

# Mel-CAM (2Q401): sc-71565

## 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 maps to chromosome 11q23.3 and encodes a transmembrane glycoprotein, also designated MCAM, MUC18 or CD146, that belongs to the immunoglobulin superfamily and functions as a Ca<sup>2+</sup>-independent cell adhesion molecule. The deduced human sequence of 603 amino acids consists of a signal peptide, five 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 neuro-ectodermal 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, 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. Kuzu, I., et al. 1993. Expression of adhesion molecules on the endothelium of normal tissue vessels and vascular tumors. *Lab. Invest.* 69: 322-328.
3. 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.
4. Shih, I.M. 1999. The role of CD146 (Mel-CAM) in biology and pathology. *J. Pathol.* 189: 4-11.
6. Seftalioglu, A. and Karakoc, L. 2000. Expression of CD146 adhesion molecules (MUC18 or MCAM) in the thymic microenvironment. *Acta Histochem.* 102: 69-83.

## CHROMOSOMAL LOCATION

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

## SOURCE

Mel-CAM (2Q401) is a mouse monoclonal antibody raised against human umbilical cord cells.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain 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

Mel-CAM (2Q401) is recommended for detection of Mel-CAM of mouse, rat, human, canine and rabbit 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) and flow cytometry (1 µg per 1 x 10<sup>6</sup> cells).

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.

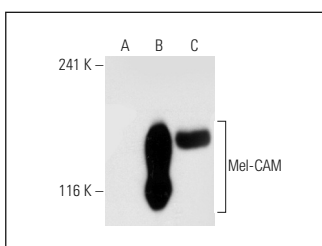
Molecular Weight of highly glycosylated Mel-CAM: 130 kDa.

Positive Controls: Mel-CAM (h): 293T Lysate: sc-116616, HeLa whole cell lysate: sc-2200 or SK-MEL-24 whole cell lysate: sc-364259

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



Mel-CAM (2Q401): sc-71565. Western blot analysis of Mel-CAM expression in non-transfected 293T: sc-117752 (A), human Mel-CAM transfected 293T: sc-116616 (B) and HeLa (C) whole cell lysates.

## RESEARCH USE

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

## CONJUGATES

See **Mel-CAM (P1H12): sc-18837** for Mel-CAM antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.