

Mel-CAM (C-20): sc-18942

BACKGROUND

The tumorigenic and metastatic phenotype of melanoma cells correlates well with an increased expression of cell-cell and cell-matrix adhesion receptors. The human Mel-CAM gene encodes a transmembrane glycoprotein, also designated MCAM, MUC 18 or CD146, that belongs to the immunoglobulin superfamily and functions as a Ca²⁺-independent cell adhesion molecule. The deduced human sequence of 603 amino acids consists of a signal peptide, 5 immunoglobulin-like domains, a transmembrane region and a short cytoplasmic tail. Mel-CAM expression is restricted to advanced primary and metastatic melanomas and to cell lines of the neuroectodermal lineage, but not normal melanocytes. Mel-CAM is found on 80% of advanced primary human melanomas and correlates well with development of metastatic disease. Mel-CAM activation initiates an outside-in signaling pathway that involves the protein tyrosine kinases FYN and FAK and paxillin. Mel-CAM influences the dynamics of Actin cytoskeleton rearrangement and is essential for the maintenance of thymic architecture and function.

REFERENCES

1. Lehmann, J.M., et al. 1989. MUC18, a marker of tumor progression in human melanoma, shows sequence similarity to the neural cell adhesion molecules of the immunoglobulin superfamily. *Proc. Natl. Acad. Sci. USA* 86: 9891-9895.
2. Sers, C., et al. 1993. Genomic organization of the melanoma-associated glycoprotein MUC18: implications for the evolution of the immunoglobulin domains. *Proc. Natl. Acad. Sci. USA* 90: 8514-8518.
3. Kuzu, I., et al. 1993. Expression of adhesion molecules on the endothelium of normal tissue vessels and vascular tumors. *Lab. Invest.* 69: 322-328.
4. Shih, I.M. 1999. The role of CD146 (Mel-CAM) in biology and pathology. *J. Pathol.* 189: 4-11.

CHROMOSOMAL LOCATION

Genetic locus: MCAM (human) mapping to 11q23.3; Mcam (mouse) mapping to 9 A5.1.

SOURCE

Mel-CAM (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Mel-CAM of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-18942 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

Mel-CAM (C-20) is recommended for detection of Mel-CAM of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); may cross-react with COL16A1 of mouse and rat origin.

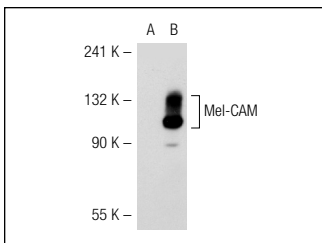
Mel-CAM (C-20) is also recommended for detection of Mel-CAM in additional species, including equine, canine and bovine.

Suitable for use as control antibody for Mel-CAM siRNA (h): sc-35918, Mel-CAM siRNA (m): sc-35919, Mel-CAM shRNA Plasmid (h): sc-35918-SH, Mel-CAM shRNA Plasmid (m): sc-35919-SH, Mel-CAM shRNA (h) Lentiviral Particles: sc-35918-V and Mel-CAM shRNA (m) Lentiviral Particles: sc-35919-V.

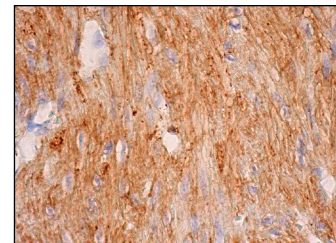
Molecular Weight of Mel-CAM: 130 kDa.

Positive Controls: Mel-CAM (m): 293T Lysate: sc-121599, HeLa whole cell lysate: sc-2200 or A-375 cell lysate: sc-3811.

DATA



Mel-CAM (C-20): sc-18942. Western blot analysis of Mel-CAM expression in non-transfected: sc-117752 (A) and mouse Mel-CAM transfected: sc-121599 (B) 293T whole cell lysates.



Mel-CAM (C-20): sc-18942. Immunoperoxidase staining of formalin fixed, paraffin-embedded human smooth muscle tissue showing cytoplasmic staining of smooth muscle cells.

SELECT PRODUCT CITATIONS

1. Lai, K., et al. 2007. Expression and distribution of MUC18 in human uveal melanoma. *Virchows Arch.* 451: 967-976.
2. Qian, X., et al. 2008. Pharmacologically enhanced expression of GPNMB increases the sensitivity of melanoma cells to the CR011-vcMMAE antibody-drug conjugate. *Mol. Oncol.* 2: 81-93.

RESEARCH USE

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



Try **Mel-CAM (P1H12): sc-18837** or **Mel-CAM (A-9): sc-374556**, our highly recommended monoclonal alternatives to Mel-CAM (C-20). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **Mel-CAM (P1H12): sc-18837**.