

# HCAM (P2A1): sc-53298

## BACKGROUND

Cell adhesion molecules (CAMs) are a family of closely related, cell surface glycoproteins that are involved in cell-cell interactions and are thought to play an important role in embryogenesis and development. HCAM, also known as CD44, LHR, MDU2, MDU3, MIC4, Pgp1, HCELL, MUTCH-I or ECMR-III, is a 742 amino acid single-pass type I membrane protein that is involved in hematopoiesis, lymphocyte activation and tumor metastasis. Functioning as a receptor for hyaluronic acid (HA) and interacting with ligands such as osteopontin (OPN), HCAM mediates both cell-cell and cell-matrix interactions, thereby playing an essential role in cell adhesion and cell migration. HCAM contains one Link domain and, due to alternative splicing events, is expressed as multiple isoforms, some of which are designated CD44R, CDw44, CD44S, CD44H (hematopoietic) and CD44E (epithelial). While most of the HCAM splice variants are expressed in tissues throughout the body, one specific isoform, namely CD44H, is expressed at high levels in cancer tissue, suggesting an important role for the CD44H splice variant in tumor progression.

## CHROMOSOMAL LOCATION

Genetic locus: CD44 (human) mapping to 11p13.

## SOURCE

HCAM (P2A1) is a mouse monoclonal antibody raised against ocular melanoma cell line V+B2 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

HCAM (P2A1) is available conjugated to either phycoerythrin (sc-53298 PE) or fluorescein (sc-53298 FITC), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

## APPLICATIONS

HCAM (P2A1) is recommended for detection of HCAM 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 10<sup>6</sup> cells).

Suitable for use as control antibody for HCAM siRNA (h): sc-29342, HCAM shRNA Plasmid (h): sc-29342-SH and HCAM shRNA (h) Lentiviral Particles: sc-29342-V.

Molecular Weight of HCAM: 90-95 kDa.

Positive Controls: U-937 cell lysate: sc-2239, HUV-EC-C whole cell lysate: sc-364180 or HeLa whole cell lysate: sc-2200.

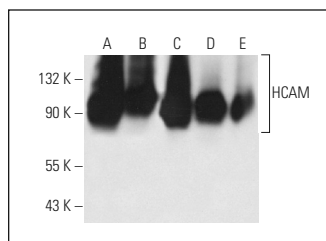
## STORAGE

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

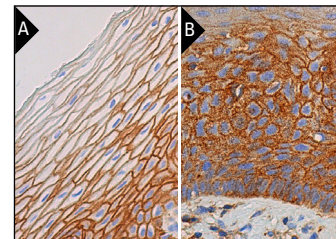
## RESEARCH USE

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

## DATA



HCAM (P2A1): sc-53298. Western blot analysis of HCAM expression in HeLa (A), U-937 (B), human PBL (C), HUV-EC-C (D) and CCRF-CEM (E) whole cell lysates.



HCAM (P2A1): sc-53298. Immunoperoxidase staining of formalin fixed, paraffin-embedded human uterine cervix tissue showing membrane staining of squamous epithelial cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human oral mucosa tissue showing membrane and cytoplasmic staining of squamous epithelial cells (B).

## SELECT PRODUCT CITATIONS

- Chen, B.B., et al. 2013. Prognostic value of clinical characteristics and immunophenotypic biomarkers in 115 patients with primary central nervous system lymphoma. *Chin. Med. J.* 126: 482-487.
- Li, Y., et al. 2014. Triple-layered cell sheet for tissue-engineering the synovial membrane of the temporomandibular joint. *Cells Tissues Organs* 199: 150-158.
- Liu, K., et al. 2015. Hypoxia promotes vasculogenic mimicry formation by the Twist1-Bmi1 connection in hepatocellular carcinoma. *Int. J. Mol. Med.* 36: 783-791.
- Delcourt, N., et al. 2015. Targeted identification of sialoglycoproteins in hypoxic endothelial cells and validation in zebrafish reveal roles for proteins in angiogenesis. *J. Biol. Chem.* 290: 3405-3417.
- Glatt, D.M., et al. 2016. The interplay of antigen affinity, internalization, and pharmacokinetics on CD44-positive tumor targeting of monoclonal antibodies. *Mol. Pharm.* 13: 1894-1903.
- Park, G.B., et al. 2017. Sorafenib controls the epithelial-mesenchymal transition of ovarian cancer cells via EGF and the CD-HA signaling pathway in a cell type-dependent manner. *Mol. Med. Rep.* 16: 1826-1836.
- Choi, Y.J., et al. 2018. EpCAM peptide-primed dendritic cell vaccination confers significant anti-tumor immunity in hepatocellular carcinoma cells. *PLoS ONE* 13: e0190638.

## CONJUGATES

See **HCAM (DF1485): sc-7297** for HCAM antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor<sup>®</sup> 488, 546, 594, 647, 680 and 790.