abcam

ab32112

Anti-AMPK beta 1 antibody [Y367]

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	Y367
Purification technique	Affinity purification Protein A
Concentration	0.854 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Mouse
Dilution info	1/40
Notes	**For unpurified use at 1/80.**

Expected

Species	Human, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/1000 - 1/5000
Notes	-

Species	Human
Dilution info	1/1000 - 1/5000
Notes	-

Species	Rat
Dilution info	1/1000 - 1/5000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/500
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/800
Notes	For unpurified use at 1/50. ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/1000
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

Target data

See full target information PRKAB1

Function Non-catalytic subunit of AMP-activated protein kinase (AMPK), an energy sensor protein kinase that plays a key role in regulating cellular energy metabolism. In response to reduction of intracellular ATP levels, AMPK activates energy-producing pathways and inhibits energy-consuming processes: inhibits protein, carbohydrate and lipid biosynthesis, as well as cell growth and proliferation. AMPK acts via direct phosphorylation of metabolic enzymes, and by longer-term effects via phosphorylation of transcription regulators. Also acts as a regulator of cellular polarity by remodeling the actin cytoskeleton; probably by indirectly activating

myosin. Beta non-catalytic subunit acts as a scaffold on which the AMPK complex assembles, via its C-terminus that bridges alpha (PRKAA1 or PRKAA2) and gamma subunits (PRKAG1, PRKAG2 or PRKAG3).

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

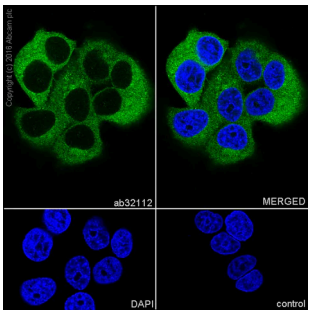
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

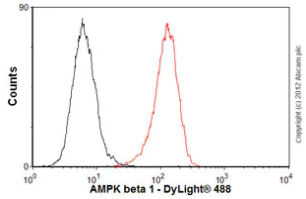
12 product images



Immunocytochemistry/ Immunofluorescence - Anti-AMPK beta 1 antibody [Y367] (ab32112)

AMPK beta 1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-AMPK beta 1 antibody

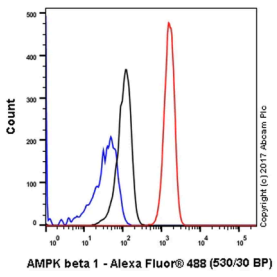
Immunocytochemistry/Immunofluorescence analysis of MCF-7 cells labelling AMPK beta 1 with purified ab32112 at 1/500. Cells were fixed with 4% Paraformaldehyde and permeabilised with 0.1% tritonX-100. An Alexa Fluor® 488-conjugated goat anti-rabbit IgG (ab150077) at 1/1000 dilution was used as the secondary antibody. Nuclei counterstained with DAPI (blue). Secondary Only Control: PBS was used instead of the primary antibody as the negative control.



Flow Cytometry (Intracellular) - Anti-AMPK beta 1 antibody [Y367] (ab32112)

AMPK beta 1 Flow Cytometry (Intracellular) staining using rabbit Anti-AMPK beta 1 antibody

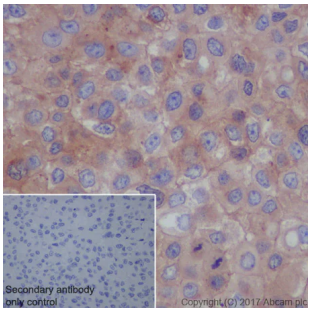
Overlay histogram showing HeLa cells stained with unpurifiedab32112 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab32112, 1/100 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 (monclonal) (1µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a positive signal in HeLa cells fixed with 4% paraformaldehyde (10 min)/permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions.



