**Overview**

**Product name**  Anti-Caveolin-1 antibody

**Description**  Rabbit polyclonal to Caveolin-1

**Host species**  Rabbit

**Specificity**  Detects caveolin-1.

**Tested applications**  Suitable for: ICC/IF, IHC-Fr, IP, WB, IHC-P, Dot blot

**Species reactivity**  Reacts with: Mouse, Rat, Goat, Hamster, Dog, Human

**Predicted to work with:** Sheep, Rabbit, Horse, Cow, Cat, Pig, Chimpanzee, Gorilla, African green monkey, African bush elephant

**Immunogen**  Synthetic peptide corresponding to Human Caveolin-1 aa 1-17.

Sequence:

MSGKYVDSEGHLYTVP

Database link: Q03135
(Peptide available as ab4928)


**General notes**  This antibody can be used as a marker for lipid raft fractions.

**Properties**

**Form**  Liquid

**Storage instructions**  Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.

**Storage buffer**  Preservative: 0.05% Sodium azide
Constituents: 0.1% BSA, PBS

**Purity**  Immunogen affinity purified

**Clonality**  Polyclonal

**Isotype**  IgG
Function
May act as a scaffolding protein within caveolar membranes. Interacts directly with G-protein alpha subunits and can functionally regulate their activity (By similarity). Involved in the costimulatory signal essential for T-cell receptor (TCR)-mediated T-cell activation. Its binding to DPP4 induces T-cell proliferation and NF-kappa-B activation in a T-cell receptor/CD3-dependent manner. Recruits CTNNB1 to caveolar membranes and may regulate CTNNB1-mediated signaling through the Wnt pathway.

Tissue specificity
Expressed in muscle and lung, less so in liver, brain and kidney.

Involvement in disease
Defects in CAV1 are the cause of congenital generalized lipodystrophy type 3 (CGL3) [MIM:612526]; also called Berardinelli-Seip congenital lipodystrophy type 3 (BSCL3). Congenital generalized lipodystrophies are autosomal recessive disorders characterized by a near absence of adipose tissue, extreme insulin resistance, hypertriglyceridemia, hepatic steatosis and early onset of diabetes.

Sequence similarities
Belongs to the caveolin family.

Post-translational modifications
The initiator methionine for isoform Beta is removed during or just after translation. The new N-terminal amino acid is then N-acetylated.

Cellular localization
Immunohistochemical analysis of formaldehyde-fixed paraffin-embedded human cardiac tissue, labeling Caveolin 1 with ab2910 at a dilution of 1/10,000 incubated for 2 hours at 21°C in TBS / BSA / Aside solution.

Heat mediated antigen retrieval was performed with citric acid. Blocking was with 1% BSA incubated for 10 minutes at 21°C. Secondary used was a goat anti-rabbit polyclonal biotin conjugate at 1/300. Image shows strong immunopositivity at the membranes of cardiomyocytes (invaginations of immunostaining show points of branching of each myocyte). There is intense positivity in the smooth muscle of arterioles. Not seen is the intense positivity of what seems to be the endothelial lining cells of the endocardium.

ab2910 at a 1/250 dilution staining NIH/3T3 (Mouse embryo fibroblast cell line) cells by Immunocytochemistry (panel B). The antibody was incubated with the paraformaldehyde fixed cells for 12 hours. Bound antibody was detected using an Alexa Fluor® 594 conjugated Goat anti-rabbit antibody (ab150080). Panel A shows staining with a mouse anti-Caveolin 1 antibody (clone 2297). Panel C shows the merged image.

This image is courtesy of an Abreview by William Ackerman.
Cross-sections of normal human corneas (A, F, K) and naïve ARK corneas (B, G, L), KLAL ARK cornea (C, H, M), centered transplanted ARK cornea (D, I, N) and decentered transplanted ARK cornea (E, J, O) labeled with antibodies (green) against Ki-67 (A-E), CD68 (F-J) and caveolin-1 (ab2910) (K-O).

The corneal buttons were routinely formalin-fixed, embedded into paraffin wax and serial sections, 4 μm thick, were collected on Superfrost® Plus slides, dried in a vertical position overnight at 60°C and thereafter stored at +4°C in a tightly closed slide box until further processing. Two normal corneas were processed and sectioned using the same protocol. For full method, please see paper.

All lanes : Anti-Caveolin-1 antibody (ab2910) at 1.5 µg/ml

Lane 1 : Human lung
Lane 2 : Human heart
Lane 3 : Human spleen

Lysates/proteins at 20 µg per lane.

Secondary
All lanes : Alexa Fluor anti-rabbit at 1/5000 dilution

Predicted band size: 20 kDa
Observed band size: 20 kDa

Rat astrocytes stained with fluorescently labeled Caveolin-1 antibody.

Primary antibody is ab2910 at a dilution of 1/500 and the secondary antibody is Texas red labeled anti-rabbit IgG at a dilution of 1/1000.

This image was kindly supplied as part of the review submitted by Donghui Zhu.
Structure and characterization of pmPAS, a plasma membrane FRET biosensor for PA.

Cells expressing pmPAS were lysed and subjected to sucrose gradient ultracentrifugation to check the localization of pmPAS in subdomains of the plasma membrane.

Fractions were probed for caveolin-1 using ab2910.

ab2910 staining Caveolin-1 - Caveolae Marker in HeLa (Human epithelial cell line from cervix adenocarcinoma) cells by ICC/IF (Immunocytochemistry/Immunofluorescence).

Cells were fixed with paraformaldehyde. Samples were incubated with primary antibody (1/200 in PBS + 0.05% Saponin) for 1 hour at 37°C. A Cy3®-conjugated Donkey anti-rabbit polyclonal (1/500) was used as the secondary antibody.

ab2910 diluted 1/500 and was incubated with A549 (Human lung carcinoma cell line) whole cell lysate and a Protein A/G matrix for 16 hours at 4°C to achieve immunoprecipitation. 400 µg of lysate was present in the input.

An HRP-conjugated goat anti-rabbit was used for the Western Blot step.

Lane 1: Whole cell
Lane 2: IP-Caveolin-1
Lane 3: Unrelated antibody
Lane 4: Unrelated antibody
Anti-Caveolin-1 antibody (ab2910) at 2 μg/ml + Rat heart protein extract

**Predicted band size:** 20 kDa

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