

## Product datasheet

### Anti-AMPK alpha 1 antibody [2B7] ab110036

KO VALIDATED

[14 References](#) [7 Images](#)

#### Overview

<b>Product name</b>	Anti-AMPK alpha 1 antibody [2B7]
<b>Description</b>	Mouse monoclonal [2B7] to AMPK alpha 1
<b>Host species</b>	Mouse
<b>Tested applications</b>	<b>Suitable for:</b> WB, ICC/IF, ELISA, IHC-P, Flow Cyt
<b>Species reactivity</b>	<b>Reacts with:</b> Mouse, Rat, Human, African green monkey
<b>Immunogen</b>	Purified recombinant fragment of Human AMPK alpha 1 expressed in <i>E. Coli</i> .
<b>Positive control</b>	Jurkat, HeLa, HepG2, MCF-7, Cos7, NIH3T3, K562, HEK293 and PC-12 cell lysates. Ovarian cancer and brain tissues. NTERA-2 and PC-2 cells WB: RAW 264.7, Mouse Liver, Neuro2A cell lysate.
<b>General notes</b>	<p>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.</p> <p>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&amp;As</p>

#### Properties

<b>Form</b>	Liquid
<b>Storage instructions</b>	Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.
<b>Storage buffer</b>	Preservative: 0.05% Sodium azide Constituent: PBS
<b>Purity</b>	Protein G purified
<b>Purification notes</b>	Purified from tissue culture supernatant.
<b>Clonality</b>	Monoclonal
<b>Clone number</b>	2B7
<b>Isotype</b>	IgG1

## Applications

### The Abpromise guarantee

Our **Abpromise guarantee** covers the use of ab110036 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		1/500 - 1/2000. Predicted molecular weight: 64 kDa.
ICC/IF		1/200 - 1/1000.
ELISA		1/10000.
IHC-P		1/200 - 1/1000.
Flow Cyt		1/200 - 1/1000. <b>ab170190</b> - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

## Target

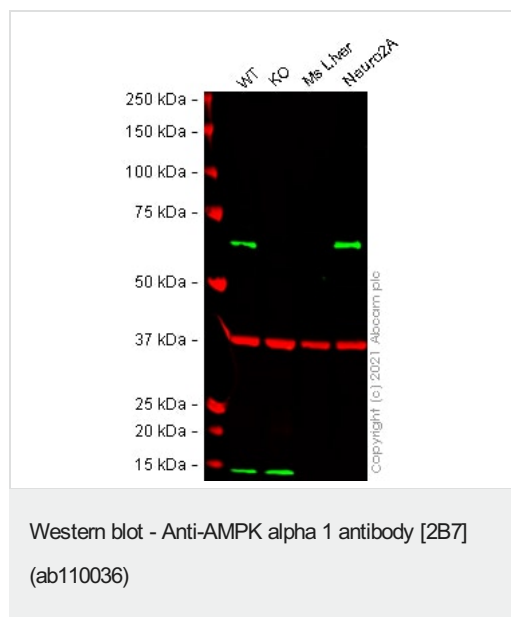
### Function

Responsible for the regulation of fatty acid synthesis by phosphorylation of acetyl-CoA carboxylase. It also regulates cholesterol synthesis via phosphorylation and inactivation of hormone-sensitive lipase and hydroxymethylglutaryl-CoA reductase. Appears to act as a metabolic stress-sensing protein kinase switching off biosynthetic pathways when cellular ATP levels are depleted and when 5'-AMP rises in response to fuel limitation and/or hypoxia. This is a catalytic subunit.

### Sequence similarities

Belongs to the protein kinase superfamily. CAMK Ser/Thr protein kinase family. SNF1 subfamily. Contains 1 protein kinase domain.

## Images



**All lanes** : Anti-AMPK alpha 1 antibody [2B7] (ab110036) at 1/500 dilution

**Lane 1** : Wild-type RAW 264.7 cell lysate

**Lane 2** : PRKAA1 knockout RAW 264.7 cell lysate

**Lane 3** : Mouse Liver cell lysate

**Lane 4** : Neuro2A cell lysate

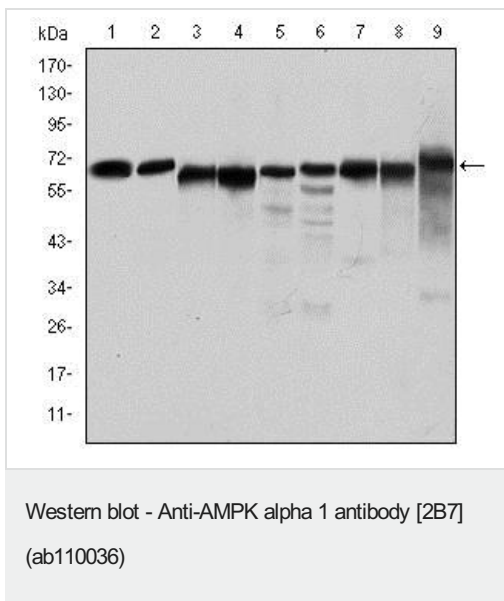
Lysates/proteins at 20 µg per lane.

Performed under reducing conditions.

