ALPHA DIAGNOSTIC INTERNATIONAL

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Life Technologies™ Your Molecular & Cell Technology Partner

Product Data Sheet

# Mouse CD49d (integrin alpha 4)) Antibodies and Conjugates

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|---|---|---|
| **Cat#** MCD049D-**M** | Rat Anti-Mouse CD49d IgG, Unlabeled | **Size**: 100 ug |
| **Cat#** MCD049D-**F** | Rat Anti-Mouse CD49d) IgG-FITC Conjugate | **Size**: 100 tests |
| **Cat#** MCD049D-**B** | Rat Anti-Mouse CD49d IgG-Biotin Conjugate | **Size**: 100 tests |
| **Cat#** MCD049D-**PE** | Rat Anti-Mouse CD49d IgG-PE (phycoerythrin) Conj. | **Size**: 100 tests |

CD49d is an integrin alpha subunit. It makes up half of the α4β1 lymphocyte homing receptor. The product of this gene belongs to the integrin alpha chain family of proteins. Integrins are heterodimeric integral membrane proteins composed of an alpha chain and a beta chain. This gene encodes an alpha 4 chain. Unlike other integrin alpha chains, alpha 4 neither contains an I-domain, nor undergoes disulfide-linked cleavage. Alpha 4 chain associates with either beta 1 chain or beta 7 chain. CD49d has been shown to interact with LGALS8 and Paxillin.

Anti-mouse CD49d monoclonal antibody reacts with a4 integrin, which helps to mediate cell-cell and cell-matrix interactions. a4 integrin combines with b1 and b7integrin to form VLA-4 and LPAM-1 (Peyers patch homing receptor) respectively. VLA-4 is expressed on most peripheral lymphocytes, thymocytes and monocytes. LPAM-1 is found on peripheral lymphocytes, but few thymocytes. Fibronectin and VCAM-1 act as ligands for both VLA-4 and LPAM-1. LPAM-1 also binds the mucosal vascular addressin MAdCAM-1.

The antibody is produced in rat (IgG2a). It is purified by Protein A/G and coupled to Biotin, APC, FITC, PE, Cy5 etc).

**Names**: Integrin alpha-4, CD49 antigen-like family member D, Integrin alpha-IV, VLA-4 subunit alpha, CD_antigen=CD49d

**Matching rat isotype (IgG2a) Controls**

| | |
|---|---|
| 20005-12 | Rat IgG2a unconjugated (isotype control) |
| 20005-12-B | Rat IgG2a-Biotin conjugate (isotype control) |
| 20005-12-F | Rat IgG2a-FITC conjugate (isotype control) |
| 20005-12-HP | Rat IgG2a-HRP conjugate (isotype control) |
| 20005-12-PC5 | Rat IgG2a-R-PE-Cy5.5 conjugate |
| 20005-12-PE | Rat IgG2a-R-PE conjugate (isotype control) |
| 20005-12-APC | Rat IgG2a-APC conjugate (isotype control) |

## Cat# MCD049D-M, unlabeled

The antibody is supplied in PBS, pH 7.4, in either **lyophilized** (100 tests/~100 ug) or **liquid** form (lot specific volume indicated on the vial). Reconstitute powder in water. Store at -2-4oC. Stability is ~6-12 months. Do not freeze and thaw.

## Cat# MCD049D-F, FITC-conjugate

Purified antibody was coupled to FITC at F/P ratio ~5. The antibody is supplied (100 tests) in PBS, pH 7.4, 1% BSA, 0.05% azide (see lot sp concn on the vial) or in powder form. **Reconstitute** powder in PBS**.** Store at -20oC in suitable aliquots. Stability is ~6-12 months. Do not freeze/thaw.

Suggested conjugate dilutions are 1:20-1:500 for immunofluorescence. Or 1 test equivalent of antibody per million cells.

**Absorption** @495 nm **Emission** @528 nm

## Cat# MCD049D-B, Biotin-conjugate

Purified antibody was coupled to Biotin using Biotinamidocaproate N-Hydroxysuccinimide Ester (BAC**)** at F/P ratio ~10-20:1. The antibody is supplied in PBS, pH 7.4, 0.2% BSA and 0.05% azide in either **lyophilized** or **liquid** form (100 tests). Reconstitute powder in PBS in 0.1 ml to prepare stock solution. Store at -20oC in suitable aliquots. Stability is ~6-12 months. Do not freeze and thaw.

Suggested conjugate dilutions are 1:5,000-1:30,000 ELISA, 1:2K-1:10K for western.

### Cat# MCD049D-PE, phycoerythrin -conjugate

The purified antibody was coupled to R-Phycoerythrin (R-PE) (Molecular Weight 240,000 daltons) from seaweed using proprietary methods (A565nm/A280nm ~3-4).

Absorption: 490 nm, 545 nm and 565 nm
Emission Wavelength: 580 nm

The conjugate is provided in PBS, pH 7.5, containing 0.1% bovine serum albumin, (BSA) 0.05% sodium azide and stabilizing agent). DO NOT FREEZE. The product should be stored at 4oC and is stable for a minimum of 1 year. Do not store diluted solutions.

Recommended usage is ~10 ul/106 cells for Flow cytometry or FACS. Due to many experimental variations, optimum concn must be determined for a given applications

**Recommended Working Dilution**

Working dilution for the specific application should be determined by the investigator to obtain the best conditions and prepared immediately before use. Diluted solution should be discarded. This product can be used in immunodiffusion, ELISA, flow cytometry, immunofluorescence or immunolocalization.

Refs: Hadari YR (2000) cell sci. 113, 2385-2390; Han J (2000) JBC 276, 40903-40906; Liu S (2002) jbc 277, 20887-20894

**Related Material available for ADI**

MCD049D 111003A

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