SANTA CRUZ BIOTECHNOLOGY, INC.

caveolin-1 (N-20): sc-894

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 (N-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the N-terminus of caveolin-1 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-894 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as agarose conjugate for immunoprecipitation, sc-894 AC, 500 µg/0.25 ml agarose in 1 ml; as HRP conjugate for Western blotting, sc-894 HRP, 200 µg/1 ml; and as fluorescein (sc-894 FITC) or rhodamine (sc-894 TRITC) conjugates for immunofluorescence, 200 µg/1 ml.

APPLICATIONS

caveolin-1 (N-20) is recommended for detection of α-caveolin-1 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

caveolin-1 (N-20) is also recommended for detection of α-caveolin-1 in additional species, including equine, canine, bovine and porcine.

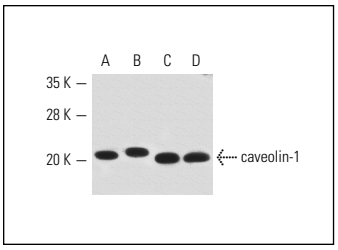
Suitable for use as control antibody for caveolin-1 siRNA (h): sc-29241, caveolin-1 siRNA (m): sc-29942, caveolin-1 shRNA Plasmid (h): sc-29241-SH, caveolin-1 shRNA Plasmid (m): sc-29942-SH, caveolin-1 shRNA (h) Lentiviral Particles: sc-29241-V and caveolin-1 shRNA (m) Lentiviral Particles: sc-29942-V.

Molecular weight of caveolin-1: 22 kDa.

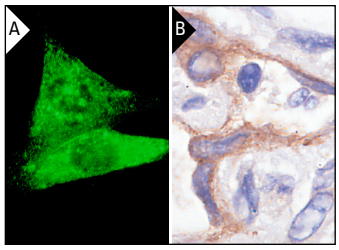
STORAGE

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

DATA



caveolin-1 (N-20): sc-894. Western blot analysis of caveolin-1 p22 expression in A-431 (**A**), NIH/3T3 (**B**), MDA-MB-231 (**C**) and SK-LMS-1 (**D**) whole cell lysates.



caveolin-1 (N-20): sc-894. Immunofluorescence staining of methanol-fixed NIH/3T3 cells (**A**). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human lung tumor showing membrane and cytoplasmic staining (**B**).

SELECT PRODUCT CITATIONS

1. Fujimoto, T., et al. 2000. Isoforms of caveolin-1 and caveolar structure. J. Cell Sci. 113: 3509-3517.
2. Koch, D., et al. 2012. Ultrastructural freeze-fracture immunolabeling identifies plasma membrane-localized syndapin II as a crucial factor in shaping caveolae. Histochem. Cell Biol. 38: 215-230.
3. Salem, A.F., et al. 2012. Two-compartment tumor metabolism: autophagy in the tumor microenvironment and oxidative mitochondrial metabolism (OXPHOS) in cancer cells. Cell Cycle 11: 2545-2556.
4. Hsieh, S.R., et al. 2013. Epigallocatechin-3-gallate-mediated cardioprotection by Akt/GSK-3β/caveolin signalling in H9c2 rat cardiomyoblasts. J. Biomed. Sci. 20: 86.
5. Chen, J., et al. 2013. Chaperone properties of pdia3 participate in rapid membrane actions of 1α,25-dihydroxyvitamin d3. Mol. Endocrinol. 27: 1065-1077.
6. Chen, J., et al. 2013. Plasma membrane Pdia3 and VDR interact to elicit rapid responses to 1α,25$(OH)_2D_3$. Cell. Signal. 25: 2362-2373.
7. Pronsato, L., et al. 2013. Non-classical localization of androgen receptor in the C2C12 skeletal muscle cell line. Arch. Biochem. Biophys. 530: 13-22.
8. Poggi, M., et al. 2013. Palmitoylation of TNF α is involved in the regulation of TNF receptor 1 signalling. Biochim. Biophys. Acta 1833: 602-612.
9. Sanchez-Alvarez, R., et al. 2013. Ethanol exposure induces the cancer-associated fibroblast phenotype and lethal tumor metabolism: implications for breast cancer prevention. Cell Cycle 12: 289-301.
10. Schneider, H., et al. 2014. Protein mediated fatty acid uptake: synergy between CD36/FAT-facilitated transport and acyl-CoA synthetase-driven metabolism. Arch. Biochem. Biophys. 546: 8-18.

RESEARCH USE

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