

# Mel-CAM (N-20): sc-18940

## 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  $\text{Ca}^{2+}$ -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, 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. 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 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region 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-18940 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Mel-CAM (N-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), 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).

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

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: A-375 cell lysate: sc-3811, HeLa whole cell lysate: sc-2200 or HUV-EC-C whole cell lysate: sc-364180.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## SELECT PRODUCT CITATIONS

1. Kurth, T.B., et al. 2011. Functional mesenchymal stem cell niches in the adult knee joint synovium *in vivo*. *Arthritis Rheum.* E-published.

## 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.

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Satisfaction  
Guaranteed

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