

Mel-CAM (A-9): sc-374556

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 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.

CHROMOSOMAL LOCATION

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

SOURCE

Mel-CAM (A-9) is a mouse monoclonal antibody raised against amino acids 585-646 mapping within a C-terminal cytoplasmic domain of MelCAM of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ 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 (A-9) is recommended for detection of Mel-CAM of mouse, rat and 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), 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).

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.

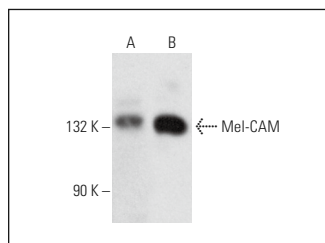
Molecular Weight of Mel-CAM: 130 kDa.

Positive Controls: A-10 cell lysate: sc-3806, B16-F0 cell lysate: sc-2298 or HeLa whole cell lysate: sc-2200.

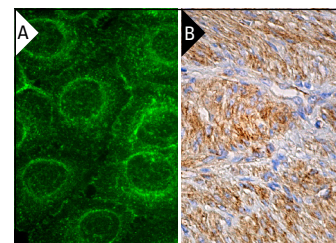
RECOMMENDED SUPPORT REAGENTS

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 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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



Mel-CAM (A-9): sc-374556. Western blot analysis of Mel-CAM expression in B16-F0 (A) and A-10 (B) whole cell lysates.



Mel-CAM (A-9): sc-374556. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human smooth muscle tissue showing cytoplasmic staining of smooth muscle cells (B).

SELECT PRODUCT CITATIONS

- Li, W., et al. 2016. Proteomics analysis reveals a Th17-prone cell population in presymptomatic graft-versus-host disease. JCI Insight 1: e86660.
- Ragni, E., et al. 2022. Characterization of microfragmented adipose tissue architecture, mesenchymal stromal cell content and release of paracrine mediators. J. Clin. Med. 11: 2231.
- Jiang, X., et al. 2023. Identifying a dynamic transcriptomic landscape of the cynomolgus macaque placenta during pregnancy at single-cell resolution. Dev. Cell 58: 806-821.e7.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.



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.