Flow Cytometry (Intracellular) - Anti-AMPK beta 1 antibody [Y367] (ab32112)

AMPK beta 1 Flow Cytometry (Intracellular) staining using rabbit Anti-AMPK beta 1 antibody

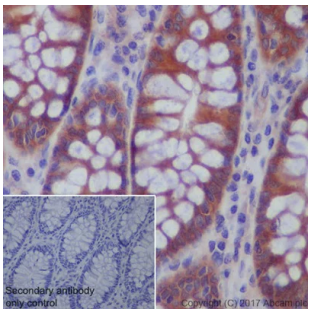
Intracellular Flow Cytometry analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labeling AMPK beta 1 with purified ab32112 at 1/800 dilution (1 ug/ml) (red). Cells were fixed with 80% methanol. A Goat anti rabbit IgG (Alexa Fluorr® 488) secondary antibody was used at 1/2000 dilution. Isotype control - 0.1% Tween-20. Unlabeled control - Rabbit monoclonal IgG (Black).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-AMPK beta 1 antibody [Y367] (ab32112)

AMPK beta 1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-AMPK beta 1 antibody

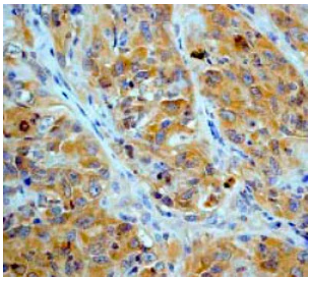
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human bladder carcinoma tissue sections labeling AMPK beta 1 with purified ab32112 at 1:1000 dilution (0.85 µg/ml). Heat mediated antigen retrieval was performed using Perform heat mediated antigen retrieval using EDTA Buffer, pH9.0. 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.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-AMPK beta 1 antibody [Y367] (ab32112)

AMPK beta 1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-AMPK beta 1 antibody

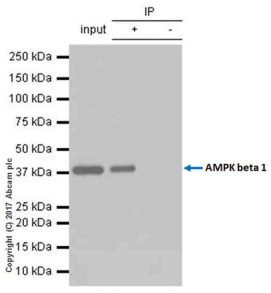
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human colon tissue sections labeling AMPK beta 1 with purified ab32112 at 1:1000 dilution (0.85 µg/ml). Heat mediated antigen retrieval was performed using Perform heat mediated antigen retrieval using EDTA Buffer, pH9.0. 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.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-AMPK beta 1 antibody [Y367] (ab32112)

AMPK beta 1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-AMPK beta 1 antibody

Unpurified ab32112 at a 1:100 dilution staining AMPK beta 1 in human lung carcinoma, using Immunohistochemistry, Paraffin Embedded Tissue.



Immunoprecipitation - Anti-AMPK beta 1 antibody [Y367] (ab32112)

ab32112 (purified) at 1:40 dilution (2ug) immunoprecipitating AMPK beta 1 in NIH/3T3 (Mouse embryonic fibroblast) whole cell lysates.

Lane 1 (input): NIH/3T3 (Mouse embryonic fibroblast) whole cell lysates 10ug

Lane 2 (+): ab32112 & NIH/3T3 (Mouse embryonic fibroblast) whole cell lysates

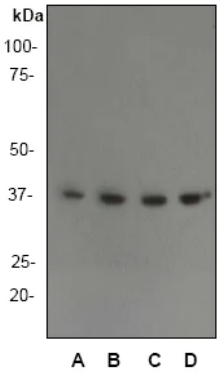
Lane 3 (-): Rabbit monoclonal IgG (ab172730) instead of ab32112 in NIH/3T3 (Mouse embryonic fibroblast) whole cell lysates

For western blotting, VeriBlot for IP Detection Reagent (HRP) (ab131366) was used for detection at 1:1000 dilution.

Blocking and diluting buffer: 5% NFDM/TBST.
All lanes:
Immunoprecipitation - Anti-AMPK beta 1 antibody [Y367] (ab32112)

Predicted band size: 30 kDa

Observed band size: 38 kDa



Western blot - Anti-AMPK beta 1 antibody [Y367] (ab32112)

AMPK beta 1 Western blot staining using rabbit Anti-AMPK beta 1 antibody

All lanes:
Western blot - Anti-AMPK beta 1 antibody [Y367] (ab32112) at 1/5000 dilution

