abcam

Product datasheet

Anti-Caveolin-1 antibody [E249] - BSA and Azide free ab230262

KO VALIDATED Recombinant RabMAb

9 Images

Overview

Product name	Anti-Caveolin-1 antibody [E249] - BSA and Azide free
Description	Rabbit monoclonal [E249] to Caveolin-1 - BSA and Azide free
Host species	Rabbit
Tested applications	**Suitable for:** WB, IHC-P, ICC **Unsuitable for:** Flow Cyt or IP
Species reactivity	**Reacts with:** Mouse, Rat, Human
Immunogen	Synthetic peptide within Human Caveolin-1 aa 150-250. The exact sequence is proprietary. Database link: Q03135
Positive control	IHC-P: Rat colon tissue; Mouse testis tissue; Human urinary bladder and lung tissues. ICC: HeLa cells. WB: A549, A431 and HeLa cell lysates.
General notes	ab230262 is the carrier-free version of ab32577 This format is designed for use in antibody labeling, including fluorochromes, metal isotopes, oligonucleotides, enzymes. Our carrier-free formats are supplied in a buffer free of BSA, sodium azide and glycerol for higher conjugation efficiency. Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with <1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold. Ab230262 is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm. *Maxpar® is a trademark of Fluidigm Canada Inc.* Rat: We have preliminary internal testing data to indicate this antibody may not react with this species. Please contact us for more information. This product is a recombinant monoclonal antibody, which offers several advantages including: - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production For more information see here. Our RabMAb® technology is a patented hybridoma-based technology for making rabbit

monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

Reproducibility is key to advancing scientific discovery and accelerating scientists' next breakthrough.

Abcam is leading the way with our range of recombinant antibodies, knockout-validated antibodies and knockout cell lines, all of which support improved reproducibility.

We are also planning to innovate the way in which we present recommended applications and species on our product datasheets, so that only applications & species that have been tested in our own labs, our suppliers or by selected trusted collaborators are covered by our Abpromise™ guarantee.

In preparation for this, we have started to update the applications & species that this product is Abpromise guaranteed for.

We are also updating the applications & species that this product has been "predicted to work with," however this information is not covered by our Abpromise guarantee.

Applications & species from publications and Abreviews that have not been tested in our own labs or in those of our suppliers are not covered by the Abpromise guarantee.

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, as well as customer reviews and Q&As.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C. Do Not Freeze.
Storage buffer	pH: 7.2 Constituent: PBS
Carrier free	Yes
Purity	Protein A purified
Clonality	Monoclonal
Clone number	E249
Isotype	IgG

Applications

Our Abpromise guarantee covers the use of **ab230262** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB		Use at an assay dependent concentration. Predicted molecular weight: 20 kDa.
IHC-P		Use at an assay dependent concentration. Perform heat mediated antigen retrieval before commencing with IHC staining protocol. Use 0.01M Sodium Citrate Buffer, pH 6.0.

Application	Abreviews	Notes
ICC		Use at an assay dependent concentration.

Application notes Is unsuitable for Flow Cyt or IP.

Target

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.

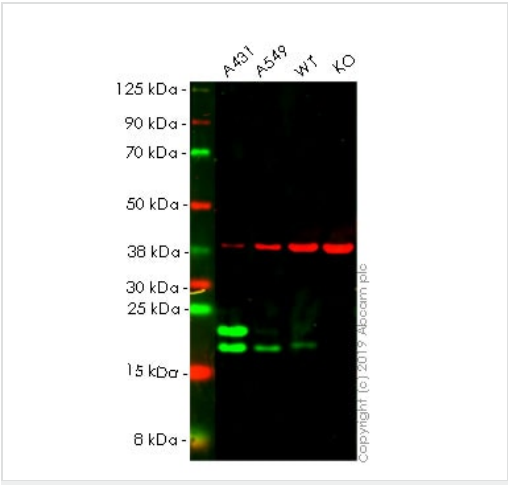
Involvement in disease Defects in CAV1 are the cause of congenital generalized lipodystrophy type 3 (CGL3) [MIM:612526]; also called Berardinelli-Seip congenital lipodystrophy type 3 (BSCL3). Congenital generalized lipodystrophies are autosomal recessive disorders characterized by a near absence of adipose 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 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.

Images



Western blot - Anti-Caveolin-1 antibody [E249] - BSA and Azide free (ab230262)

All lanes : Anti-Caveolin-1 antibody [E249] - Caveolae Marker (ab32577) at 1/1000 dilution

Lane 1 : A431 cell lysate

Lane 2 : A549 cell lysate

Lane 3 : Wild-type HeLa cell lysate

Lane 4 : Caveolin-1 knockout HeLa cell lysate

Lysates/proteins at 20 µg per lane.

