

Technical Data Sheet

Biotin Rat Anti-Mouse CD49d

Product Information

Material Number:	557419
Alternate Name:	Integrin $\alpha 4$ chain
Size:	0.1 mg
Concentration:	0.5 mg/ml
Clone:	9C10(MFR4.B)
Immunogen:	Mouse (C57BL/6xA/J)F[1] Fetal Liver Mast MC/9
Isotype:	Rat (LEW) IgG2a, κ
Reactivity:	QC Testing: Mouse
Storage Buffer:	Aqueous buffered solution containing $\leq 0.09\%$ sodium azide.

Description

The 9C10 (MFR4.B) antibody reacts with the integrin $\alpha 4$ chain (CD49d), which is expressed as a heterodimer with either of two β chains, $\beta 1$ or $\beta 7$. The $\alpha 4\beta 1$ integrin (VLA-4, CD49d/CD29) is expressed on most peripheral lymphocytes, thymocytes, and monocytes; while the $\alpha 4\beta 7$ integrin (LPAM-1) is expressed on peripheral lymphocytes, but on only a small subset of thymocytes. These integrins mediate a variety of cell-cell and cell-matrix interactions, recognizing the ligands VCAM-1 (CD106) and fibronectin. Integrin $\alpha 4\beta 7$ also preferentially binds to the mucosal vascular addressin, MAdCAM-1. Although the 9C10 (MFR4.B) antibody alone has been reported to have little function-blocking activity, it can augment the inhibitory effects of mAb R1-2 (Cat. No. 553153), resulting in almost complete inhibition of VLA-4 binding to VCAM-1.

This antibody is routinely tested by flow cytometric analysis. Other applications were tested at BD Biosciences Pharmingen during antibody development only or reported in the literature.

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

The antibody was conjugated with biotin under optimum conditions, and unreacted biotin was removed.

Store undiluted at 4° C and protected from prolonged exposure to light. Do not freeze.

Application Notes

Application

Flow cytometry	Routinely Tested
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Suggested Companion Products

Catalog Number	Name	Size	Clone
553153	NA/LE Rat Anti-Mouse CD49d	0.5 mg	R1-2
553928	Biotin Rat IgG2a κ Isotype Control	0.25 mg	R35-95
554057	Avidin FITC	0.5 mg	(none)

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.

References

Kinashi T, Springer TA. Adhesion molecules in hematopoietic cells. *Blood Cells*. 1994; 20(1):25-44.(Immunogen)

Springer TA. Traffic signals for lymphocyte recirculation and leukocyte emigration: the multistep paradigm. *Cell*. 1994; 76(2):301-314.(Biology)

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