

1P-171-T025

Monoclonal Antibody to CD49d / Integrin alpha 4 Phycoerythrin (PE) conjugated (25 tests)

Clone:	9F10
Isotype:	Mouse IgG1
Specificity:	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
Regulatory Status:	RUO
Species Reactivity:	Human, Non-Human Primates, Bovine, Canine (Dog), Equine (Horse), Feline (Cat), Sheep
Preparation:	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.
Storage Buffer:	The reagent is provided in stabilizing phosphate buffered saline (PBS) solution containing 15mM sodium azide.
Storage / Stability:	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.
Usage:	The reagent is designed for Flow Cytometry analysis of human blood cells using 10 µl reagent / 100 µl of whole blood or 10 ⁶ cells in a suspension. The content of a vial (0.25 ml) is sufficient for 25 tests.
Expiration:	See vial label
Lot Number:	See vial label
Background:	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 invasins. 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.

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**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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- *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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