Performed under reducing conditions.

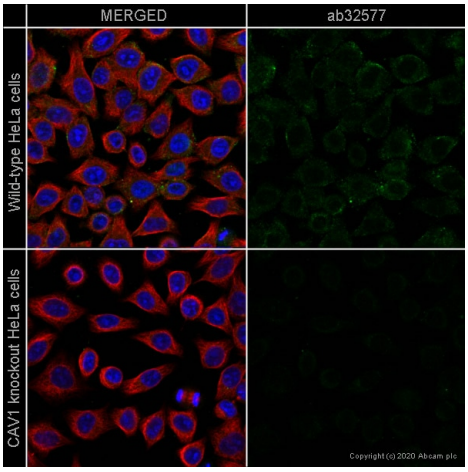
Predicted band size: 20 kDa

Observed band size: 20 kDa

This data was developed using the same antibody clone in a different buffer formulation (ab32577).

Lanes 1 - 4: Merged signal (red and green). Green - ab32577 observed at 20 kDa. Red - loading control, ab8245 observed at 37 kDa.

ab32577 was shown to react with Caveolin-1 in wild-type HeLa cells. Loss of signal was observed when knockout cell line ab255371 (knockout cell lysate ab263806) was used. Wild-type and Caveolin-1 knockout samples were subjected to SDS-PAGE. ab32577 and Anti-GAPDH antibody [6C5] - Loading Control (ab8245) were incubated overnight at 4°C at 1 in 1000 dilution and 1 in 20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (ab216776) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.

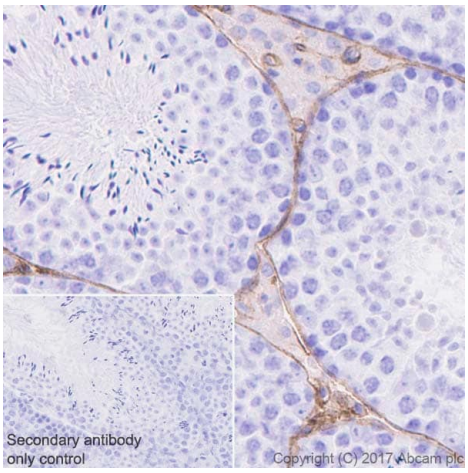


Immunocytochemistry - Anti-Caveolin-1 antibody [E249] - BSA and Azide free (ab230262)

This data was developed using the same antibody clone in a different buffer formulation (ab32577).

ab32577 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 ab32577 at 1/200 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.

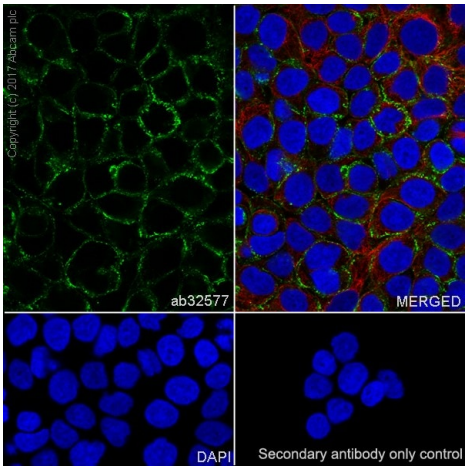
Image was taken with a confocal microscope (Leica-Microsystems TCS SP8).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Caveolin-1 antibody [E249] - BSA and Azide free (ab230262)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Mouse testis tissue sections labeling Caveolin-1 with purified ab32577 at 1:500 dilution (2.1 µg/ml). Heat mediated antigen retrieval was performed using ab93684 (Tris/EDTA buffer, pH 9.0). Tissue was counterstained with Hematoxylin. ImmunoHistoProbe one step HRP Polymer (ready to use) secondary antibody was used at 1:0 dilution. PBS instead of the primary antibody was used as the negative control.

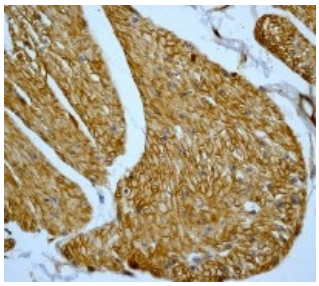
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab32577).



