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Product Data Sheet

Purified anti-human CD49d

Catalog # / Size: 304301 / 25 µg
304302 / 100 µg

Clone: 9F10

Isotype: Mouse IgG1, κ

Workshop Number: V S215

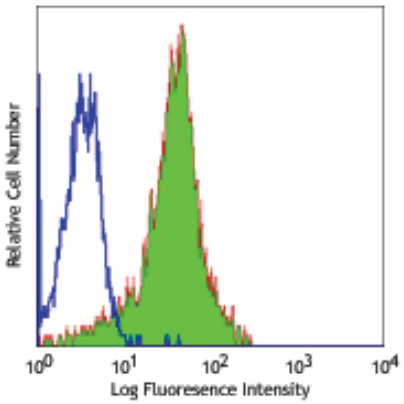
Reactivity: Human, **Cross-Reactivity:** Baboon, Chimpanzee, Common Marmoset, Cynomolgus, Rhesus, Squirrel Monkey, Horse (Equine), Cattle (Bovine, Cow), Sheep (Ovine), Dog (Canine), Cat (Feline)

Preparation: The antibody was purified by affinity chromatography.

Formulation: Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide.

Concentration: 0.5 mg/ml

Storage: The antibody solution should be stored undiluted at 4°C.



Human peripheral blood lymphocytes stained with purified 9F10, followed by anti-mouse IgGs FITC

Applications:

Applications: FC - *Quality tested*
IHC - *Reported in the literature*

Recommended Usage: Each lot of this antibody is quality control tested by immunofluorescent staining with flow cytometric analysis. For immunofluorescent staining, the suggested use of this reagent is ≤0.5 µg per million cells in 100 µl volume. It is recommended that the reagent be titrated for optimal performance for each application.

Application Notes: Additional reported applications (for the relevant formats) include: immunohistochemical staining of acetone-fixed frozen tissue sections, and *in vitro* T cell costimulation[2,3]. The LEAF™ Purified antibody (Endotoxin <0.1 EU/µg, Azide-Free, 0.2 µm filtered) is recommended for functional assays (Cat. No. 304310).

Application References:
1. Schlossman S, *et al.* Eds. 1995. Leucocyte Typing V. Oxford University Press. New York.
2. Jeong S-H, *et al.* 2004. *J. Virol.* 78:6995. (Costim)
3. Vogel TU, *et al.* 2002. *J. Immunol.* 169:4511. (Costim)
4. Kleinewietfeld M, *et al.* 2009. *Blood* 113:827. (FC) PubMed
5. Palacious F, *et al.* 2010. *Blood* 115:4488. PubMed
6. Yoshino N, *et al.* 2000. *Exp. Anim. (Tokyo)* 49:97. (FC)
7. Sestak K, *et al.* 2007. *Vet. Immunol. Immunopathol.* 119:21.
8. Mattapallil MJ, *et al.* 2011 *J. Immunol.* 187:197. PubMed

Description: CD49d is a 150 kD α integrin chain known as α_4 integrin or VLA-4 α chain. It forms a heterodimer with either integrin β1 ($\alpha_4\beta_1$, VLA-4) or β7 ($\alpha_4\beta_7$). CD49d is expressed broadly on T lymphocytes, B lymphocytes, monocytes, thymocytes, eosinophils, basophils, mast cells, NK cells, dendritic cells, and some non-hematopoietic cells, but not on normal red blood cells, platelets or neutrophils. VLA-4 binds to VCAM-1 (CD106) and fibronectin. $\alpha_4\beta_7$ is the receptor for VCAM-1 and MAdCAM-1. CD49d participates in mononuclear cell trafficking to endothelial sites of inflammation and has roles in cell-cell interactions and cell adhesion to extracellular matrices. CD49d is involved in lymphocyte migration, T cell activation, and hematopoietic stem cell differentiation. CD49d is a marker to isolate pure populations of Treg cells due to its absence on Foxp3+ cells.

Antigen References:
1. Elices M, Ed.1995. *Springer Semin. Immunopathol.* 16(4).
2. Lobb R, *et al.* 1994. *J. Clin. Invest.* 94:1722.

Related Products:

Product	Clone	Application
Purified anti-human CD29	TS2/16	FC, IF, IHC, IP
Purified Mouse IgG1, κ Isotype Ctrl	MOPC-21	FC, ICFC, ICC, IF, IHC, IP, WB
APC Goat anti-mouse IgG (minimal x-reactivity)	Poly4053	FC
HRP Goat anti-mouse IgG (minimal x-reactivity)	Poly4053	ELISA, IHC, WB
PE Goat anti-mouse IgG (minimal x-reactivity)	Poly4053	FC
Cell Staining Buffer		FC, ICC, ICFC
RBC Lysis Buffer (10X)		FC, ICFC

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