Lane 1:
(A) : NIH 3T3

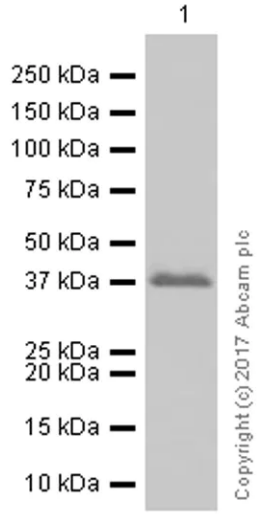
Lane 2:
(B) : Hela

Lane 3:
(C) : A431

Lane 4:
(D) : PC-12

Predicted band size: 30 kDa

Observed band size: 38 kDa



Western blot - Anti-AMPK beta 1 antibody [Y367] (ab32112)

AMPK beta 1 Western blot staining of HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysates using rabbit Anti-AMPK beta 1 antibody

Blocking and diluting buffer: 5% NFDM/TBST
All lanes:
Western blot - Anti-AMPK beta 1 antibody [Y367] (ab32112) at 1/20000 dilution

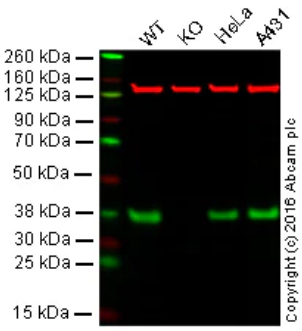
All lanes:
HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysates at 20 µg

Secondary

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

Predicted band size: 30 kDa

Observed band size: 38 kDa



Western blot - Anti-AMPK beta 1 antibody [Y367] (ab32112)

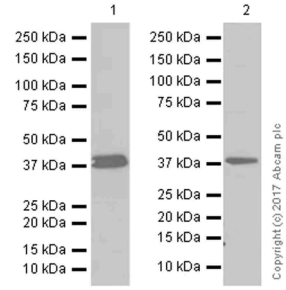
AMPK beta 1 Western blot staining using rabbit Anti-AMPK beta 1 antibody

Lane 1: Wild-type HAP1 cell lysate (20 µg)
Lane 2: AMPK beta 1 knockout HAP1 cell lysate
Lane 3: HeLa cell lysate
Lane 4: A431 cell lysate
Lanes 1 - 4: Merged signal (red and green). Green - Unpurified ab32112 observed at 38 kDa. Red - loading control, ab18058, observed at 124 kDa.

Unpurified ab32112 was shown to specifically react with AMPK beta 1 when AMPK beta 1 knockout samples were used. Wild-type and AMPK beta 1 knockout samples were subjected to SDS-PAGE. ab32112 and ab18058 (loading control to Vinculin) were both diluted 1/10000 and incubated overnight at 4°C. 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 1/10000 dilution for 1 hour at room temperature before imaging.
All lanes:
Western blot - Anti-AMPK beta 1 antibody [Y367] (ab32112)

Predicted band size: 30 kDa

Observed band size: 38 kDa



Western blot - Anti-AMPK beta 1 antibody [Y367] (ab32112)

AMPK beta 1 Western blot staining using rabbit Anti-AMPK beta 1 antibody

Blocking and diluting buffer: 5% NFDM/TBST
All lanes:
Western blot - Anti-AMPK beta 1 antibody [Y367] (ab32112) at 1/5000 dilution

Lane 1:
Mouse brain lysates at 15 µg

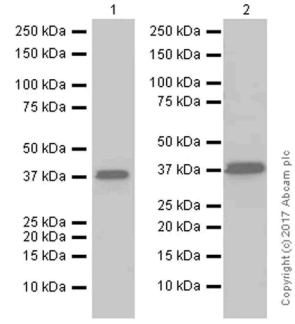
Lane 2:
Rat brain lysates at 15 µg

Secondary

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

Predicted band size: 30 kDa

Observed band size: 38 kDa



Western blot - Anti-AMPK beta 1 antibody [Y367] (ab32112)

AMPK beta 1 Western blot staining using rabbit Anti-AMPK beta 1 antibody

Blocking and diluting buffer: 5% NFDM/TBST
All lanes:
Western blot - Anti-AMPK beta 1 antibody [Y367] (ab32112) at 1/5000 dilution

Lane 1:
NIH/3T3 (Mouse embryonic fibroblast) whole cell lysates at 15 µg

Lane 2:
PC-12 (Rat adrenal gland pheochromocytoma) whole cell lysates at 15 µg

Secondary

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

Predicted band size: 30 kDa

Observed band size: 38 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.