

Anti-Caveolin-1/CAV1 Antibody

Catalog Number: PA1514

About CAV1

CAV1, Caveolin-1, is a protein that in humans is encoded by the CAV1 gene. The CAV1 gene is mapped to 7q31.2. The scaffolding protein encoded by this gene is the main component of the caveolae plasma membranes found in most cell types. The protein links integrin subunits to the tyrosine kinase FYN, an initiating step in coupling integrins to the Ras-ERK pathway and promoting cell cycle progression. The gene is a tumor suppressor gene candidate and a negative regulator of the Ras-p42/44 MAP kinase cascade. CAV1 and CAV2 are located next to each other on chromosome 7 and express colocalizing proteins that form a stable hetero-oligomeric complex. By using alternative initiation codons in the same reading frame, two isoforms (alpha and beta) are encoded by a single transcript from this gene.

Overview

Product Name	Anti-Caveolin-1/CAV1 Antibody
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-Caveolin-1/CAV1 Antibody catalog # PA1514. Tested in Flow Cytometry, IF, IHC, WB applications. This antibody reacts with Human, Mouse, Rat.
Application	Flow Cytometry, IF, IHC, WB
Clonality	Polyclonal
Formulation	Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na2HPO4.
Storage Instructions	Store at -20°C for one year from date of receipt. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for six months. Avoid repeated freeze-thaw cycles.
Host	Rabbit
Uniprot ID	Q03135

Technical Details

Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human Caveolin-1, different from the related rat and mouse sequences by three amino acids.
Predicted Reactive Species	Horse
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P).
Cross Reactivity	No cross-reactivity with other proteins
Isotype	Rabbit IgG
Form	Lyophilized

Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	<p>Dilute the sample so that the expected range of concentrations fall within the detection range of this kit.</p> <p>If the expected range of concentration is unknown, a pilot test should be conducted to decide the optimal dilution ratio for your samples.</p> <p>Some PubMed article(s) citing the expression level of this target are as follows:</p> <p>Boster Bio's internal QC testing used:</p> <p>Western blot, 0.1-0.5ug/ml, Human, Mouse, Rat</p> <p>Immunohistochemistry (Paraffin-embedded Section), 2-5ug/ml, Human, By Heat</p> <p>Immunofluorescence, 5 ug/ml, Human</p> <p>Flow Cytometry, 1-3 ug/1x10⁶ cells, Human</p>

Anti-Caveolin-1/CAV1 Antibody (PA1514) Images

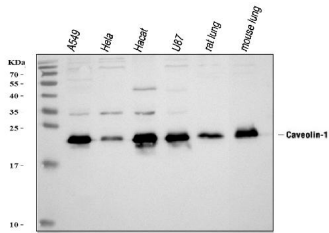


Figure 1. Western blot analysis of Caveolin-1/CAV1 using anti-Caveolin-1/CAV1 antibody (PA1514).

Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions.

Lane 1: human A549 whole cell lysates,
Lane 2: human Hela whole cell lysates,
Lane 3: human Hacat whole cell lysates,
Lane 4: human U87 whole cell lysates,
Lane 5: rat lung tissue lysates,
Lane 6: mouse lung tissue lysates.

After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-Caveolin-1/CAV1 antigen affinity purified polyclonal antibody (Catalog # PA1514) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for Caveolin-1/CAV1 at approximately 22 kDa. The expected band size for Caveolin-1/CAV1 is at 20 kDa.

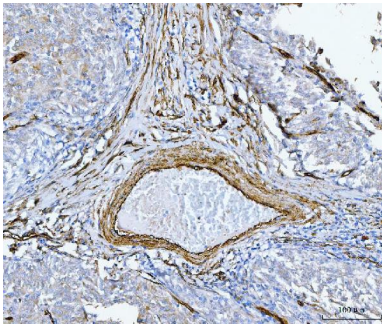


Figure 2. IHC analysis of Caveolin-1/CAV1 using anti-Caveolin-1/CAV1 antibody (PA1514).

Caveolin-1/CAV1 was detected in a paraffin-embedded section of human melanoma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-Caveolin-1/CAV1 Antibody (PA1514) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.

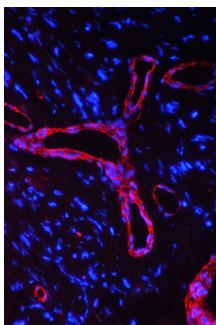


Figure 3. IF analysis of Caveolin-1/CAV1 using anti-Caveolin-1/CAV1 antibody (PA1514).

Caveolin-1/CAV1 was detected in a paraffin-embedded section of human glioma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 5 ug/mL rabbit anti-Caveolin-1/CAV1 Antibody (PA1514) overnight at 4°C. DyLight®550 Conjugated Goat Anti-Rabbit IgG (BA1135) was used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37°C. The section was counterstained with DAPI. Visualize using a fluorescence

microscope and filter sets appropriate for the label used.

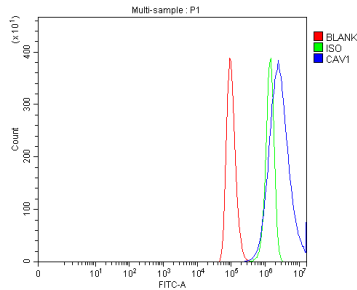


Figure 4. Flow Cytometry analysis of A549 cells using anti-Caveolin-1/CAV1 antibody (PA1514). Overlay histogram showing A549 cells stained with PA1514 (Blue line). The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-Caveolin-1/CAV1 Antibody (PA1514, 1 ug/1x10⁶ cells) for 30 min at 20°C. DyLight® 488 conjugated goat anti-rabbit IgG (BA1127, 5-10 ug/1x10⁶ cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit IgG (1 ug/1x10⁶) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

3 Publications Citing This Product

1. PubMed ID: 10.3390/ijms15058526, MicroRNA-199a-5p Affects Porcine Preadipocyte Proliferation and Differentiation
2. PubMed ID: 24175763, Wang Nn, Zhao Lj, Wu Ln, He Mf, Qu Jw, Zhao Yb, Zhao Wz, Li Js, Wang Jh. Asian Pac J Cancer Prev. 2013;14(9):4983-8. Mechanistic Analysis Of Taxol-Induced Multidrug Resistance In An Ovarian Cancer Cell Line.
3. PubMed ID: 24830555, MicroRNA-199a-5p Affects Porcine Preadipocyte Proliferation and Differentiation

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