

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects human and mouse MAdCAM-1 in ELISAs.
Source	Monoclonal Rat IgG ₁ Clone # 200530
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse MAdCAM-1 Gln22-Thr365 (predicted) Accession # NP_038619
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

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.

Mouse MAdCAM-1 Sandwich Immunoassay		Reagent
ELISA Capture	2-8 µg/mL	Mouse MAdCAM-1 Antibody (Catalog # MAB9931)
ELISA Detection	0.1-0.4 µg/mL	Mouse MAdCAM-1 Biotinylated Antibody (Catalog # BAF993)
Standard		Recombinant Mouse MAdCAM-1 Fc Chimera (Catalog # 993-MC)

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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, α₄β₇, has been shown to function as the MAdCAM-1 receptor. The Ig domains of MAdCAM-1 have been found to be critical to α₄β₇ 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-α and IL-1β. 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 α₄β₇-expressing lymphocytes to the region. In vivo studies involving nonobese diabetic (NOD) mice have also suggested that MAdCAM-1/α₄β₇ 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:

1. Briskin, M.J. *et al.* (1993) *Nature* **363**:461.
2. Yang, X.D. *et al.* (1997) *Diabetes* **46**:1542.
3. Sampaio, S.O. *et al.* (1995) *J. Immunol.* **155**:2477.
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.