**Predicted band size:** 64 kDa

**Observed band size:** 64 kDa

False colour image of Western blot: Anti-AMPK alpha 1 antibody [2B7] staining at 1/500 dilution, shown in green; Rabbit Anti-GAPDH antibody [EPR16891] ([ab181602](#)) loading control staining at 1/20000 dilution, shown in red. In Western blot, ab110036 was shown to bind specifically to AMPK alpha 1. A band was observed at 64 kDa in wild-type RAW 264.7 cell lysates with no signal observed at this size in PRKAA1 knockout cell line [ab280055](#) (knockout cell lysate [ab280114](#)). To generate this image, wild-type and PRKAA1 knockout RAW 264.7 cell lysates were analysed. First, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 3 % milk in TBS-0.1 % Tween<sup>®</sup> 20 (TBS-T) before incubation with primary antibodies overnight at 4°C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Mouse IgG H&L (IRDye<sup>®</sup> 800CW) preabsorbed ([ab216772](#)) and Goat anti-Rabbit IgG H&L (IRDye<sup>®</sup> 680RD) preabsorbed ([ab216777](#)) at 1/20000 dilution.



**All lanes :** Anti-AMPK alpha 1 antibody [2B7] (ab110036) at 1/500 dilution

**Lane 1 :** Jurkat cell lysate.

**Lane 2 :** HeLa cell lysate.

**Lane 3 :** HepG2 cell lysate.

**Lane 4 :** MCF-7 cell lysate.

**Lane 5 :** Cos7 cell lysate.

**Lane 6 :** NIH3T3 cell lysate.

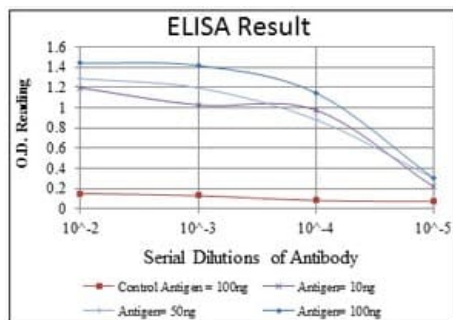
**Lane 7 :** K562 cell lysate.

**Lane 8 :** HEK293 cell lysate.

**Lane 9 :** PC-12 cell lysate.

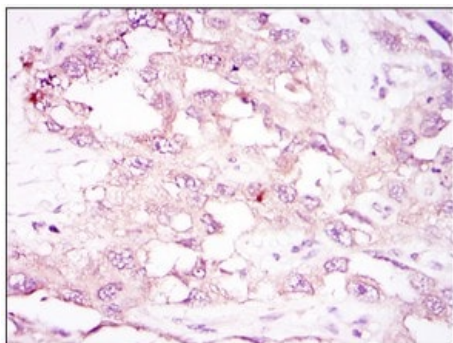
**Predicted band size:** 64 kDa

**Observed band size:** 64 kDa



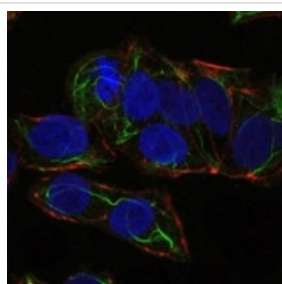
ELISA - Anti-AMPK alpha 1 antibody [2B7]  
(ab110036)

The proposed dilution of ab110036 is 1/10000.



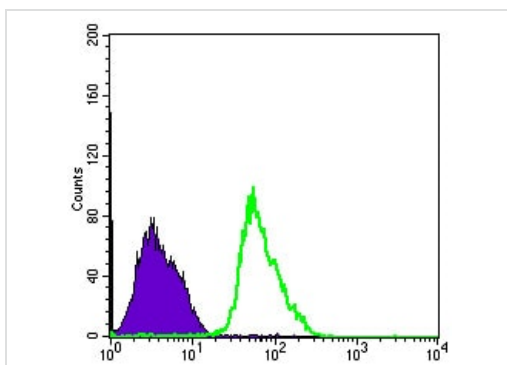
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-AMPK alpha 1 antibody [2B7] (ab110036)

ab110036 at 1/200 dilution staining AMPK alpha 1 in paraffin-embedded ovarian cancer by Immunohistochemistry.



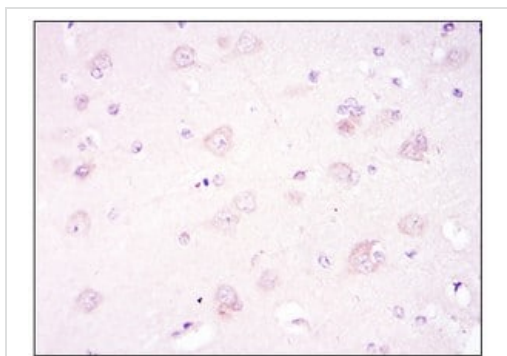
Immunocytochemistry/ Immunofluorescence - Anti-AMPK alpha 1 antibody [2B7] (ab110036)

ab110036 at 1/200 dilution staining AMPK alpha 1 in NTERA-2 cells (green) by Immunofluorescence. The nuclei are stained with DRAQ5 fluorescent DNA dye (blue) and the Actin filaments have been labeled with Alexa Fluor-555 phalloidin (red).



Flow Cytometry - Anti-AMPK alpha 1 antibody [2B7]  
(ab110036)

ab110036 used in Flow cytometric analysis of PC-2 cells (green).  
The negative control is indicated in purple.



Immunohistochemistry (Formalin/PFA-fixed paraffin-  
embedded sections) - Anti-AMPK alpha 1 antibody  
[2B7] (ab110036)

ab110036 at 1/200 dilution staining AMPK alpha 1 in paraffin-  
embedded brain tissues by Immunohistochemistry.

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

### Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit <https://www.abcam.com/abpromise> or contact our technical team.

## Terms and conditions

---

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors