Technical Data Sheet

# Purified Rat Anti-Mouse MAdCAM-1

## Product Information

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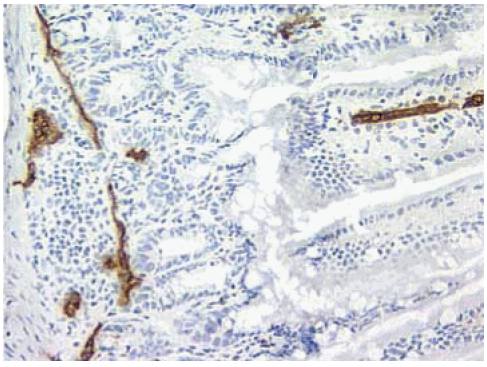
|---|---|
| **Material Number:** | **550555** |
| **Size:** | 1.0 ml |
| **Concentration:** | 31.25 µg/ml |
| **Clone:** | MECA-89 |
| **Immunogen:** | Mouse mesenteric and peripheral lymph node cells |
| **Isotype:** | Rat (WI) IgG2a, κ |
| **Reactivity:** | QC Testing: Mouse |
| **Storage Buffer:** | Aqueous buffered solution containing BSA, goat serum, and ≤0.09% sodium azide. |

## Description

The MECA-89 antibody reacts with mucosal vascular addressin MAdCAM-1. In the fetus and neonate, MAdCAM-1 is the predominant vascular addressin on the high endothelial venules (HEV) of peripheral lymph nodes. In adult mice, MAdCAM-1 is preferentially expressed in mucosal lymphoid tissues and lamina propria; it is also expressed on sinus-lining cells in the spleen. MAdCAM-1 expression is upregulated on the HEV of peripheral lymph nodes in adult NOD mice and is involved in the development of diabetes and insulitis. Furthermore, there is evidence that IFN-γ can induce MAdCAM-1 expression in non-mucosal sites in adult mice. MAdCAM-1 is a predominant ligand for integrin α4β7, a lymphocyte mucosal homing receptor, and a facultative ligand for CD62L (L-selectin). MECA-89 mAb binds to the second domain of MAdCAM-1 and does not block MAdCAM-1-dependent binding *in vitro*. Source of the immunogen was endothelial cells from BALB/c mouse mesenteric and peripheral lymph nodes.



***Immunohistochemical staining of mouse MadCAM-1:*** *Frozen sections of normal mouse small intestine were reacted with the anti-MadCAM-1 antibody. Cells of the lamina propria and the mucosal lymphoid tissue expressing MadCAM-1 can be identified by the brown labeling of their cell membranes. Amplification 20X.*

## Preparation and Storage

Store undiluted at 4°C.

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

## Application Notes

**Application**

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| Flow cytometry | Routinely Tested |
| Immunohistochemistry-frozen | Tested During Development |
| Immunohistochemistry-formalin (antigen retrieval required) | Not Recommended |

**Recommended Assay Procedure:**

**Immunohistochemistry:** The MECA-89 antibody specific for mouse MadCAM-1 is recommended to test for immunohistochemical staining of acetone-fixed frozen sections. Tissues tested were mouse spleen, thymus and small intestine. The antibody stains mucosal lymphoid tissue and lamina propria. In the spleen it is expressed in the sinus lining cells. The isotype control recommended for use with this antibody is purified rat IgG2a (Cat. No. 559073). For optimal indirect immunohistochemical staining, the MECA-89 antibody should be titrated (1:10 to 1:50 dilution) and visualized via a three-step staining procedure in combination with polyclonal, biotin conjugated anti-rat Igs (multiple adsorbed) (Cat. No. 559286) as the secondary antibody and Streptavidin-HRP (Cat. No. 550946) together with the DAB detection system (Cat. No. 550880). The clone MECA-89 is not recommended for formalin-fixed paraffin embedded sections.

The MECA-89 antibody has been tested by immunofluorescent staining for flow cytometric analysis and is available conjugated to biotin (Cat. No. 553808).

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## Suggested Companion Products

| Catalog Number | Name | Size | Clone |
|---|---|---|---|
| 559073 | Purified Rat IgG2a κ Isotype Control | 0.25 mg | R35-95 |
| 559286 | Biotin Goat Anti-Rat Ig | 0.5 mg | Polyclonal |
| 550946 | Streptavidin HRP | 50 ml | (none) |
| 550880 | DAB Substrate Kit | 500 tests | (none) |
| 559148 | Antibody Diluent for IHC | 125 ml | (none) |
| 551013 | Anti-Rat Ig HRP Detection Kit | 200 tests | (none) |

## Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. 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.
3. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
4. An isotype control should be used at the same concentration as the antibody of interest.
5. This antibody has been developed for the immunohistochemistry application. However, a routine immunohistochemistry test is not performed on every lot. Researchers are encouraged to titrate the reagent for optimal performance.
6. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.

## References


Berg EL, McEvoy LM, Berlin C, Bargatze RF, Butcher EC. L-selectin-mediated lymphocyte rolling on MAdCAM-1. *Nature.* 1993; 366(6456):695-698. (Biology)

Berlin C, Berg EL, Briskin MJ, et al. Alpha 4 beta 7 integrin mediates lymphocyte binding to the mucosal vascular addressin MAdCAM-1. *Cell.* 1993; 74(1):185-195. (Biology)

Kraal G, Schornagel K, Streeter PR, Holzmann B, Butcher EC. Expression of the mucosal vascular addressin, MAdCAM-1, on sinus-lining cells in the spleen. *Am J Pathol.* 1995; 147(3):763-771. (Biology)

Streeter PR, Berg EL, Rouse BT, Bargatze RF, Butcher EC. A tissue-specific endothelial cell molecule involved in lymphocyte homing. *Nature.* 1988; 331(6151):41-46. (Immunogen)



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