

HCAM (IM7): sc-18849

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.

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.
3. Sugahara, K.N., et al. 2006. Tumor cells enhance their own CD44 cleavage and motility by generating hyaluronan fragments. *J. Biol. Chem.* 281: 5861-5868.

CHROMOSOMAL LOCATION

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

SOURCE

HCAM (IM7) is a rat monoclonal antibody raised against Dexamethasone-induced cells of the SJL mouse spontaneous myeloid leukemia M1.

PRODUCT

Each vial contains 200 µg IgG_{2b} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

HCAM (IM7) is available conjugated to agarose (sc-18849 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-18849 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-18849 PE), fluorescein (sc-18849 FITC), Alexa Fluor® 488 (sc-18849 AF488), Alexa Fluor® 546 (sc-18849 AF546), Alexa Fluor® 594 (sc-18849 AF594) or Alexa Fluor® 647 (sc-18849 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-18849 AF680) or Alexa Fluor® 790 (sc-18849 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF 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

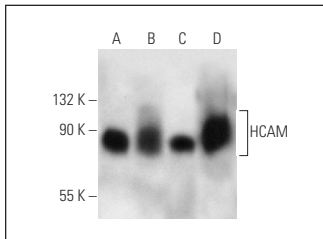
HCAM (IM7) is recommended for detection of HCAM of mouse, rat, human, canine, feline and equine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 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 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.

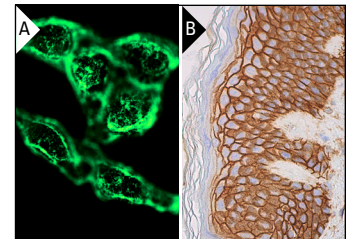
Molecular Weight of HCAM: 90-95 kDa.

Positive Controls: HUV-EC-C whole cell lysate: sc-364180, HeLa whole cell lysate: sc-2200 or WI-38 whole cell lysate: sc-364260.

DATA



HCAM (IM7): sc-18849. Western blot analysis of HCAM expression in HUV-EC-C (A), human PBL (B), HeLa (C) and WI-38 (D) whole cell lysates.



HCAM (IM7): sc-18849. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane staining (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human skin tissue showing membrane and cytoplasmic staining of keratinocytes, fibroblasts, Langerhans cells and melanocytes (B).

SELECT PRODUCT CITATIONS

1. Elron-Gross, I., et al. 2008. Cyclooxygenase inhibition by diclofenac formulated in bioadhesive carriers. *Biochim. Biophys. Acta* 1778: 931-936.
2. Fu, D.J., et al. 2020. Gastric squamous-columnar junction contains a large pool of cancer-prone immature osteopontin responsive Lgr5-CD44⁺ cells. *Nat. Commun.* 11: 84.
3. Roy Chowdhury, U., et al. 2021. Isolation and characterization of novel primary cells from the human distal outflow pathway. *Sci. Rep.* 11: 4034.
4. Uceda-Castro, R., et al. 2022. Re-purposing the pro-senescence properties of doxorubicin to introduce immunotherapy in breast cancer brain metastasis. *Cell Rep. Med.* 3: 100821.
5. Boers, R., et al. 2023. Retrospective analysis of enhancer activity and transcriptome history. *Nat. Biotechnol.* E-published.

RESEARCH USE

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

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