abcam

Product datasheet

Anti-Caveolin-1 antibody - Caveolae Marker ab2910

★★★★★ 54 Abreviews 174 References 9 图像

概述

产品名称	Anti-Caveolin-1抗体- Caveolae Marker
描述	兔多克隆抗体to Caveolin-1 - Caveolae Marker
宿主	Rabbit
经测试应用	**适用于:** WB, ICC/IF, IP
种属反应性	**与反应:** Mouse, Rat, Human **预测可用于:** Sheep, Rabbit, Horse, Cow, Cat, Pig, Chimpanzee, Gorilla, African green monkey, African bush elephant
免疫原	Synthetic peptide corresponding to Human Caveolin-1 aa 1-100. Database link: **Q03135** Run BLAST with Run BLAST with
阳性对照	WB: Human lung, heart and spleen tissue lysates; Mouse heart and lung tissue lysates; Rat heart protein extract; PANC-1, U-87 MG, A549, HeLa, PC-3, U-2 OS, C2C12 and A431 cell lysates. ICC/IF: A-375, HeLa and NIH/3T3 cells; Rat astrocytes.
常规说明	This antibody can be used as a marker for lipid raft fractions. The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

性能

形式	Liquid
存放说明	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.
存储溶液	Preservative: 0.05% Sodium azide Constituents: 0.1% BSA, PBS
纯度	Immunogen affinity purified
克隆	多克隆

同种型	IgG

应用

The Abpromise guarantee Abpromise™承诺保证使用ab2910于以下的经测试应用

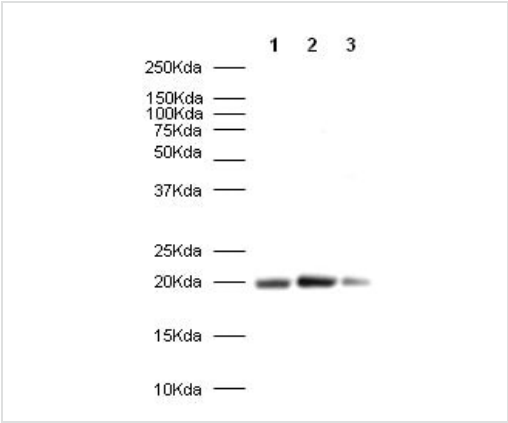
"应用说明"部分 下显示的仅为推荐的起始稀释度;实际最佳的稀释度/浓度应由使用者检定。

应用	Ab评论	说明
WB	★★★★★ (21)	Use a concentration of 1 - 2 µg/ml. Detects a band of approximately 22 kDa (predicted molecular weight: 20 kDa).
ICC/IF	★★★★★ (15)	Use at an assay dependent concentration.
IP	★★★★★ (9)	Use at an assay dependent concentration. Recommended dilution: 5 µg

靶标

功能	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.
组织特异性	Expressed in muscle and lung, less so in liver, brain and kidney.
疾病相关	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.
序列相似性	Belongs to the caveolin family.
翻译后修饰	The initiator methionine for isoform Beta is removed during or just after translation. The new N-terminal amino acid is then N-acetylated.
细胞定位	Golgi apparatus membrane. Cell membrane. Membrane > caveola. Membrane raft. Colocalized with DPP4 in membrane rafts. Potential hairpin-like structure in the membrane. Membrane protein of caveolae.

图片



Western blot - Anti-Caveolin-1 antibody - Caveolae Marker (ab2910)

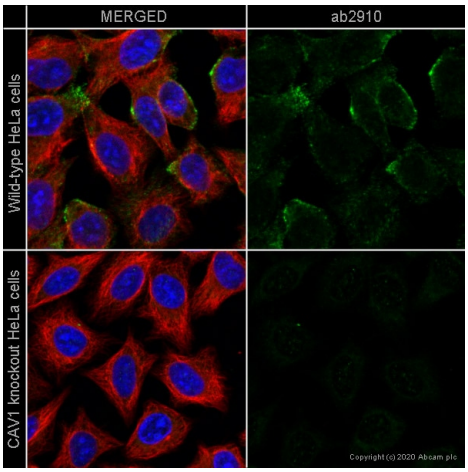
All lanes : Anti-Caveolin-1 antibody - Caveolae Marker (ab2910) at 1.5 µg/ml

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

Lysates/proteins at 20 µg per lane.

