

HCAM (B-F24): sc-59757

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. 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.
6. Mielgo, A., et al. 2007. The CD44 standard/ezrin complex regulates Fas-mediated apoptosis in Jurkat cells. *Apoptosis* 12: 2051-2061.

CHROMOSOMAL LOCATION

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

SOURCE

HCAM (B-F24) is a mouse monoclonal antibody raised against lymphoma cell line U-937 of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide, 0.1% gelatin and 1% stabilizer protein.

STORAGE

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

APPLICATIONS

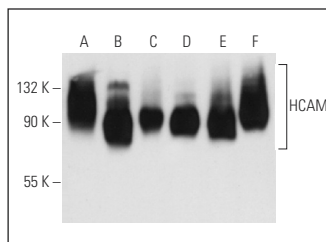
HCAM (B-F24) is recommended for detection of soluble antigen HCAM of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and flow cytometry (1 µg per 1 x 10⁶ cells).

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.

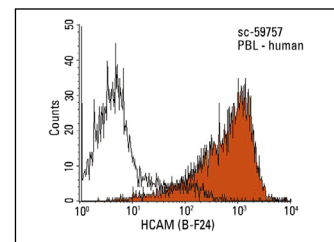
Molecular Weight of HCAM: 90-95 kDa.

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

DATA



HCAM (B-F24): sc-59757. Western blot analysis of HCAM expression in HL-60 (A), HeLa (B), U-937 (C), HUV-EC-C (D), HISM (E) and AML-193 (F) whole cell lysates.



HCAM (B-F24): sc-59757. Indirect FCM analysis of human peripheral blood leukocytes stained with HCAM (B-F24), followed by PE-conjugated goat anti-mouse IgG: sc-3738. Black line histogram represents the isotype control, normal mouse IgG₁: sc-3877.

SELECT PRODUCT CITATIONS

1. Piotrowicz, R.S., et al. 2011. A6 peptide activates CD44 adhesive activity, induces FAK and MEK phosphorylation, and inhibits the migration and metastasis of CD44-expressing cells. *Mol. Cancer Ther.* 10: 2072-2082.
2. Choi, H., et al. 2011. Anti-inflammatory protein TSG-6 secreted by activated MSCs attenuates zymosan-induced mouse peritonitis by decreasing TLR2/NFκB signaling in resident macrophages. *Blood* 118: 330-338.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.



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