SANTA CRUZ BIOTECHNOLOGY, INC.

HCAM (DF1485): sc-7297

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 varients 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 varient in tumor progression.

REFERENCES

1. McVoy, L.A. and Kew, R.R. 2005. CD44 and annexin A2 mediate the C5a chemotactic cofactor function of the vitamin D binding protein. J. Immunol. 175: 4754-4760.
2. Hanley, W.D., et al. 2006. Variant isoforms of CD44 are P- and L-selectin ligands on colon carcinoma cells. FASEB J. 20: 337-339.

CHROMOSOMAL LOCATION

Genetic locus: CD44 (human) mapping to 11p13; Cd44 (mouse) mapping to 2 E2.

SOURCE

HCAM (DF1485) is a mouse monoclonal antibody raised against purified CD44 antigen (PGp-1) from lymphocyte membrane.

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.

HCAM (DF1485) is available conjugated to agarose (sc-7297 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-7297 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-7297 PE), fluorescein (sc-7297 FITC), Alexa Fluor® 488 (sc-7297 AF488), Alexa Fluor® 546 (sc-7297 AF546), Alexa Fluor® 594 (sc-7297 AF594) or Alexa Fluor® 647 (sc-7297 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-7297 AF680) or Alexa Fluor® 790 (sc-7297 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, HCAM (DF1485) is available conjugated to APC (sc-7297 APC) 100 tests in 2 ml, for 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

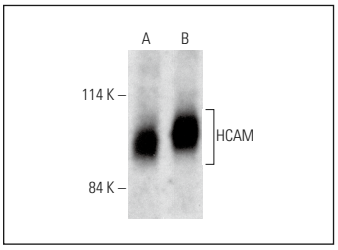
HCAM (DF1485) is recommended for detection of HCAM of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 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 10^6 cells).

Suitable for use as control antibody for HCAM siRNA (h): sc-29342, HCAM siRNA (m): sc-35534, HCAM shRNA Plasmid (h): sc-29342-SH, HCAM shRNA Plasmid (m): sc-35534-SH, HCAM shRNA (h) Lentiviral Particles: sc-29342-V and HCAM shRNA (m) Lentiviral Particles: sc-35534-V.

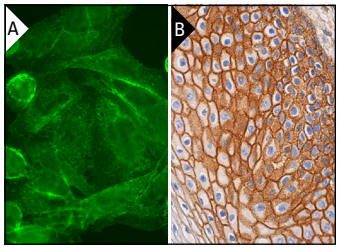
Molecular Weight of HCAM: 90-95 kDa.

Positive Controls: HISM cell lysate: sc-2229, HeLa whole cell lysate: sc-2200 or U-937 cell lysate: sc-2239.

DATA



HCAM (DF1485) HRP: sc-7297 HRP. Direct western blot analysis of HCAM expression in HeLa (**A**) and HISM (**B**) whole cell lysates.



HCAM (DF1485) Alexa Fluor® 488: sc-7297 AF488. Direct immunofluorescence staining of formalin-fixed SW480 cells showing membrane localization. Blocked with UltraCruz® Blocking Reagent: sc-516214 (**A**). HCAM (DF1485): sc-7297. Immunoperoxidase staining of formalin fixed, paraffin-embedded human uterine cervix tissue showing membrane staining of squamous epithelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Ghatak, S., et al. 2002. Hyaluronan oligosaccharides inhibit anchorage-independent growth of tumor cells by suppressing the phosphoinositide 3-kinase/Akt cell survival pathway. J. Biol. Chem. 277: 38013-38020.
2. Kong, T., et al. 2020. CD44 promotes PD-L1 expression and its tumor-intrinsic function in breast and lung cancers. Cancer Res. 80: 444-457.
3. Sun, X., et al. 2021. H3K9me2 regulates early transcription factors to promote mesenchymal stem-cell differentiation into cardiomyocytes. Mol. Med. Rep. 24: 616.
4. Kim, E.J., et al. 2022. The oncogenic JAG1 intracellular domain is a transcriptional cofactor that acts in concert with DDX17/SMAD3/TGIF2. Cell Rep. 41: 111626.
5. Kang, S., et al. 2023. TRIM40 is a pathogenic driver of inflammatory bowel disease subverting intestinal barrier integrity. Nat. Commun. 14: 700.

RESEARCH USE

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