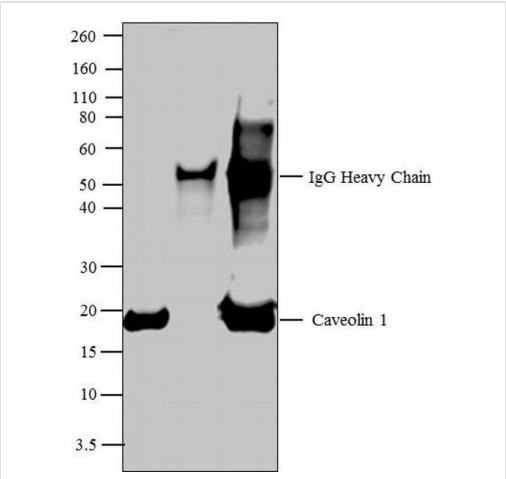
Secondary
All lanes : Alexa Fluor anti-rabbit at 1/5000 dilution

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



Immunocytochemistry/ Immunofluorescence - Anti-Caveolin-1 antibody - Caveolae Marker (ab2910)

ab2910 staining Caveolin-1 in wild-type HeLa cells (top panel) and CAV1 knockout HeLa cells (**ab255371**) (bottom panel). The cells were fixed with 100% methanol (5 min) then permeabilized with 0.1% Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated with ab2910 at 1/500 dilution and **ab7291** (Mouse monoclonal to alpha Tubulin) at 1/1000 dilution overnight at 4°C followed by a further incubation at room temperature for 1h with a goat secondary antibody to rabbit IgG (Alexa Fluor® 488) (**ab150081**) at 2 µg/ml (shown in green) and a goat secondary antibody to mouse IgG (Alexa Fluor® 594) (**ab150120**) at 2 µg/ml (shown in red). Nuclear DNA was labelled in blue with DAPI.
Image was taken with a confocal microscope (Leica-Microsystems TCS SP8).

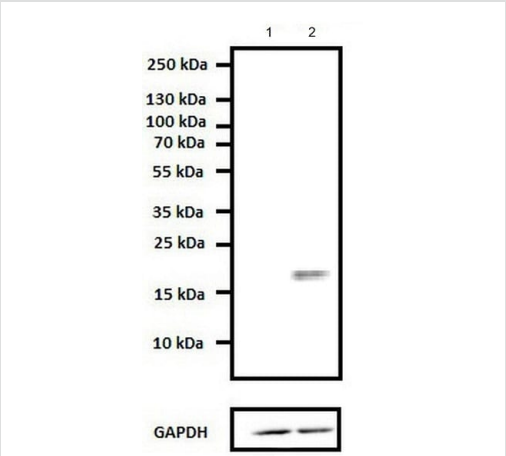


Immunoprecipitation - Anti-Caveolin-1 antibody - Caveolae Marker (ab2910)

Caveolin 1 was immunoprecipitated using 5 µg of ab2910 from lysate of Mouse Heart (Lane 3) using the Dynabeads® Protein A Immunoprecipitation Kit. Normal Rabbit IgG was used as a Isotype control (Lane 2). 10 % input represents the cell extract used for immunoprecipitation (Lane 1). Western blot analysis was performed using Caveolin 1 Rabbit Polyclonal Antibody and Goat anti-Rabbit IgG (H+L) Superclonal™ Secondary Antibody, HRP conjugate. Chemiluminescent detection was performed using Pierce™ ECL Western Blotting Substrate.

