abcam

Product datasheet

Anti-Acetyl Coenzyme A Carboxylase antibody [EPR4971] ab109368

KO VALIDATED Recombinant RabMAb

6 References 11 Images

Overview

Product name	Anti-Acetyl Coenzyme A Carboxylase antibody [EPR4971]
Description	Rabbit monoclonal [EPR4971] to Acetyl Coenzyme A Carboxylase
Host species	Rabbit
Tested applications	**Suitable for:** Flow Cyt (Intra), WB, IHC-P, ICC/IF **Unsuitable for:** IP
Species reactivity	**Reacts with:** Human **Does not react with:** Mouse, Rat
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	HepG2, and SH-SY5Y cell lysates. Human brain tissue and Human skeletal muscle tissue. 293T cells.
General notes	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**. Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.

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. Avoid freeze / thaw cycle. Stable for 12 months at -20°C.
Storage buffer	pH: 7.20 Preservative: 0.01% Sodium azide

	Constituents: 59% PBS, 40% Glycerol, 0.05% BSA
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR4971
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab109368 in the following tested applications.

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

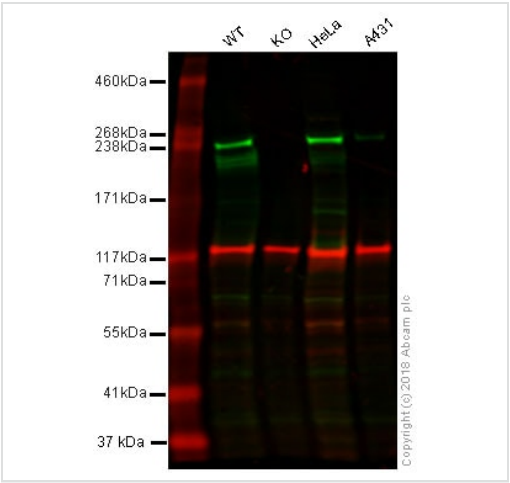
Application	Abreviews	Notes
Flow Cyt (Intra)		1/100 - 1/500. **ab172730** - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.
WB		1/5000. Predicted molecular weight: 266 kDa. **For unpurified use at 1/1000- 1/10000.**
IHC-P		1/250 - 1/500. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.
ICC/IF		1/100 - 1/250.

Application notes Is unsuitable for IP.

Target

Function	Catalyzes the rate-limiting reaction in the biogenesis of long-chain fatty acids. Carries out three functions: biotin carboxyl carrier protein, biotin carboxylase and carboxyltransferase.
Tissue specificity	Expressed in brain, placental, skeletal muscle, renal, pancreatic and adipose tissues; expressed at low level in pulmonary tissue; not detected in the liver.
Pathway	Lipid metabolism; malonyl-CoA biosynthesis; malonyl-CoA from acetyl-CoA: step 1/1.
Involvement in disease	Acetyl-CoA carboxylase 1 deficiency
Sequence similarities	Contains 1 ATP-grasp domain. Contains 1 biotin carboxylation domain. Contains 1 biotinyl-binding domain. Contains 1 carboxyltransferase domain.
Post-translational modifications	Phosphorylation on Ser-1263 is required for interaction with BRCA1.
Cellular localization	Cytoplasm.

Images



Western blot - Anti-Acetyl Coenzyme A Carboxylase antibody [EPR4971] (ab109368)

All lanes : Anti-Acetyl Coenzyme A Carboxylase antibody [EPR4971] (ab109368) at 1/1000 dilution

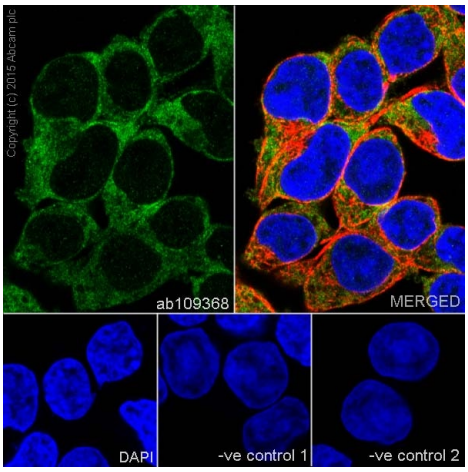
Lane 1 : Wild-type HAP1 whole cell lysate
Lane 2 : ACACA (Acetyl Coenzyme A Carboxylase) knockout HAP1 whole cell lysate
Lane 3 : Hela whole cell lysate
Lane 4 : A431 whole cell lysate

Lysates/proteins at 20 µg per lane.

