

Brilliant Violet 785™ anti-human CD49d

Catalog # / 2121715 / 25 tests
Size: 2121720 / 100 tests

Clone: 9F10

Isotype: Mouse IgG1, κ

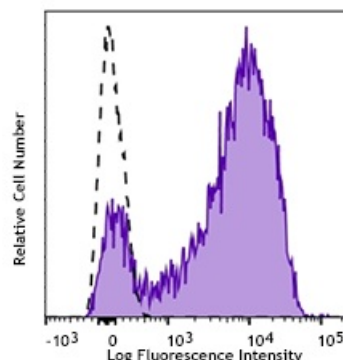
Reactivity: Human, Non-human primate, Other

Preparation: The antibody was purified by affinity chromatography and conjugated with Brilliant Violet 785™ under optimal conditions. The solution is free of unconjugated Brilliant Violet 785™ and unconjugated antibody.

Formulation: Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and BSA (origin USA).

Workshop Number: V S215

Concentration: Lot-specific



Human peripheral blood lymphocytes were stained with CD49d (clone 9F10) Brilliant Violet 785™ (filled histogram) or mouse IgG1, κ Brilliant Violet 785™ isotype control (open histogram).

Applications:

Applications: Flow Cytometry

Recommended Usage: Each lot of this antibody is quality control tested by immunofluorescent staining with flow cytometric analysis. For flow cytometric staining, the suggested use of this reagent is 5 μ l per million cells in 100 μ l staining volume or 5 μ l per 100 μ l of whole blood.

Brilliant Violet 785™ excites at 405 nm and emits at 785 nm. The bandpass filter 780/60 nm is recommended for detection, although filter optimization may be required depending on other fluorophores used. Be sure to verify that your cytometer configuration and software setup are appropriate for detecting this channel. Refer to your instrument manual or manufacturer for support. Brilliant Violet 785™ is a trademark of Sirigen Group Ltd.

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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}.

**Application
References:**

1. Schlossman S, *et al.* Eds. 1995. Leucocyte Typing V. Oxford University Press. New York.
2. Jeong SH, *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. Palacios 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.* 187:1977. [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 β_1 ($\alpha_4\beta_1$, VLA-4) or β_7 ($\alpha_4\beta_7$). 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 RR and Helmer ME. *et al.* 1994. *J. Clin. Invest.* 94:1722.