

caveolin-1 (4H312): sc-70516

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. Two 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 (4H312) is a mouse monoclonal antibody raised against purified Glut4 vesicles from adipocytes of rat origin.

PRODUCT

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

caveolin-1 (4H312) is available conjugated to either phycoerythrin (sc-70516 PE) or fluorescein (sc-70516 FITC), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM.

APPLICATIONS

caveolin-1 (4H312) 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 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 μ g per 1 x 10⁶ 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: A-431 whole cell lysate: sc-2201, ARPE-19 whole cell lysate: sc-364357 or U-87 MG cell lysate: sc-2411.

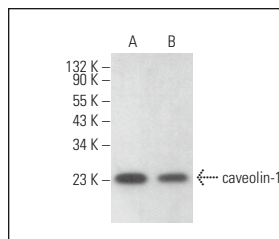
STORAGE

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

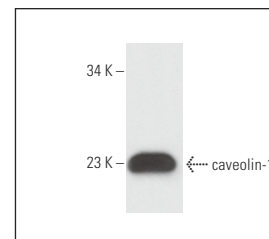
RESEARCH USE

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

DATA



caveolin-1 (4H312): sc-70516. Western blot analysis of caveolin-1 expression in CHO-K1 (A) and ARPE-19 (B) whole cell lysates.



caveolin-1 (4H312): sc-70516. Western blot analysis of caveolin-1 expression in CHO whole cell lysate.

SELECT PRODUCT CITATIONS

1. Zhan, R., et al. 2009. Heat shock protein 70 is secreted from endothelial cells by a non-classical pathway involving exosomes. *Biochem. Biophys. Res. Commun.* 387: 229-233.
2. Echiburú-Chau, C., et al. 2011. Metastatic suppressor CD44 is related with oxidative stress in breast cancer cell lines. *Int. J. Oncol.* 39: 1481-1489.
3. Campanella, C., et al. 2012. The odyssey of Hsp60 from tumor cells to other destinations includes plasma membrane-associated stages and Golgi and exosomal protein-trafficking modalities. *PLoS ONE* 7: e42008.
4. Dai, H., et al. 2013. Ammonia-induced Na,K-ATPase/ouabain-mediated EGF receptor transactivation, MAPK/ERK and PI3K/Akt signaling and ROS formation cause astrocyte swelling. *Neurochem. Int.* 63: 610-625.
5. Litterio, M.C., et al. 2015. (-)-Epicatechin reduces blood pressure increase in high-fructose-fed rats: effects on the determinants of Nitric oxide bioavailability. *J. Nutr. Biochem.* 26: 745-751.
6. Katakai, A., et al. 2018. Host's endogenous caveolin-1 expression is downregulated in the lung during sepsis to promote cytoprotection. *Shock* 50: 199-208.
7. Torella, D., et al. 2018. MiRNA regulation of the hyperproliferative phenotype of vascular smooth muscle cells in diabetes. *Diabetes* 67: 2554-2568.
8. Wu, Y., et al. 2018. ATRA improves endothelial dysfunction in atherosclerotic rabbits by decreasing CAV-1 expression and enhancing eNOS activity. *Mol. Med. Rep.* 17: 6796-6802.
9. Liang, Q., et al. 2019. Role of mitochondrial damage in Cr(VI)-induced endoplasmic reticulum stress in L-02 hepatocytes. *Mol. Med. Rep.* 19: 1256-1265.

CONJUGATES

See **caveolin-1 (7C8): sc-53564** for caveolin-1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.