All lanes :

Lane 1 : Input control
Lane 2 : Isotype control
Lane 3 : IP elute



Western blot - Anti-Caveolin-1 antibody - Caveolae Marker (ab2910)

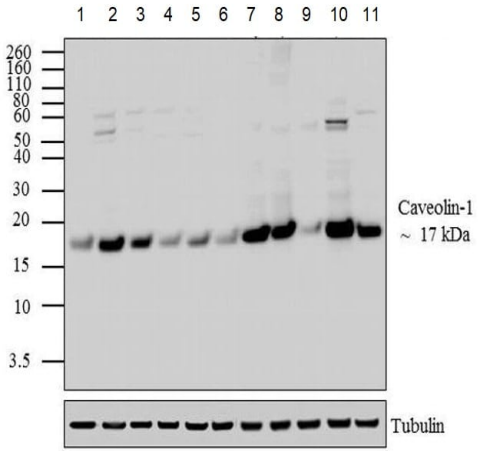
All lanes : Anti-Caveolin-1 antibody - Caveolae Marker (ab2910) at 1 µg/ml

Lane 1 : CAV1 knockout HeLa cell lysate
Lane 2 : Wild-type HeLa cell lysate

Predicted band size: 20 kDa

The specificity of ab2910 was demonstrated by CRISPR targeted CAV1 knockout in HeLa cells. Western blot analysis of whole cell lysates using this antibody showed no detection of caveolin 1 protein expression in knockout cells compared to the protein detected at ~22kDa in wild-type HeLa cells.

Knockout validation info.



Western blot - Anti-Caveolin-1 antibody - Caveolae Marker (ab2910)

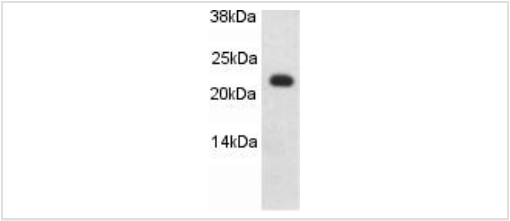
All lanes : Anti-Caveolin-1 antibody - Caveolae Marker (ab2910) at 1 µg/ml

Lane 1 : PANC-1 (Human pancreatic epithelial cancinoma cell line) whole cell lysate
Lane 2 : U-87 MG (Human glioblastoma-astrocytoma epithelial cell line) whole cell lysate
Lane 3 : A549 (Human lung carcinoma cell line) whole cell lysate
Lane 4 : HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysate
Lane 5 : PC-3 (Human prostate adenocarcinoma cell line) whole cell lysate
Lane 6 : U-2 OS (Human bone osteosarcoma epithelial cell line) whole cell lysate
Lane 7 : Mouse heart tissue lysate
Lane 8 : Rat heart tissue lysate
Lane 9 : C2C12 (Mouse myoblast cell line) whole cell lysate
Lane 10 : Mouse lung tissue lysate
Lane 11 : A-431 (Human epidermoid carcinoma cell line) whole cell lysate

Lysates/proteins at 20 µg per lane.

