SANTA CRUZ BIOTECHNOLOGY, INC.

Mel-CAM (P1H12): sc-18837

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 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 and 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 (P1H12) is a mouse monoclonal antibody raised against human umbilical cord cells.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Mel-CAM (P1H12) is available conjugated to agarose (sc-18837 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-18837 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-18837 PE), fluorescein (sc-18837 FITC), Alexa Fluor® 488 (sc-18837 AF488), Alexa Fluor® 546 (sc-18837 AF546), Alexa Fluor® 594 (sc-18837 AF594) or Alexa Fluor® 647 (sc-18837 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-18837 AF680) or Alexa Fluor® 790 (sc-18837 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Mel-CAM (P1H12) 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 10^6 cells).

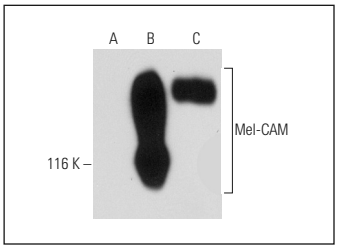
Suitable for use as control antibody for Mel-CAM siRNA (h): sc-35918, Mel-CAM siRNA (m): sc-35919, Mel-CAM shRNA Plasmid (h): sc-35918-SH, Mel-CAM shRNA Plasmid (m): sc-35919-SH, Mel-CAM shRNA (h) Lentiviral Particles: sc-35918-V and Mel-CAM shRNA (m) Lentiviral Particles: sc-35919-V.

Molecular Weight of Mel-CAM: 130 kDa.

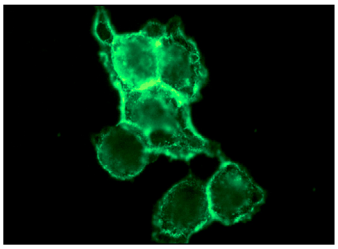
STORAGE

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

DATA



Mel-CAM (P1H12): sc-18837. 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.



Mel-CAM (P1H12): sc-18837. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

SELECT PRODUCT CITATIONS

1. Schulz, C., et al. 2003. Upregulation of MCAM in primary bronchial epithelial cells from patients with COPD. Eur. Respir. J. 22: 450-456.
2. Iohara, K., et al. 2009. Regeneration of dental pulp after pulpotomy by transplantation of $CD31^-$/$CD146^-$ side population cells from a canine tooth. Regen. Med. 4: 377-385.
3. Takao, T., et al. 2011. Isolation and characterization of human trophoblast side-population (SP) cells in primary villous cytotrophoblasts and HTR-8/SVneo cell line. PLoS ONE 6: e21990.
4. Ishizaka, R., et al. 2012. Regeneration of dental pulp following pulpectomy by fractionated stem/progenitor cells from bone marrow and adipose tissue. Biomaterials 33: 2109-2118.
5. Tasso, R., et al. 2013. *In vivo* implanted bone marrow-derived mesenchymal stem cells trigger a cascade of cellular events leading to the formation of an ectopic bone regenerative niche. Stem Cells Dev. 22: 3178-3191.
6. Wang, W., et al. 2015. Protein depalmitoylation is induced by Wnt5a and promotes polarized cell behavior. J. Biol. Chem. 290: 15707-15716.
7. Guye, P., et al. 2016. Genetically engineering self-organization of human pluripotent stem cells into a liver bud-like tissue using Gata6. Nat. Commun. 7: 10243.
8. Connacher, M.K., et al. 2017. Rear-polarized Wnt5a-receptor-Actin-myosin-polarity (WRAMP) structures promote the speed and persistence of directional cell migration. Mol. Biol. Cell 28: 1924-1936.
9. Zhang, Z., et al. 2018. CD146 interacts with galectin-3 to mediate endothelial cell migration. FEBS Lett. 592: 1817-1828.

RESEARCH USE

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