Predicted band size: 266 kDa

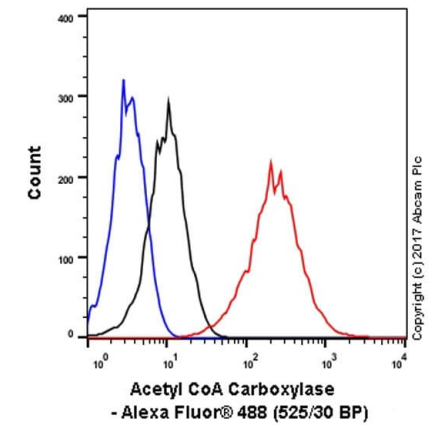
Lanes 1 - 4: Merged signal (red and green). Green - ab109368 observed at 265 kDa. Red - loading control, **ab130007**, observed at 130 kDa.

ab109368 was shown to specifically react with Acetyl Coenzyme A carboxylase in wild-type HAP1 cells as signal was lost in ACACA (Acetyl Coenzyme A Carboxylase) knockout cells. Wild-type and ACACA (Acetyl Coenzyme A Carboxylase) knockout samples were subjected to SDS-PAGE. Ab109368 and **ab130007** (Mouse anti-Vinculin loading control) were incubated overnight at 4°C at 1/1000 dilution and 1/20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed **ab216773** and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed **ab216776** secondary antibodies at 1/20000 dilution for 1 hour at room temperature before imaging.



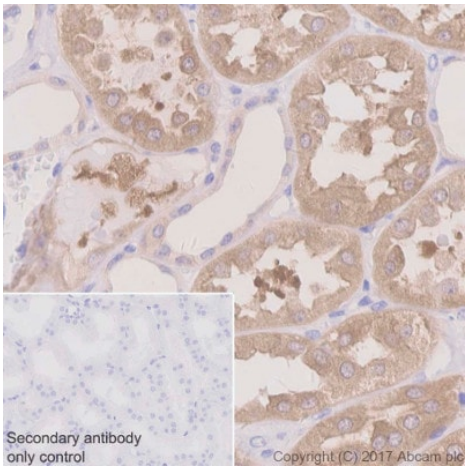
Immunocytochemistry/ Immunofluorescence - Anti-Acetyl Coenzyme A Carboxylase antibody [EPR4971] (ab109368)

Immunocytochemistry/ Immunofluorescence analysis of 293 (Human embryonic kidney epithelial cell) cells labeling Acetyl Coenzyme A carboxylase with Purified ab109368 at 1:250 dilution (2.1µg/ml). Cells were fixed in 4% Paraformaldehyde and permeabilized with 0.1% tritonX-100. Cells were counterstained with Ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1:200 (2.5 µg/ml). **ab150077** Goat anti rabbit IgG(Alexa Fluor® 488) was used as the secondary antibody at 1:1000 dilution. DAPI nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.



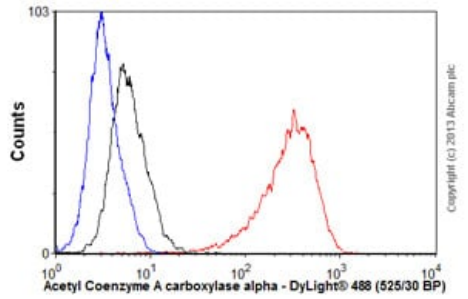
Flow Cytometry (Intracellular) - Anti-Acetyl Coenzyme A Carboxylase antibody [EPR4971] (ab109368)

Intracellular Flow Cytometry analysis of SH-SY5Y (Human neuroblastoma epithelial cell) cells labeling Acetyl Coenzyme A carboxylase with purified ab109368 at 1/100 dilution (5 ug/ml) (red). Cells were fixed with 4% Paraformaldehyde. A Goat anti rabbit IgG (Alexa Fluorr® 488) secondary antibody was used at 1/2000 dilution. Isotype control - 90% methanol. Unlabeled control - Rabbit monoclonal IgG (Black). Cells without incubation with primary antibody and secondary antibody (Blue).



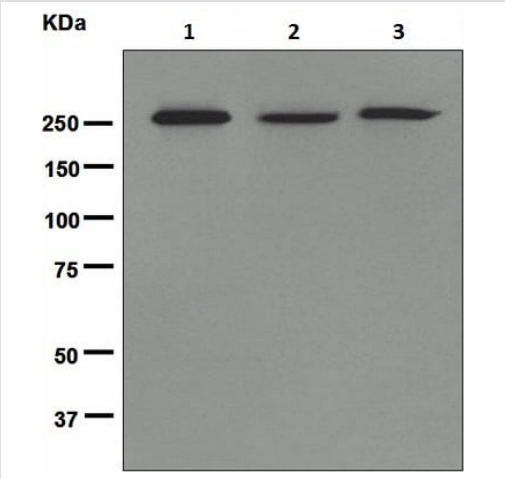
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Acetyl Coenzyme A Carboxylase antibody [EPR4971] (ab109368)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human kidney tissue sections labeling Acetyl Coenzyme A carboxylase with purified ab109368 at 1:500 dilution (1.05 µg/ml). Heat mediated antigen retrieval was performed using citrate Buffer, pH6.0. Tissue was counterstained with Hematoxylin. **ab97051** Goat Anti-Rabbit IgG H&L (HRP) secondary antibody was used at 1:500 dilution. PBS instead of the primary antibody was used as the negative control.



