

MAdCAM-1 (W12-1): sc-80175

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 Integrin $\alpha 4\beta 7$. 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: 185-195.
- 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 Nkx2-3 controls regional expression of leukocyte homing co-receptor 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 microenvironment 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 (mouse) mapping to 10 C1-C2.

SOURCE

MAdCAM-1 (W12-1) is a rat monoclonal antibody raised against the extracellular domain of MAdCAM-1 of mouse origin.

PRODUCT

Each vial contains 100 μ g IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and protein stabilizer.

Available azide-free for blocking, sc-80175 L, 100 μ g/0.1 ml.

PROTOCOLS

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

APPLICATIONS

MAdCAM-1 (W12-1) is recommended for detection of MAdCAM-1 of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for MAdCAM-1 siRNA (m): sc-43038, MAdCAM-1 shRNA Plasmid (m): sc-43038-SH and MAdCAM-1 shRNA (m) Lentiviral Particles: sc-43038-V.

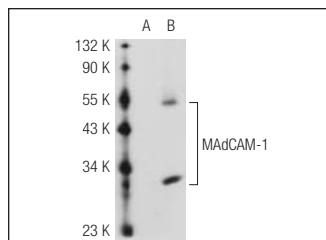
Molecular Weight of MAdCAM-1: 60 kDa.

Positive Controls: mouse PBL.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rat IgG-HRP: sc-2006 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-rat IgG-HRP: sc-2032 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



MAdCAM-1 (W12-1): sc-80175. Western blot analysis of MAdCAM-1 expression in non-transfected: sc-117752 (A) and mouse MAdCAM-1 transfected: sc-121483 (B) 293T whole cell lysates.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

RESEARCH USE

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