

Anti-Caveolin-1/CAV1 Antibody Picoband®

Catalog Number: PB9165

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

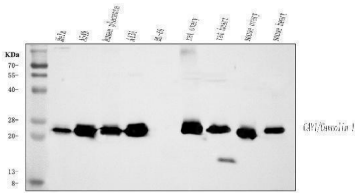
Product Name	Anti-Caveolin-1/CAV1 Antibody Picoband®
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-Caveolin-1/CAV1 Antibody Picoband® catalog # PB9165. Tested in Flow Cytometry, IF, IHC, IHC-F, WB applications. This antibody reacts with Human, Mouse, Rat. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Application	Flow Cytometry, IF, IHC, IHC-F, WB
Clonality	Polyclonal
Formulation	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na ₂ HPO ₄ , 0.01mg NaN ₃ .
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

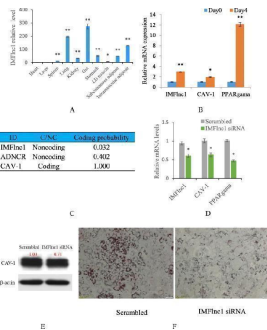
Immunogen	E.coli-derived human Caveolin-1 recombinant protein (Position: G4-I178). Human Caveolin-1 shares 95% and 94% amino acid (aa) sequences identity with mouse and rat Caveolin-1, respectively.
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot, and HRP Conjugated anti-Rabbit IgG Super Vision Assay Kit (SV0002-1) for IHC(P) and IHC(F).
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	Western blot, 0.1-0.5ug/ml, Human, Mouse, Rat Immunohistochemistry (Paraffin-embedded Section), 2-5ug/ml, Human, Mouse Immunohistochemistry (Frozen Section), 2-5ug/ml, Human Immunofluorescence, 5ug/ml, Human Flow Cytometry(Fixed), 1-3ug/1x10 ⁶ cells, Human

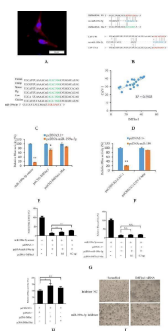
Anti-Caveolin-1/CAV1 Antibody Picoband® (PB9165) Images



Western blot analysis of Caveolin-1/CAV1 using anti-Caveolin-1/CAV1 antibody (PB9165). 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 Hela whole cell lysates, Lane 2: human A549 whole cell lysates, Lane 3: human placenta tissue lysates, Lane 4: human A431 whole cell lysates, Lane 5: human HL-60 whole cell lysates, Lane 6: rat ovary tissue lysates, Lane 7: rat heart tissue lysates, Lane 8: mouse ovary tissue lysates, Lane 9: mouse heart 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 # PB9165) 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.

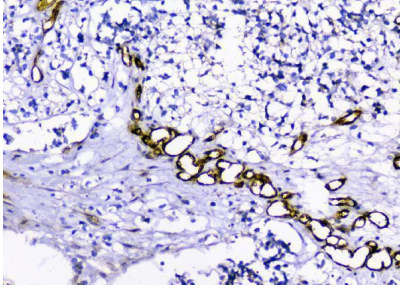


IMF1nc1 was associated with adipogenesis. a The expression profile of IMF1nc1 in different tissues by qRT-PCR. b The expression level of IMF1nc1 and PPARgamma during porcine intramuscular preadipocyte differentiation by qRT-PCR. c The coding probability of IMF1nc1, ADNCR and CAV-1 were analyzed by Coding Potential Calculator 2 (CPC2) program. d IMF1nc1 siRNA could downregulate expression of IMF1nc1, CAV-1 and PPARgamma by qRT-PCR. e The effect of IMF1nc1 siRNA on CAV-1 protein expression by Western blot. f Inhibition of IMF1nc1 inhibited adipogenesis by Oil Red O staining Index in PubMed under a CC BY license. PMID: 33148167

