SANTA CRUZ BIOTECHNOLOGY, INC.

HCAM (OX49): sc-53068

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.

CHROMOSOMAL LOCATION

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

SOURCE

HCAM (OX49) is a mouse monoclonal antibody raised against HCAM of rat origin.

PRODUCT

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

HCAM (OX49) is available conjugated to either phycoerythrin (sc-53068 PE) or fluorescein (sc-53068 FITC), 200 µg/ml, for WB (RGB), 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 (OX49) 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.

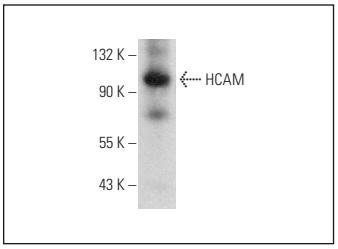
Molecular Weight of HCAM: 90-95 kDa.

Positive Controls: AT3B-1 whole cell lysate: sc-364372.

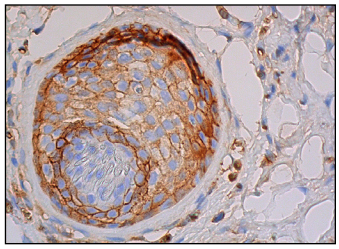
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



HCAM (OX49): sc-53068. Western blot analysis of HCAM expression in AT3B-1 whole cell lysate.



HCAM (OX49): sc-53068. Immunoperoxidase staining of formalin fixed, paraffin-embedded rat skin tissue showing membrane and cytoplasmic staining of squamous epithelial cells.

SELECT PRODUCT CITATIONS

1. Zucchi, I., et al. 2008. Distinct populations of tumor-initiating cells derived from a tumor generated by rat mammary cancer stem cells. Proc. Natl. Acad. Sci. USA 105: 16940-16945.
2. Zhou, L.N., et al. 2012. Bone marrow stromal and Schwann cells from adult rats can interact synergistically to aid in peripheral nerve repair even without intercellular contact *in vitro*. J. Tissue Eng. Regen. Med. 6: 579-588.
3. Zhao, Y., et al. 2013. Activation of bone marrow-derived mesenchymal stromal cells—a new mechanism of defocused low-energy shock wave in regenerative medicine. Cytotherapy 15: 1449-1457.
4. Shi, F., et al. 2016. Cellular prion protein promotes neuronal differentiation of adipose-derived stem cells by upregulating miRNA-124. J. Mol. Neurosci. 59: 48-55.
5. Jiao, X., et al. 2019. Dachshund depletion disrupts mammary gland development and diverts the composition of the mammary gland progenitor pool. Stem Cell Reports 12: 135-151.
6. Castaño, I.M., et al. 2020. Rapid bone repair with the recruitment of CD206+M2-like macrophages using non-viral scaffold-mediated miR-133a inhibition of host cells. Acta Biomater. 109: 267-279.

RESEARCH USE

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