Mouse MAdCAM-1 Antibody

Monoclonal Rat IgG_{2A} Clone # 200531

Catalog Number: MAB993

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse MAdCAM-1 in direct ELISAs and Western blots. In direct ELISAs, no cross-reactivity with recombinant human (rh) CD31, recombinant mouse (rm) ICAM-1, rmICAM-2, rhICAM-3, rmICAM-5, or rmVCAM-1 is observed.
Source	Monoclonal Rat IgG_{2A} Clone # 200531
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse MAdCAM-1 Met1-Thr365 Accession # NP_038619
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
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.*

	Recommended Concentration	Sample
Western Blot	1 µg/mL	Recombinant Mouse MAdCAM-1 Fc Chimera (Catalog # 993-MC)
Adhesion Blockade	The adhesion of HuT 78 human cutaneous T cell lymphoma cells (5 x 10^4 cells/well) to immobilized Recombinant Mouse MAdCAM-1 Fc Chimera (Catalog # 993-MC, 10 µg/mL, 100 µL/well) was maximally inhibited (80-100%) by 50 µg/mL of the antibody.	

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.** • 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, $\alpha_4\beta_7$, 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-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 $\alpha_4\beta_7$-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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