz](mailto:orders@exbio.cz) | [www.exbio.cz](http://www.exbio.cz)