

Mel-CAM (C-11): sc-374414

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, MUC18 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, 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 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, 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.
5. Seftalioglu, A., et al. 2000. Expression of CD146 adhesion molecules (MUC18 or MCAM) in the thymic microenvironment. *Acta Histochem.* 102: 69-83.
6. Online Mendelian Inheritance in Man, OMIM™. 2000. Johns Hopkins University, Baltimore, MD. MIM Number: 155735. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: MCAM (human) mapping to 11q23.3.

SOURCE

Mel-CAM (C-11) is a mouse monoclonal antibody raised against amino acids 585-646 mapping within a C-terminal cytoplasmic domain of Mel-CAM of human origin.

PRODUCT

Each vial contains 200 µg IgA kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Mel-CAM (C-11) is recommended for detection of Mel-CAM of human origin by Western Blotting (starting dilution 1:100, 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

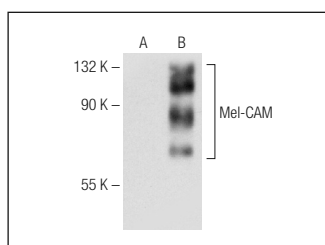
Molecular Weight of Mel-CAM: 130 kDa.

Positive Controls: Mel-CAM (h): 293T Lysate: sc-116616, A-375 cell lysate: sc-3811 or HeLa whole cell lysate: sc-2200.

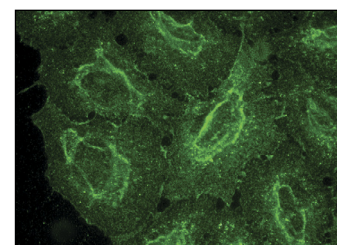
RECOMMENDED SUPPORT REAGENTS

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 L-Agarose: sc-2336 (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 (C-11): sc-374414. Western blot analysis of Mel-CAM expression in non-transfected: sc-117752 (A) and human Mel-CAM transfected: sc-116616 (B) 293T whole cell lysates.



Mel-CAM (C-11): sc-374414. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

STORAGE

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

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.