Immunocytochemistry - Anti-Caveolin-1 antibody [E249] - BSA and Azide free (ab230262)

Immunocytochemistry/Immunofluorescence analysis of A431 cells labelling Caveolin-1 (green) with ab32577 at 1/200. Cells were fixed with 100% methanol. ab150077, an Alexa Fluor® 488-conjugated goat anti-rabbit IgG (1/1000) was used as the secondary antibody. The cells were co-stained with ab195889 (red), an Alexa Fluor® 488 conjugated mouse anti-tubulin antibody (1/200). Nuclei counterstained with DAPI (blue).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab32577).

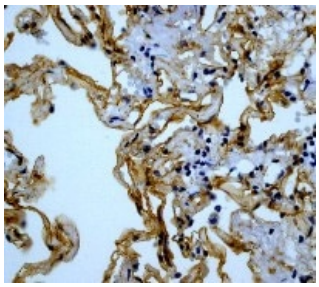


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Caveolin-1 antibody [E249] - BSA and Azide free (ab230262)

Immunohistochemical analysis of formalin-fixed, paraffin-embedded Human urinary bladder tissue, staining Caveolin-1 with ab32577 at 1/250 dilution.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab32577).

Perform heat mediated antigen retrieval before commencing with IHC staining protocol.

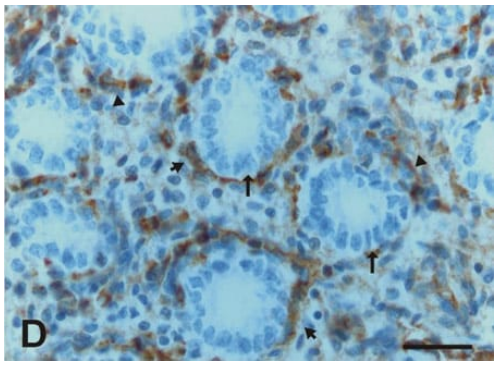


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Caveolin-1 antibody [E249] - BSA and Azide free (ab230262)

Immunohistochemical analysis of formalin-fixed, paraffin-embedded Human lung tissue, staining Caveolin-1 with ab32577 at 1/250 µg/ml.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab32577).

Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



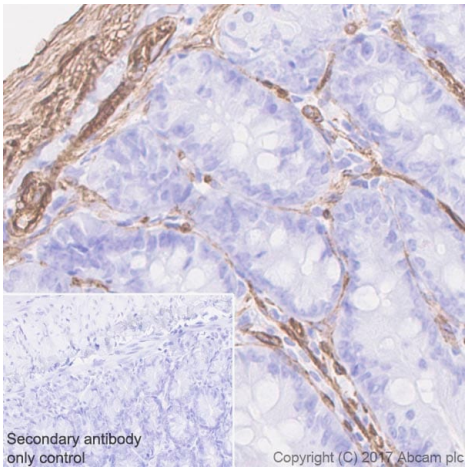
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Caveolin-1 antibody [E249] - BSA and Azide free (ab230262)

Image from Kaarteenaho R et al. BMC Dev Biol. 2010 Nov 16;10:113. Fig 6.; doi:10.1186/1471-213X-10-113; 16 November 2010 BMC Developmental Biology 2010 10:113.

Immunohistochemical analysis of developing Human lung tissue, staining Caveolin-1 with ab32577 at 1/250 dilution.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab32577).

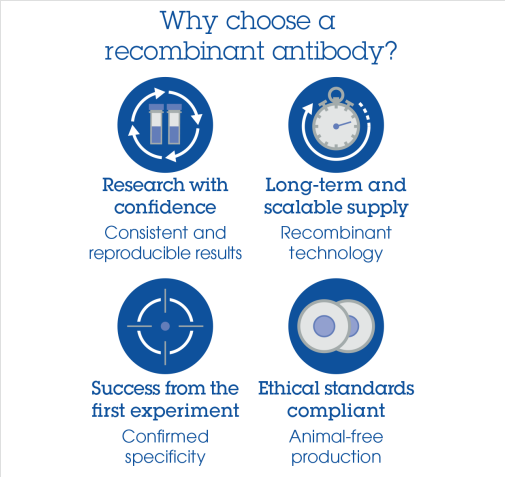
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Caveolin-1 antibody [E249] - BSA and Azide free (ab230262)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Rat colon tissue sections labeling Caveolin-1 with Purified ab32577 at 1:500 dilution (2.1 µg/ml). Heat mediated antigen retrieval was performed using ab93684 (Tris/EDTA buffer, pH 9.0). Tissue was counterstained with Hematoxylin. ImmunoHistoProbe one step HRP Polymer (ready to use) secondary antibody was used at 1:0 dilution. PBS instead of the primary antibody was used as the negative control.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab32577).



Anti-Caveolin-1 antibody [E249] - BSA and Azide free (ab230262)

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