SANTA CRUZ BIOTECHNOLOGY, INC.

p-caveolin-1 (Tyr 14): sc-101653

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 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. Caveolin-1 is presumed to be phosphorylated by c-Src kinase, although little is known about this phosphorylation event. Tyrosine 14 of caveolin-1 undergoes regulated phosphoryl-ation during growth factor signaling and is constitutively phosphorylated in Src- and Abl-transformed cells.

CHROMOSOMAL LOCATION

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

SOURCE

p-caveolin-1 (Tyr 14) is a rabbit polyclonal antibody raised against a short amino acid sequence containing Tyr 14 phosphorylated 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.

STORAGE

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

APPLICATIONS

p-caveolin-1 (Tyr 14) is recommended for detection of Tyr 14 phosphorylated 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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.

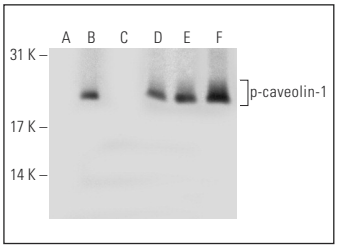
Molecular Weight of p-caveolin-1: 22 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210 or A-431 whole cell lysate: sc-2201.

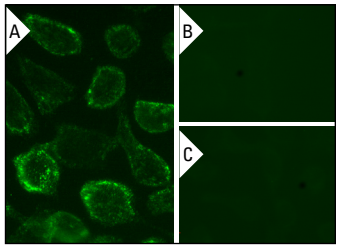
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Western Blotting Luminol Reagent: sc-2048 and Lambda Phosphatase: sc-200312A. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



Western blot analysis of caveolin-1 phosphorylation in untreated (**A**,**D**), pervanadate treated (**B**,**E**) and pervanadate and lambda protein phosphatase (sc-200312A) treated (**C**,**F**) A-431 whole cell lysates. Antibodies tested include p-caveolin-1 (Tyr 14): sc-101653 (**A**,**B**,**C**) and caveolin-1 (N-20): sc-894 (**D**,**E**,**F**).



p-caveolin-1 (Tyr 14): sc-101653. Immunofluorescence staining of methanol-fixed A-431 cells treated with Pervanadate (Sodium Orthovanadate: sc-3540 + Hydrogen Peroxide: sc-20336) (**A**) untreated (**B**) and treated with Pervanadate and Lambda Phosphatase: sc-200312 (**C**).

SELECT PRODUCT CITATIONS

1. 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.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.