SANTA CRUZ BIOTECHNO

Mel-CAM (OJ79c MUC 18): sc-53369

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, 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. MUC 18, 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 MUC 18: 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.

CHROMOSOMAL LOCATION

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

SOURCE

Mel-CAM (OJ79c MUC 18) is a mouse monoclonal antibody raised against recombinant MUC 18 of human origin.

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 (OJ79c MUC 18) is available conjugated to either phycoerythrin (sc-53369 PE) or fluorescein (sc-53369 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

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 (OJ79c MUC 18) is recommended for detection of Mel-CAM of human 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 shRNA Plasmid (h): sc-35918-SH and Mel-CAM shRNA (h) Lentiviral Particles: sc-35918-V.

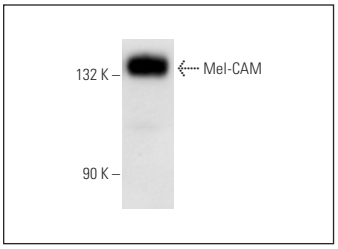
Molecular Weight of Mel-CAM: 130 kDa.

Positive Controls: HUV-EC-C whole cell lysate: sc-364180, SK-MEL-24 whole cell lysate: sc-364259 or HeLa whole cell lysate: sc-2200.

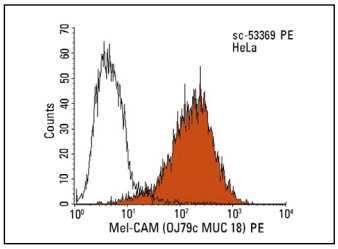
RECOMMENDED SUPPORT REAGENTS

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.

DATA



Mel-CAM (OJ79c MUC 18): sc-53369. Western blot analysis of Mel-CAM expression in HUV-EC-C whole cell lysate.



Mel-CAM (OJ79c MUC 18): sc-53369. Indirect FCM analysis of HeLa cells stained with Mel-CAM (OJ79c MUC 18), followed by PE-conjugated goat anti-mouse IgG: sc-3738. Black line histogram represents the isotype control, normal mouse IgG_1: sc-3877.

SELECT PRODUCT CITATIONS

1. Rizk, A. and Rabie, B.M. 2013. Electroporation for transfection and differentiation of dental pulp stem cells. Biores. Open Access 2: 155-162.
2. Rizk, A. and Rabie, A.B. 2013. Human dental pulp stem cells expressing transforming growth factor β3 transgene for cartilage-like tissue engineering. Cytotherapy 15: 712-725.
3. Peng, C., et al. 2018. Response of hPDLSCs on 3D printed PCL/PLGA composite scaffolds *in vitro.* Mol. Med. Rep. 18: 1335-1344.

RESEARCH USE

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