SANTA CRUZ BIOTECHNOLOGY, INC.

Ep-CAM (0.N.277): sc-59782

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The epithelial cell adhesion molecule Ep-CAM, which is also designated tumor-associated calcium signal transducer 1 and MK-1, is a monomeric membrane glycoprotein that is expressed in most normal human epithelium and in most carcinomas. The human Ep-CAM gene encodes a 314 amino acid protein that is expressed as two forms, a major form and a minor form, which are reduced upon treatment with the amino-glycosylation inhibitor tunicamycin. Ep-CAM is overexpressed in a variety of carcinomas and is, therefore, a potential target for the visualization and therapy of human solid tumors. Ep-CAM contains an extracellular domain containing two epidermal growth factor-like repeats, followed by a cysteine poor region, which are necessary for the adhesion properties of the molecule.

REFERENCES

1. Farr, A., et al. 1991. Epithelial heterogeneity in the murine thymus: a cell surface glycoprotein expressed by subcapsular and medullary epithelium. J. Histochem. Cytochem. 39: 645-653.
2. Bergsagel, P.L., et al. 1992. A murine cDNA encodes a pan-epithelial glycoprotein that is also expressed on plasma cells. J. Immunol. 148: 590-596.
3. Bjork, P., et al. 1993. Isolation, partial characterization, and molecular cloning of a human colon adenocarcinoma cell-surface glycoprotein recognized by the C215 mouse monoclonal antibody. J. Biol. Chem. 268: 24232-24241.
4. Nelson, A.J., et al. 1996. The murine homolog of human Ep-CAM, a homotypic adhesion molecule, is expressed by thymocytes and thymic epithelial cells. Eur. J. Immunol. 26: 401-408.
5. Litvinov, S.V., et al. 1997. Epithelial cell adhesion molecule (Ep-CAM) modulates cell-cell interactions mediated by classic cadherins. J. Cell Biol. 139: 1337-1348.
6. Taguchi, N., et al. 1999. Abnormal thymic expression of epithelial cell adhesion molecule (Ep-CAM) in New Zealand Black (NZB) mice. J. Autoimmun. 13: 393-404.
7. Tomita, Y., et al. 2000. Molecular identification of a human carcinoma-associated glycoprotein antigen recognized by mouse monoclonal antibody FU-MK-1. Jpn. J. Cancer Res. 91: 231-238.

CHROMOSOMAL LOCATION

Genetic locus: EPCAM (human) mapping to 2p21, Epcam (mouse) mapping to 17 E4.

SOURCE

Ep-CAM (0.N.277) is a mouse monoclonal antibody raised against LoVo cell line of human origin.

PRODUCT

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

RESEARCH USE

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

APPLICATIONS

Ep-CAM (0.N.277) is recommended for detection of Ep-CAM of mouse, rat and human origin by Western Blotting (non-reducing) (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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Ep-CAM siRNA (h): sc-43032, Ep-CAM siRNA (m): sc-43033, Ep-CAM shRNA Plasmid (h): sc-43032-SH, Ep-CAM shRNA Plasmid (m): sc-43033-SH, Ep-CAM shRNA (h) Lentiviral Particles: sc-43032-V and Ep-CAM shRNA (m) Lentiviral Particles: sc-43033-V.

Molecular Weight of Ep-CAM: 40 kDa.

Positive Controls: Caco-2 cell lysate: sc-2262, A-431 whole cell lysate: sc-2201 or Hep G2 cell lysate: sc-2227.

SELECT PRODUCT CITATIONS

1. Carpino, G., et al. 2012. Biliary tree stem/progenitor cells in glands of extrahepatic and intraheptic bile ducts: an anatomical *in situ* study yielding evidence of maturational lineages. J. Anat. 220: 186-199.
2. Jorgensen, M., et al. 2013. Extracellular vesicle (EV) array: microarray capturing of exosomes and other extracellular vesicles for multiplexed phenotyping. J. Extracell. Vesicles. E-published.
3. Jorgensen, M.M., et al. 2015. Potentials and capabilities of the extracellular vesicle (EV) array. J. Extracell. Vesicles 4: 26048.
4. Jakobsen, K.R., et al. 2015. Exosomal proteins as potential diagnostic markers in advanced non-small cell lung carcinoma. J. Extracell. Vesicles 4: 26659.
5. Fraveto, A., et al. 2015. Sensitivity of human intrahepatic cholangiocarcinoma subtypes to chemotherapeutics and molecular targeted agents: a study on primary cell cultures. PLoS ONE 10: e0142124.
6. Cardinale, V., et al. 2015. Profiles of cancer stem cell subpopulations in cholangiocarcinomas. Am. J. Pathol. 185: 1724-1739.
7. Sandfeld-Paulsen, B., et al. 2016. Exosomal proteins as diagnostic biomarkers in lung cancer. J. Thorac. Oncol. 11: 1701-1710.
8. Søndergaard, E.K.L., et al. 2016. Oxygen-related differences in cellular and vesicular phenotypes observed for ovarian cell cancer lines. J. Circ. Biomark. 5: 1.
9. Brahmer, A., et al. 2019. Platelets, endothelial cells and leukocytes contribute to the exercise-triggered release of extracellular vesicles into the circulation. J. Extracell. Vesicles 8: 1615820.
10. Dissanayake, K., et al. 2020. Individually cultured bovine embryos produce extracellular vesicles that have the potential to be used as non-invasive embryo quality markers. Theriogenology 149: 104-116.

STORAGE

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