

Ep-CAM (VU-1D9): sc-51681

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 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 is 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.

CHROMOSOMAL LOCATION

Genetic locus: EPCAM (human) mapping to 2p21.

SOURCE

Ep-CAM (VU-1D9) is a mouse monoclonal antibody raised against small cell lung carcinoma cell line HG9 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.

Ep-CAM (VU-1D9) is available conjugated to either phycoerythrin (sc-51681 PE) or fluorescein (sc-51681 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

APPLICATIONS

Ep-CAM (VU-1D9) is recommended for detection of Ep-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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10⁶ cells).

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

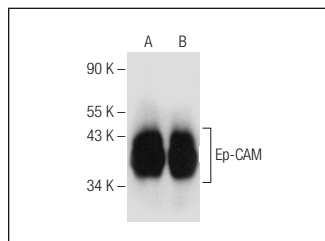
Molecular Weight of Ep-CAM: 40 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, A-431 whole cell lysate: sc-2201 or Caco-2 cell lysate: sc-2262.

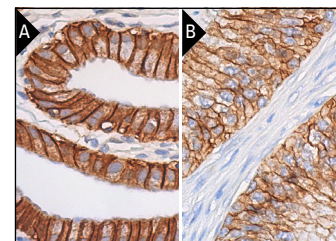
STORAGE

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

DATA



Ep-CAM (VU-1D9): sc-51681. Western blot analysis of Ep-CAM expression in MCF7 (A) and A-431 (B) whole cell lysates under non-reducing conditions.



Ep-CAM (VU-1D9): sc-51681. Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing membrane and cytoplasmic staining of glandular cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human epididymis tissue showing membrane and cytoplasmic staining of glandular cells (B).

SELECT PRODUCT CITATIONS

1. Takao, M., et al. 2013. Cysteine-poor region-specific EpCAM monoclonal antibody recognizing native tumor cells with high sensitivity. *Monoclon. Antib. Immunodiagn. Immunother.* 32: 73-80.
2. Liggett, J.L., et al. 2014. A novel COX-independent mechanism of sulindac sulfide involves cleavage of epithelial cell adhesion molecule protein. *Exp. Cell Res.* 326: 1-9.
3. Qin, J., et al. 2014. Stabilization of circulating tumor cells in blood using a collection device with a preservative reagent. *Cancer Cell Int.* 14: 23.
4. Volonté, A., et al. 2014. Cancer-initiating cells from colorectal cancer patients escape from T cell-mediated immunosurveillance *in vitro* through membrane-bound IL-4. *J. Immunol.* 192: 523-532.
5. Xu, J.Y., et al. 2016. Detection and prognostic significance of circulating tumor cells in patients with metastatic thyroid cancer. *J. Clin. Endocrinol. Metab.* 101: 4461-4467.
6. Takao, M., et al. 2018. Flow cytometric quantitation of EpCAM-positive extracellular vesicles by immunomagnetic separation and phospholipid staining method. *Genes Cells* 23: 963-973.
7. Cabral, L.K.D., et al. 2021. The relevance of SOCS1 methylation and epigenetic therapy in diverse cell populations of hepatocellular carcinoma. *Diagnostics* 11: 1825.

RESEARCH USE

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



See **Ep-CAM (C-10): sc-25308** for Ep-CAM antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor[®] 488, 546, 594, 647, 680 and 790.