

## Technical Data Sheet

## Purified Rat Anti-Mouse CD49d

## Product Information

<b>Material Number:</b>	553154
<b>Alternate Name:</b>	Integrin $\alpha 4$ chain
<b>Size:</b>	0.5 mg
<b>Concentration:</b>	0.5 mg/ml
<b>Clone:</b>	R1-2
<b>Immunogen:</b>	AKR/Cum mouse spontaneous T lymphoma line TK1
<b>Isotype:</b>	Rat (F344) IgG2b, $\kappa$
<b>Reactivity:</b>	QC Testing: Mouse
<b>Storage Buffer:</b>	Aqueous buffered solution containing $\leq 0.09\%$ sodium azide.

## Description

The R1-2 antibody reacts with the integrin  $\alpha 4$  chain (CD49d), which is expressed as a heterodimer with either of two  $\beta$ ,  $\beta 1$  or  $\beta 7$  (also known as  $\beta p$ ). 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. There is evidence that levels of VLA-4 expression regulate the transendothelial migration of T lymphocytes into inflamed tissues. Integrin  $\alpha 4\beta 7$  also preferentially binds to the mucosal vascular addressin, MAdCAM-1. The R1-2 antibody blocks some  $\alpha 4$  integrin-mediated binding functions. In combination with mAb 9C10 (MFR4.B) (Cat. No. 553313), binding of VLA-4 expressing cells to VCAM-1 can be almost completely inhibited.

## Preparation and Storage

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

Store undiluted at 4° C.

## Application Notes

## Application

Flow cytometry	Routinely Tested
Immunoprecipitation	Reported
Immunohistochemistry	Reported
Blocking	Reported

## Recommended Assay Procedure:

We recommend the alternate anti-mouse CD49d mAb 9C10 (MFR4.B) (Cat. No. 553314) for immunohistochemical staining of acetone-fixed frozen sections.

## Suggested Companion Products

Catalog Number	Name	Size	Clone
553986	Purified Rat IgG2b, $\kappa$ Isotype Control	0.5 mg	A95-1
554016	FITC Goat Anti-Rat Igs	0.5 mg	Polyclonal

## 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](http://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.
4. Sodium azide is a reversible inhibitor of oxidative metabolism; therefore, antibody preparations containing this preservative agent must not be used in cell cultures nor injected into animals. Sodium azide may be removed by washing stained cells or plate-bound antibody or dialyzing soluble antibody in sodium azide-free buffer. Since endotoxin may also affect the results of functional studies, we recommend the NA/LE (No Azide/Low Endotoxin) antibody format, if available, for in vitro and in vivo use.

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