

## DESCRIPTION

<b>Species Reactivity</b>	Mouse
<b>Specificity</b>	Detects mouse MAdCAM-1 in ELISAs and Western blots. In sandwich immunoassays, less than 0.3% cross-reactivity with recombinant mouse (rm) ALCAM, recombinant human (rh) BCAM, rhEpCAM, rmlCAM-1, rmlCAM-2, rhICAM-3, and rmVCAM-1 is observed.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant mouse MAdCAM-1 Gln22-Thr365, predicted Accession # NP_038619
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.

	Recommended Concentration	Sample
<b>Western Blot</b>	0.1 µg/mL	Recombinant Mouse MAdCAM-1 Fc Chimera (Catalog # 993-MC)
<b>Mouse MAdCAM-1 Sandwich Immunoassay</b>		<b>Reagent</b>
<b>ELISA Capture</b>	2-8 µg/mL	Mouse MAdCAM-1 Antibody (Catalog # MAB9931)
<b>ELISA Detection</b>	0.1-0.4 µg/mL	Mouse MAdCAM-1 Biotinylated Antibody (Catalog # BAF993)
<b>Standard</b>		Recombinant Mouse MAdCAM-1 Fc Chimera (Catalog # 993-MC)

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.2 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<p><b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b></p> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

Mucosal addressin cell adhesion molecule-1 (MAdCAM-1) is an immunoglobulin (Ig) cell adhesion molecule family member. In addition to Ig domains, it contains a mucin-like domain and a membrane proximal domain with similarity to IgA. MAdCAM-1 is involved in lymphocyte homing to mucosal sites and is expressed on high endothelial venules (HEV) of both mesenteric lymph nodes and Peyer's patches. It has also been found to be expressed on sinus-lining cells of the spleen. The integrin,  $\alpha_4\beta_7$ , has been shown to function as the MAdCAM-1 receptor. The Ig domains of MAdCAM-1 have been found to be critical to  $\alpha_4\beta_7$  binding. The mucin domain has been shown to have activity in L-Selectin binding. MAdCAM-1 expression has been demonstrated to be up-regulated by TNF- $\alpha$  and IL-1 $\beta$ . MAdCAM-1 appears to play a role in inflammatory bowel disease (IBD) as its expression is highly up-regulated in IBD and most likely serves to recruit  $\alpha_4\beta_7$ -expressing lymphocytes to the region. In vivo studies involving nonobese diabetic (NOD) mice have also suggested that MAdCAM-1/ $\alpha_4\beta_7$  interaction plays a role in diabetes development in this model. Mouse MAdCAM-1 is a 405 amino acid (aa) residue protein with a 21 aa signal sequence, a 344 aa extracellular domain, a 20 aa transmembrane domain and a 20 aa cytoplasmic domain.

## References:

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2. Yang, X.D. *et al.* (1997) *Diabetes* **46**:1542.
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4. Kraal, G. *et al.* (1995) *Am. J. Pathol.* **147**:763.
5. Berg, E.L. *et al.* (1993) *Nature* **366**:695.
6. Takeuchi, M. and V.R. Baichwal (1995) *Proc. Natl. Acad. Sci. USA* **92**:3561.