

HCAM (KM114): sc-18882

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.
4. Zhuo, L., et al. 2006. SHAP potentiates the CD44-mediated leukocyte adhesion to the hyaluronan substratum. *J. Biol. Chem.* 281: 20303-20314.
5. Mielgo, A., et al. 2007. The CD44 standard/Ezrin complex regulates Fas-mediated apoptosis in Jurkat cells. *Apoptosis* 12: 2051-2061.
6. Singleton, P.A., et al. 2007. CD44 regulates hepatocyte growth factor-mediated vascular integrity. Role of c-Met, Tiam1/Rac1, dynamin 2, and cortactin. *J. Biol. Chem.* 282: 30643-30657.

CHROMOSOMAL LOCATION

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

SOURCE

HCAM (KM114) is a rat monoclonal antibody raised by immunizing rats with BMS2 bone marrow derived stromal cell line of mouse origin.

PRODUCT

Each vial contains 200 µg IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available azide-free for blocking the adhesion of a B-cell hybridoma, sc-18882 L, 200 µg/0.1 ml.

HCAM (KM114) is available conjugated to phycoerythrin (sc-18882 PE), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM.

APPLICATIONS

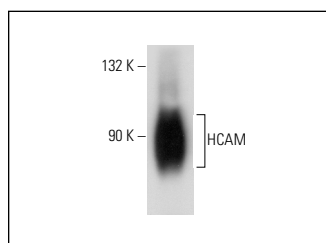
HCAM (KM114) is recommended for detection of HCAM of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and flow cytometry (1 µg per 1 x 10⁶ cells).

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.

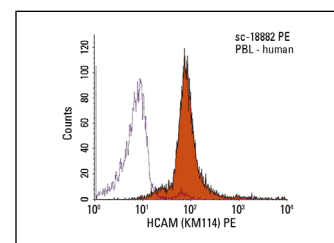
Molecular Weight of HCAM: 90-95 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, U-937 cell lysate: sc-2239 or HL-60 whole cell lysate: sc-2209.

DATA



HCAM (KM114): sc-18882. Western blot analysis of HCAM expression in mouse PBL whole cell lysate under non-reducing conditions.



HCAM (KM114) PE: sc-18882 PE. FCM analysis of human peripheral blood leukocytes. Black line histogram represents the isotype control, normal rat IgG₁-PE: sc-2871.

SELECT PRODUCT CITATIONS

1. Jong, A., et al. 2008. Involvement of human CD44 during *Cryptococcus neoformans* infection of brain microvascular endothelial cells. *Cell. Microbiol.* 10: 1313-1326.
2. Morris, H.L., et al. 2010. Mechanisms of fluid-flow-induced matrix production in bone tissue engineering. *Proc. Inst. Mech. Eng. H* 224: 1509-1521.
3. García-Bernal, D., et al. 2022. Enforced mesenchymal stem cell tissue colonization counteracts immunopathology. *NPJ Regen. Med.* 7: 61.

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.



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