

caveolin-3 (N-18): sc-7665

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 alpha and beta, share a distinct but overlapping cellular distribution and differ by an amino terminal 31 amino acid sequence which is absent from the beta 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: CAV3 (human) mapping to 3p25.3; Cav3 (mouse) mapping to 6 E3.

SOURCE

caveolin-3 (N-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of caveolin-3 of mouse 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-7665 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

caveolin-3 (N-18) is recommended for detection of caveolin-3 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for caveolin-3 siRNA (h): sc-29943, caveolin-3 siRNA (m): sc-29944, caveolin-3 siRNA (r): sc-106997, caveolin-3 shRNA Plasmid (h): sc-29943-SH, caveolin-3 shRNA Plasmid (m): sc-29944-SH, caveolin-3 shRNA Plasmid (r): sc-106997-SH, caveolin-3 shRNA (h) Lentiviral Particles: sc-29943-V, caveolin-3 shRNA (m) Lentiviral Particles: sc-29944-V and caveolin-3 shRNA (r) Lentiviral Particles: sc-106997-V.

Molecular Weight of caveolin-3: 20-25 kDa.

Positive Controls: SJRH30 cell lysate: sc-2287, rat heart extract: sc-2393 or caveolin-3 (m): 293T Lysate: sc-119043.

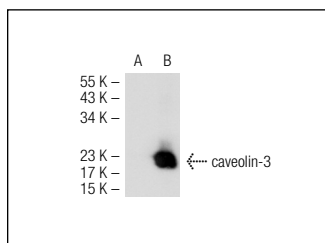
STORAGE

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-3 (N-18): sc-7665. Western blot analysis of caveolin-3 expression in non-transfected: sc-117752 (A) and mouse caveolin-3 transfected: sc-119043 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

- Schreiber, S., et al. 2000. A possible role for caveolin as a signaling organizer in olfactory sensory membranes. *J. Biol. Chem.* 275: 24115-24123.
- Ohsawa, Y., et al. 2003. Overexpression of P104L mutant caveolin-3 in mice develops hypertrophic cardiomyopathy with enhanced contractility in association with increased endothelial nitric oxide synthase activity. *Hum. Mol. Genet.* 13: 151-157.
- Ueda, H., et al. 2004. Caveolin-3 at the T-tubule colocalizes with α -actinin in the adult murine cardiac muscle. *Acta Histochem. Cytochem.* 37: 373-378.
- Ratajczak, P., et al. 2005. Expression and localization of caveolins during postnatal development in rat heart: implication of thyroid hormone. *J. Appl. Physiol.* 99: 244-251.
- Bai, C.X., et al. 2005. Role of nitric oxide in Ca^{2+} sensitivity of the slowly activating delayed rectifier K^+ current in cardiac myocytes. *Circ. Res.* 96: 64-72.
- Barth, K., et al. 2005. Epithelial vs myofibroblast differentiation in immortal rat lung cell lines—modulating effects of bleomycin. *Histochem. Cell Biol.* 124: 453-464.
- Boivin, B., et al. 2005. Sub-cellular distribution of endothelin signaling pathway components in ventricular myocytes and heart: lack of pre-formed caveolar signalosomes. *J. Mol. Cell. Cardiol.* 38: 665-676.
- Volonte, D., et al. 2008. Caveolin-1 and caveolin-3 form heterooligomeric complexes in atrial cardiac myocytes that are required for doxorubicin-induced apoptosis. *Am. J. Physiol. Heart Circ. Physiol.* 294: H392-H401.
- Ho, C.C., et al. 2008. TREM-1 expression in tumor-associated macrophages and clinical outcome in lung cancer. *Am. J. Respir. Crit. Care Med.* 177: 763-770.
- Hezel, M., et al. 2010. Caveolin-3 promotes nicotinic acetylcholine receptor clustering and regulates neuromuscular junction activity. *Mol. Biol. Cell* 21: 302-310.