

MAdCAM-1 (G-3): sc-514599

BACKGROUND

The recirculation of lymphocytes through different organs is thought to be regulated by adhesion molecules ("homing receptors") recognizing tissue-specific vascular addressins on the endothelium. The mucosal vascular addressin, MAdCAM-1 (mucosal addressin cell adhesion molecule 1), is an immunoglobulin superfamily adhesion molecule for lymphocytes that is expressed by mucosal venules and helps direct lymphocyte traffic into Peyer's patches and the intestinal lamina propria. MAdCAM-1 acts as an endothelial cell ligand for leukocyte homing receptors L-selectin and $\alpha 4\beta 7$ integrin. MAdCAM-1 is strongly expressed on inflamed portal vein/sinusoidal endothelium in autoimmune-mediated liver disease and plays a major contributory role in the progression of chronic experimental autoimmune encephalomyelitis.

REFERENCES

- Berlin, C., et al. 1993. $\alpha 4\beta 7$ integrin mediates lymphocyte binding to the mucosal vascular addressin MAdCAM-1. *Cell* 74: 185-185.
- Hamann, A., et al. 1994. Role of $\alpha 4$ -integrins in lymphocyte homing to mucosal tissues *in vivo*. *J. Immunol.* 152: 3282-3293.
- Wang, C.C., et al. 2000. Homeodomain factor Nkx-2.3 controls regional expression of leukocyte homing coreceptor MAdCAM-1 in specialized endothelial cells of the viscera. *Dev. Biol.* 224: 152-167.
- Kanwar, J.R., et al. 2000. Prevention of a chronic progressive form of experimental autoimmune encephalomyelitis by an antibody against mucosal addressin cell adhesion molecule-1, given early in the course of disease progression. *Immunol. Cell Biol.* 78: 641-645.
- Guilliano, M.J., et al. 2001. The micro-environment of human Peyer's patches inhibits the increase in CD38 expression associated with the germinal center reaction. *J. Immunol.* 166: 2179-2185.
- Grant, A.J., et al. 2001. MAdCAM-1 expressed in chronic inflammatory liver disease supports mucosal lymphocyte adhesion to hepatic endothelium (MAdCAM-1 in chronic inflammatory liver disease). *Hepatology* 33: 1065-1072.

CHROMOSOMAL LOCATION

Genetic locus: MADCAM1 (human) mapping to 19p13.3.

SOURCE

MAdCAM-1 (G-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 367-385 near the C-terminus of MAdCAM-1 of human origin.

PRODUCT

Each vial contains 200 μ g IgM in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

MAdCAM-1 (G-3) is recommended for detection of MAdCAM-1 isoform a, b, c and c precursors and, to a lesser extent, chromagranin A of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for MAdCAM-1 siRNA (h): sc-43037, MAdCAM-1 shRNA Plasmid (h): sc-43037-SH and MAdCAM-1 shRNA (h) Lentiviral Particles: sc-43037-V.

Molecular Weight (predicted) of MAdCAM-1 isoforms: 40/29 kDa.

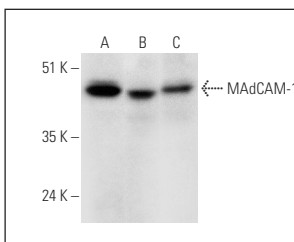
Molecular Weight (observed) of MAdCAM-1 isoforms: 29/40/55-60 kDa.

Positive Controls: ECV304 cell lysate: sc-2269, HUV-EC-C whole cell lysate: sc-364180 or A549 cell lysate: sc-2413.

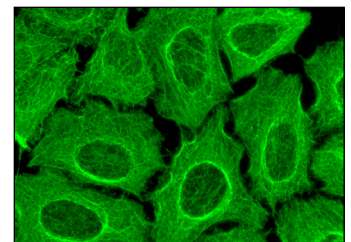
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgM-HRP: sc-2064 (dilution range: 1:500-1:5,000), TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein L PLUS-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-mouse IgM-FITC: sc-2082 (dilution range: 1:100-1:400) or goat anti-mouse IgM-TR: sc-2983 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



MAdCAM-1 (G-3): sc-514599. Western blot analysis of MAdCAM-1 expression in ECV304 (A), HUV-EC-C (B) and A549 (C) whole cell lysates.



MAdCAM-1 (G-3): sc-514599. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.