Predicted band size: 20 kDa

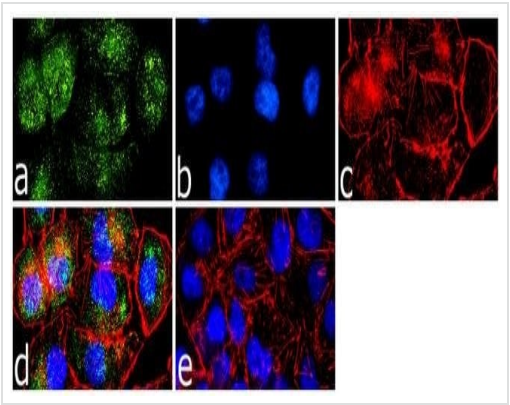
Western blot analysis was performed on whole cell extracts (20 µg lysate). The blots were probed with Anti-ab2910 (1-2 µg/mL) and detected by chemiluminescence using Goat anti-Rabbit IgG (H+L) Superclonal™ Secondary Antibody, HRP conjugate. A 17 kDa band corresponding to Caveolin-1 was observed across cell lines and tissues tested. Known quantity of protein samples were electrophoresed using Novex® NuPAGE® 12 % Bis-Tris gel, XCell SureLock™ Electrophoresis System and Novex® Sharp Pre-Stained Protein Standard. Resolved proteins were then transferred onto a nitrocellulose membrane with iBlot® 2 Dry Blotting System. The membrane was probed with the relevant primary and secondary Antibody following blocking with 5 % skimmed milk. Chemiluminescent detection was performed using Pierce™ ECL Western Blotting Substrate.



Western blot - Anti-Caveolin-1 antibody - Caveolae Marker (ab2910)

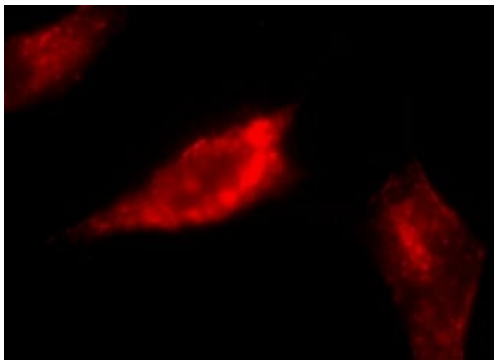
Anti-Caveolin-1 antibody - Caveolae Marker (ab2910) at 2 µg/ml + Rat heart protein extract

Predicted band size: 20 kDa



Immunocytochemistry/ Immunofluorescence - Anti-Caveolin-1 antibody - Caveolae Marker (ab2910)

Immunofluorescence analysis of Caveolin 1 was done on 70% confluent log phase A-375 cells. The cells were fixed with 4% paraformaldehyde for 15 minutes, permeabilized with 0.25% Triton™ X-100 for 10 minutes, and blocked with 5% BSA for 1 hour at room temperature. The cells were labeled with ab2910 at 1 µg/mL in 1% BSA and incubated for 3 hours at room temperature and then labeled with Goat anti-Rabbit IgG (H+L) Superclonal™ Secondary Antibody, Alexa Fluor® 488 conjugate at a dilution of 1:2000 for 45 minutes at room temperature (Panel a: green). Nuclei (Panel b: blue) were stained with SlowFade® Gold Antifade Mountant with DAPI. F-actin (Panel c: red) was stained with Alexa Fluor® 555 Rhodamine Phalloidin. Panel d is a merged image showing cytoplasmic localization. Panel e is a no primary antibody control. The images were captured at 60X magnification.

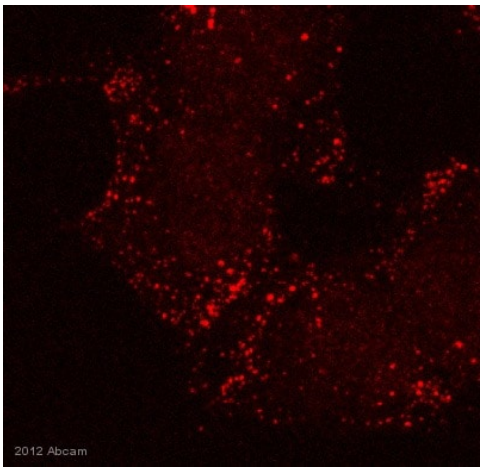


Immunocytochemistry/ Immunofluorescence - Anti-Caveolin-1 antibody - Caveolae Marker (ab2910)

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.



Immunocytochemistry/ Immunofluorescence - Anti-Caveolin-1 antibody - Caveolae Marker (ab2910)

This image is courtesy of an anonymous Abreview

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.

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