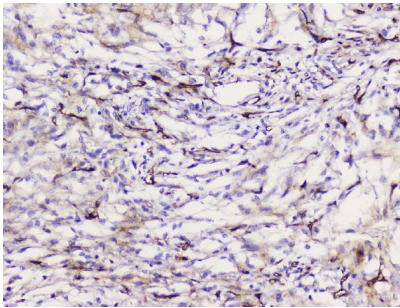


IMF1nc1 regulates CAV-1 expression by sponging miR-199a-5p. a Detection of IMF1nc1 in porcine intramuscular adipocyte by RNA fluorescence in situ hybridization (RNA-FISH). Red represents FISH probes of IMF1nc1. Nuclei are counterstained with DAPI (blue). Scale bar, 50 um. b The schematic diagram shows the sequences of IMF1nc1 and CAV-1 with miR-199a-5p, including wild-type (Wt) and mutant type (Mut). c The binding site of miR-199a-5p at CAV-1 3'UTR (green) are evolutionarily conserved across species. d The correlation analysis of IMF1nc1 expression level and CAV-1 mRNA level in 18 porcine LD muscle tissues. e IMF1nc1 acted as the target of miR-199a-5p. f CAV-1 acted as the target of miR-199a-5p. g IMF1nc1 acted as the sponge of miR-199a-5p. IMF1nc1

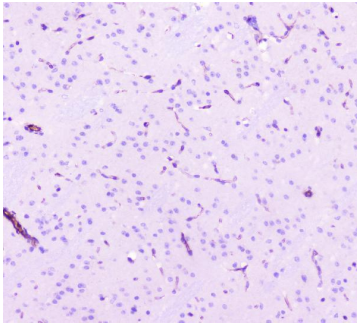
increases CAV-1 expression (h) and adipogenesis (i) in a miR-199a-5p dependent manner Index in PubMed under a CC BY license. PMID: 33148167



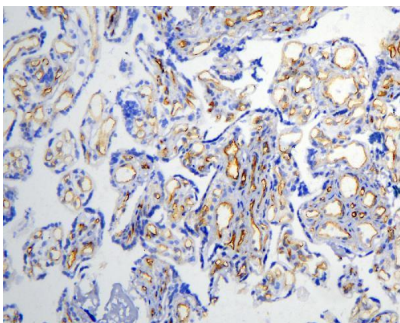
IHC analysis of Caveolin-1/CAV1 using anti-Caveolin-1/CAV1 antibody (PB9165). Caveolin-1/CAV1 was detected in a paraffin-embedded section of human glioma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-Caveolin-1/CAV1 Antibody (PB9165) 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.



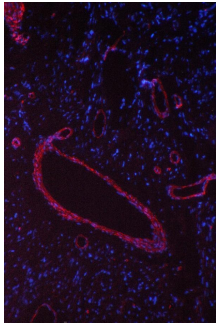
IHC analysis of Caveolin-1/CAV1 using anti-Caveolin-1/CAV1 antibody (PB9165). Caveolin-1/CAV1 was detected in a paraffin-embedded section of human meningeoma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-Caveolin-1/CAV1 Antibody (PB9165) 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.



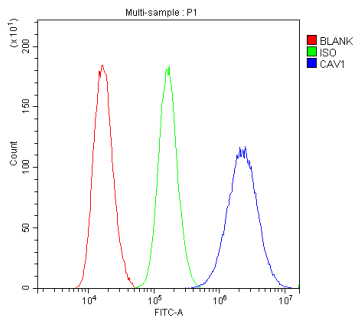
IHC analysis of Caveolin-1/CAV1 using anti-Caveolin-1/CAV1 antibody (PB9165). Caveolin-1/CAV1 was detected in a paraffin-embedded section of mouse brain tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-Caveolin-1/CAV1 Antibody (PB9165) 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.



IHC analysis of Caveolin-1/CAV1 using anti-Caveolin-1/CAV1 antibody (PB9165). Caveolin-1/CAV1 was detected in a frozen section of human placenta tissue. 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 (PB9165) 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.



IF analysis of Caveolin-1/CAV1 using anti-Caveolin-1/CAV1 antibody (PB9165). 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 (PB9165) overnight at 4°C. Cy3 Conjugated Goat Anti-Rabbit IgG (BA1032) 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.



Flow Cytometry analysis of U87 cells using anti-Caveolin-1/CAV1 antibody (PB9165). Overlay histogram showing U87 cells stained with PB9165 (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-Caveolin-1/CAV1 Antibody (PB9165, 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.

2 Publications Citing This Product

1. 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.

2. PubMed ID: 24830555, MicroRNA-199a-5p Affects Porcine Preadipocyte Proliferation and Differentiation

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Anti-Caveolin-1/CAV1 Antibody

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