SANTA CRUZ BIOTECHNOLOGY, INC.

caveolin-1 (7C8): sc-53564

BACKGROUND

Caveolae (also known as plasmalemmal vesicles) are 50-100 nM flask-shaped membranes that represent a subcompartment of the plasma membrane. On the basis of morphological studies, caveolae have been implicated to function in the transcytosis of various macromolecules (including LDL) across capillary endothelial cells, uptake of small molecules via potocytosis and the compartmentalization of certain signaling molecules including G protein-coupled receptors. Three proteins, caveolin-1, caveolin-2 and caveolin-3, have been identified as principal components of caveolae. 2 forms of caveolin-1, designated α and β, share a distinct but overlapping cellular distribution and differ by an amino-terminal 31 amino acid sequence which is absent from the β isoform. Caveolin-1 shares 31% identity with caveolin-2 and 65% identity with caveolin-3 at the amino acid level. Functionally, the three proteins differ in their interactions with heterotrimeric G protein isoforms.

CHROMOSOMAL LOCATION

Genetic locus: CAV1 (human) mapping to 7q31.2; Cav1 (mouse) mapping to 6 A2.

SOURCE

caveolin-1 (7C8) is a mouse monoclonal antibody raised against purified Glut4 vesicles from adipocytes of rat origin.

PRODUCT

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

caveolin-1 (7C8) is available conjugated to agarose (sc-53564 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-53564 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53564 PE), fluorescein (sc-53564 FITC), Alexa Fluor® 488 (sc-53564 AF488), Alexa Fluor® 546 (sc-53564 AF546), Alexa Fluor® 594 (sc-53564 AF594) or Alexa Fluor® 647 (sc-53564 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53564 AF680) or Alexa Fluor® 790 (sc-53564 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

caveolin-1 (7C8) is recommended for detection of caveolin 1 of mouse, rat, human and, to a lesser extent, hamster 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) and flow cytometry (1 µg per $1x10^6$ cells).

Suitable for use as control antibody for caveolin-1 siRNA (h): sc-29241, caveolin-1 siRNA (m): sc-29942, caveolin-1 siRNA (r): sc-106996, caveolin-1 shRNA Plasmid (h): sc-29241-SH, caveolin-1 shRNA Plasmid (m): sc-29942-SH, caveolin-1 shRNA Plasmid (r): sc-106996-SH, caveolin-1 shRNA (h) Lentiviral Particles: sc-29241-V, caveolin-1 shRNA (m) Lentiviral Particles: sc-29942-V and caveolin-1 shRNA (r) Lentiviral Particles: sc-106996-V.

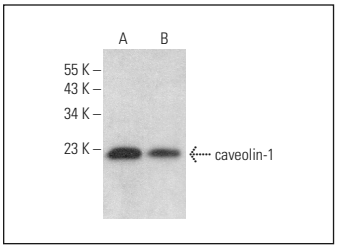
Molecular Weight of caveolin-1: 22 kDa.

Positive Controls: CHO-K1 cell lysate: sc-3809.

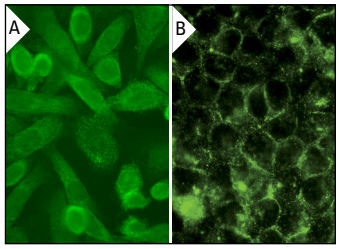
STORAGE

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

DATA



caveolin-1 (7C8): sc-53564. Western blot analysis of caveolin-1 expression in CHO-K1 (**A**) and ARPE-19 (**B**) whole cell lysates.



caveolin-1 (7C8) Alexa Fluor® 488: sc-53564 AF488. Direct immunofluorescence staining of formalin-fixed SW480 cells showing membrane and cytoplasmic localization. Blocked with UltraCruz® Blocking Reagent: sc-516214 (**A**). caveolin-1 (7C8): sc-53564. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization (**B**).

SELECT PRODUCT CITATIONS

1. Mao, H., et al. 2009. Sonic hedgehog ligand partners with caveolin-1 for intracellular transport. Lab. Invest. 89: 290-300.
2. Liu, Z., et al. 2013. Profiling of kidney vascular endothelial cell plasma membrane proteins by liquid chromatography-tandem mass spectrometry. Clin. Exp. Nephrol. 17: 327-337.
3. Sun, K., et al. 2014. Endotrophin triggers adipose tissue fibrosis and metabolic dysfunction. Nat. Commun. 5: 3485.
4. Cerecedo, D., et al. 2015. Association of membrane/lipid rafts with the platelet cytoskeleton and the caveolin PY14: participation in the adhesion process. J. Cell. Biochem. 116: 2528-2540.
5. Cerecedo, D., et al. 2016. Alterations in plasma membrane promote overexpression and increase of sodium influx through epithelial sodium channel in hypertensive platelets. Biochim. Biophys. Acta 1858: 1891-1903.
6. Gao, Z., et al. 2017. Mitochondria chaperone GRP75 moonlighting as a cell cycle controller to derail endocytosis provides an opportunity for nanomicrosphere intracellular delivery. Oncotarget 8: 58536-58552.
7. Li, J., et al. 2018. NFκB directly regulates β-arrestin-1 expression and forms a negative feedback circuit in TNF-α-induced cell death. FASEB J. 32: 4096-4106.
8. Garufi, A., et al. 2019. HIPK2 role in the tumor-host interaction: impact on fibroblasts transdifferentiation CAF-like. IUBMB Life 71: 2055-2061.
9. Li, C.C., et al. 2020. Nicotinamide riboside rescues angiotensin II-induced cerebral small vessel disease in mice. CNS Neurosci. Ther. 26: 438-447.

RESEARCH USE

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