Flow Cytometry (Intracellular) - Anti-Acetyl Coenzyme A Carboxylase antibody [EPR4971] (ab109368)

Overlay histogram showing SH-SY5Y cells stained with unpurified ab109368 (red line). The cells were fixed with 4% paraformaldehyde (10 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab109368, 1/1000 dilution) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-rabbit IgG (H+L) (**ab96899**) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (monoclonal) (0.1µg/1x10^6 cells) used under the same conditions. Unlabelled sample (blue line) was also used as a control. Acquisition of >5,000 events were collected using a 20mW Argon ion laser (488nm) and 525/30 bandpass filter. This antibody gave a positive signal in SH-SY5Y cells fixed with 80% methanol (5 min)/permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions.



Western blot - Anti-Acetyl Coenzyme A Carboxylase antibody [EPR4971] (ab109368)

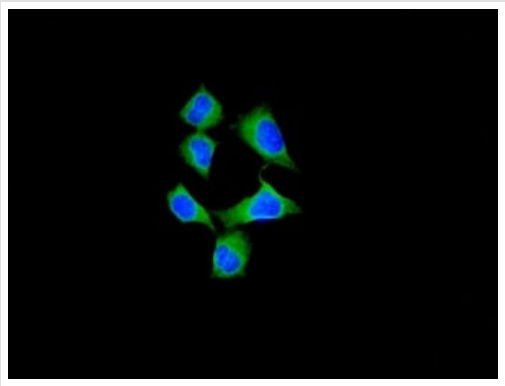
All lanes : Anti-Acetyl Coenzyme A Carboxylase antibody [EPR4971] (ab109368) at 1/1000 dilution (unpurified)

Lane 1 : 293T cell lysate
Lane 2 : HepG2 cell lysate
Lane 3 : SH-SY5Y cell lysate

Lysates/proteins at 10 µg per lane.

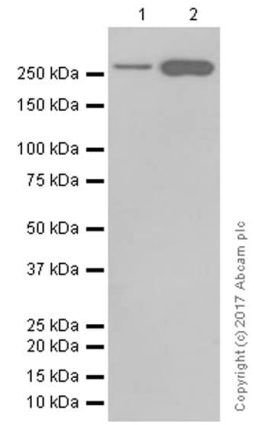
Secondary
All lanes : HRP labelled goat anti-rabbit at 1/2000 dilution

Predicted band size: 266 kDa



Immunocytochemistry/ Immunofluorescence - Anti-Acetyl Coenzyme A Carboxylase antibody [EPR4971] (ab109368)

Immunofluorescent staining of 293 cells using unpurified ab109368 at 1/100 dilution



Western blot - Anti-Acetyl Coenzyme A Carboxylase antibody [EPR4971] (ab109368)

All lanes : Anti-Acetyl Coenzyme A Carboxylase antibody [EPR4971] (ab109368) at 1/5000 dilution

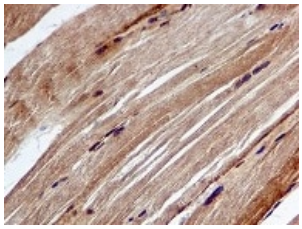
Lane 1 : 293 (Human embryonic kidney epithelial cell) whole cell lysate
Lane 2 : K562 (Human chronic myelogenous leukemia lymphoblast) whole cell lysate

Lysates/proteins at 20 µg per lane.

Secondary
All lanes : Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/20000 dilution

Predicted band size: 266 kDa
Observed band size: 266 kDa

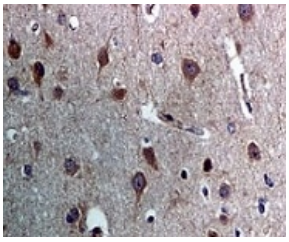
5% NFDM/TBST



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Acetyl Coenzyme A Carboxylase antibody [EPR4971] (ab109368)

Immunohistochemical analysis of paraffin-embedded skeletal muscle tissue using unpurified ab109368 at 1/250 dilution.

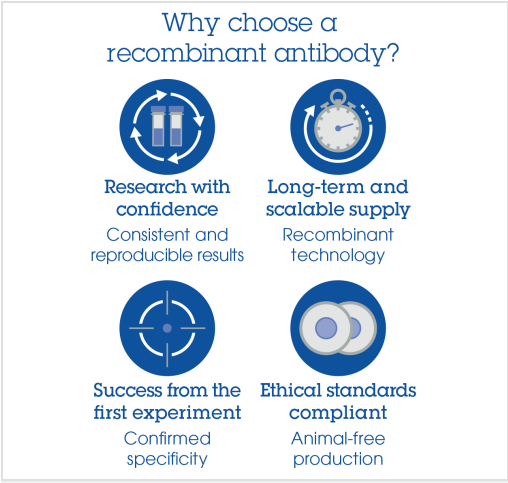
Heat mediated antigen retrieval was performed with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Acetyl Coenzyme A Carboxylase antibody [EPR4971] (ab109368)

Immunohistochemical analysis of paraffin-embedded brain tissue using unpurified ab109368 at 1/250 dilution.

Heat mediated antigen retrieval was performed with citrate buffer pH 6 before commencing with IHC staining protocol.



Anti-Acetyl Coenzyme A Carboxylase antibody [EPR4971] (ab109368)

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