SANTA CRUZ BIOTECHNOLOGY, INC.

caveolin-2 (N-20): sc-1858

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: CAV2 (human) mapping to 7q31.2; Cav2 (mouse) mapping to 6 A2.

SOURCE

caveolin-2 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of caveolin-2 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-1858 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

caveolin-2 (N-20) is recommended for detection of precursor and mature caveolin-2, α and β isoforms 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).

Suitable for use as control antibody for caveolin-2 siRNA (h): sc-40388, caveolin-2 siRNA (m): sc-40389, caveolin-2 shRNA Plasmid (h): sc-40388-SH, caveolin-2 shRNA Plasmid (m): sc-40389-SH, caveolin-2 shRNA (h) Lentiviral Particles: sc-40388-V and caveolin-2 shRNA (m) Lentiviral Particles: sc-40389-V.

Molecular Weight of caveolin-2: 25 kDa.

Positive Controls: caveolin-2 (h): 293T Lysate: sc-128261, PC-12 + NGF cell lysate: sc-3808 or KNRK whole cell lysate: sc-2214.

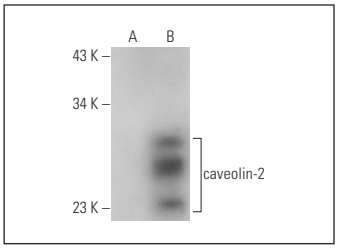
RESEARCH USE

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

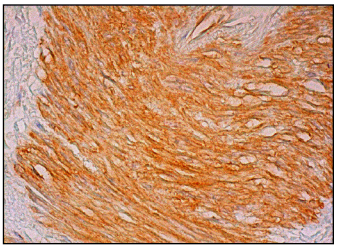
STORAGE

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

DATA



caveolin-2 (N-20): sc-1858. Western blot analysis of caveolin-2 expression in non-transfected: sc-117752 (**A**) and human caveolin-2 transfected: sc-128261 (**B**) 293T whole cell lysates.



caveolin-2 (N-20): sc-1858. Immunoperoxidase staining of formalin fixed, paraffin-embedded human smooth muscle tissue showing cytoplasmic and membrane staining of smooth muscle cells.

SELECT PRODUCT CITATIONS

1. Nasu, Y., et al. 1998. Suppression of caveolin expression induces androgen sensitivity in metastatic androgen-insensitive mouse prostate cancer cells. Nat. Med. 4: 1062-1064.
2. Masuda, S., et al. 2005. Various secretory phospholipase A_2 enzymes are expressed in rheumatoid arthritis and augment prostaglandin production in cultured synovial cells. FEBS J. 272: 655-672.
3. Samhan-Arias, A.K., et al. 2009. Clustering of plasma membrane-bound cytochrome β5 reductase within "lipid raft" microdomains of the neuronal plasma membrane. Mol. Cell. Neurosci. 40: 14-26.
4. Marques-da-Silva, D., et al. 2010. L-type calcium channels and cytochrome b5 reductase are components of protein complexes tightly associated with lipid rafts microdomains of the neuronal plasma membrane. J. Proteomics 73: 1502-1510.
5. Liu, J., et al. 2011. G protein α-s and -12 subunits are involved in androgen-stimulated PI3K activation and androgen receptor transactivation in prostate cancer cells. Prostate 71: 1276-1286.
6. Marques-da-Silva, D, and Gutierrez-Merino, C. 2012. L-type voltage-operated calcium channels, N-methyl-D-aspartate receptors and neuronal nitric-oxide synthase form a calcium/redox nano-transducer within lipid rafts. Biochem. Biophys. Res. Commun. 420: 257-262.
7. Samhan-Arias, A.K., et al. 2012. Stimulation and clustering of cytochrome b5 reductase in caveolin-rich lipid microdomains is an early event in oxidative stress-mediated apoptosis of cerebellar granule neurons. J. Proteomics 75: 2934-2949.