Revision 1

Store at -20C

#13475

MCAM (P1H12) Mouse mAb

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP, IF-IC, FC-FP	H	Endogenous	120	Mouse IgG1	#P43121	4162

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:100
Immunofluorescence (Immunocytochemistry)	1:100
Flow Cytometry (Fixed/Permeabilized)	1:200

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. *Do not aliquot the antibody.*

Specificity/Sensitivity

MCAM (P1H12) Mouse mAb recognizes endogenous levels of total MCAM protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with recombinant protein specific to the amino terminus of human MCAM protein.

Background

Melanoma cell adhesion molecule (MCAM, MUC18, CD146) is an immunoglobulin superfamily member originally described as a cell surface adhesion protein and marker of the progression and metastasis of melanoma (1,2). Expression of MCAM protein is seen in vascular endothelial cells, activated T lymphocytes, smooth muscle, and bone marrow stromal cells. Research studies demonstrate increased MCAM expression in endothelial cells from angiogenesis-related disorders, including inflammatory bowel disease, Crohn's disease, rheumatoid arthritis, tumors, and chronic renal failure (3). MCAM-expressing human mesenchymal stromal cells (hMSC) in the hematopoietic microenvironment are responsible for maintaining the self-renewal of hematopoietic stem and progenitor cells (HSPC) through direct contact between hMSC and HSPC (2). Related studies suggest that activation of the Notch signaling pathway may also, in part, play a role in HSPC maintenance (4). Additional research indicates that MCAM may play a role in multiple sclerosis, an autoimmune inflammatory disease that affects central nervous system neurons. Endothelial MCAM within the blood-brain barrier act as adhesion receptors that permit lymphocytes to transmigrate across the barrier and produce the inflammatory lesions that characterize the disorder (5).

Background References

1. Shih, I.M. (1999) *J Pathol* 189, 4-11.
2. Stopp, S. et al. (2013) *Haematologica* 98, 505-13.
3. Wang, P. et al. (2013) *Mol Cell Biol* 33, 3689-99.
4. Corselli, M. et al. (2013) *Blood* 121, 2891-901.
5. Duan, H. et al. (2013) *Sci Rep* 3, 1687.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation **IF-IC:** Immunofluorescence (Immunocytochemistry) **FC-FP:** Flow Cytometry (Fixed/Permeabilized)

Cross-Reactivity Key

H: Human

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