

## Product datasheet

# Anti-AKT1 + AKT2 antibody [EPR18405] ab188099

Recombinant **RabMAb**

[1 References](#)   [12 Images](#)

### Overview

<b>Product name</b>	Anti-AKT1 + AKT2 antibody [EPR18405]
<b>Description</b>	Rabbit monoclonal [EPR18405] to AKT1 + AKT2
<b>Host species</b>	Rabbit
<b>Tested applications</b>	<b>Suitable for:</b> IHC-P, WB, Flow Cyt, ICC/IF
<b>Species reactivity</b>	<b>Reacts with:</b> Mouse, Rat, Human
<b>Immunogen</b>	corresponding to Human AKT1 + AKT2 aa 400 to the C-terminus. Also SwissProt: P31751 Database link: <a href="#">P31749</a>
<b>Positive control</b>	WB: AKT1 and AKT2 recombinant protein; HeLa, HepG2, A549, MCF-7, PC12 and NIH/3T3 whole cell lysate; Human fetal kidney lysate; Mouse brain lysate, Rat brain and heart lysate. IHC-P: Human kidney, Human gastric adenocarcinoma, Mouse liver and Rat kidney tissue. ICC/IF: HeLa and NIH/3T3 cells. Flow Cytometry: HeLa cells.

### General notes

Our RabMAb<sup>®</sup> technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to [RabMAb<sup>®</sup> patents](#).

This product is a [recombinant rabbit monoclonal antibody](#).

### Properties

<b>Form</b>	Liquid
<b>Storage instructions</b>	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.
<b>Storage buffer</b>	Preservative: 0.01% Sodium azide Constituents: 59% PBS, 40% Glycerol, 0.05% BSA
<b>Purity</b>	Protein A purified
<b>Clonality</b>	Monoclonal
<b>Clone number</b>	EPR18405
<b>Isotype</b>	IgG

## Applications

---

Our [Abpromise guarantee](#) covers the use of **ab188099** 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
IHC-P		1/100. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.
WB		1/2000. Detects a band of approximately 56 kDa (predicted molecular weight: 56 kDa).
Flow Cyt		1/200.
ICC/IF		1/500.

## Target

---

### Relevance

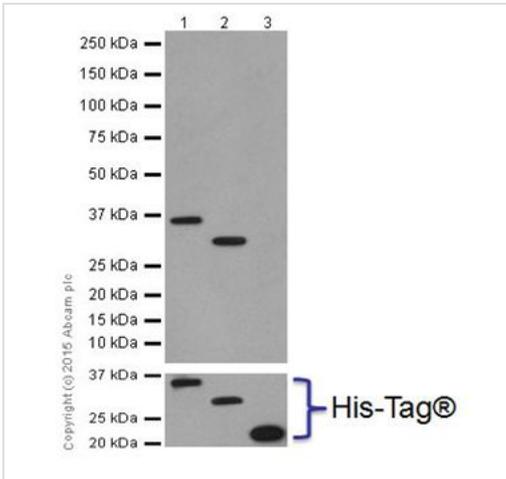
The serine/threonine kinase AKT (protein kinase B or PKB) has a central role in the regulation of several signaling pathways controlling cell proliferation, apoptosis, angiogenesis, and diabetes. In humans, there are three genes in the "AKT family": AKT1, AKT2, and AKT3. AKT1 is catalytically inactive in serum starved primary and immortalized fibroblasts. AKT1 and the related AKT2 are activated by platelet derived growth factor. The activation is rapid and specific. In the developing nervous system AKT is a critical mediator of growth factor induced neuronal survival. Survival factors can suppress apoptosis in a transcription independent manner by activating the serine/threonine kinase AKT1, which then phosphorylates and inactivates components of the apoptotic machinery. AKT2 is a putative oncogene and is a general protein kinase capable of phosphorylating several known proteins. AKT2 is amplified and overexpressed in some human carcinomas. AKT2 acts primarily as a regulator of glucose metabolism.

### Cellular localization

AKT1: Cytoplasm. Nucleus. Cell membrane. Note: Nucleus after activation by integrin-linked protein kinase 1 (ILK1). Nuclear translocation is enhanced by interaction with TCL1A.

## Images

---



Western blot - Anti-AKT1 + AKT2 antibody [EPR18405] (ab188099)

**All lanes :** Anti-AKT1 + AKT2 antibody [EPR18405] (ab188099) at 1/20000 dilution

**Lane 1 :** AKT1 recombinant protein fragment (His-Tag®): aa250-481

**Lane 2 :** AKT2 recombinant protein fragment (His-Tag®): aa282-481

**Lane 3 :** AKT3 recombinant protein fragment (His-Tag®): aa351-479

Lysates/proteins at 0.01 µg per lane.

**Secondary**

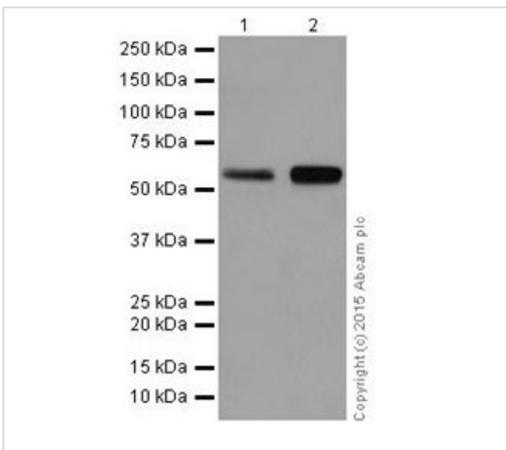
**All lanes :** Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/1000 dilution

**Predicted band size:** 56 kDa

**Exposure time:** 10 seconds

Blocking/dilution buffer: 5% NFD/MTBST.

All three Human AKT recombinant protein fragments containing an N-terminal His-Tag® were made in house.



Western blot - Anti-AKT1 + AKT2 antibody [EPR18405] (ab188099)

**All lanes :** Anti-AKT1 + AKT2 antibody [EPR18405] (ab188099) at 1/2000 dilution

**Lane 1 :** HeLa (Human epithelial cells from cervix adenocarcinoma) whole cell lysate

**Lane 2 :** MCF-7 (Human breast adenocarcinoma) whole cell lysate

Lysates/proteins at 20 µg per lane.

**Secondary**

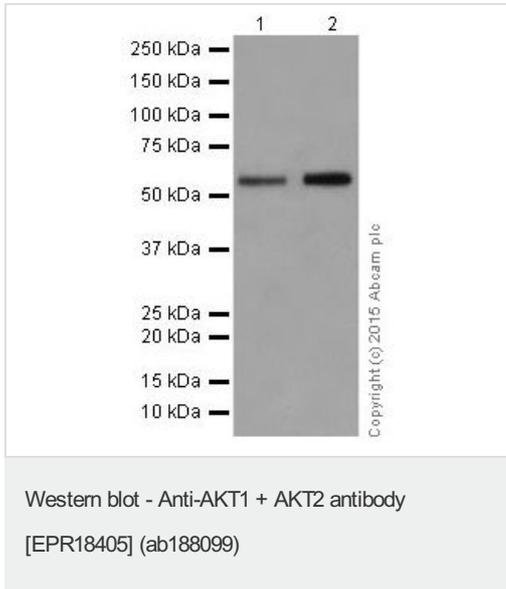
**All lanes :** Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/1000 dilution

**Predicted band size:** 56 kDa

**Observed band size:** 56 kDa

**Exposure time:** 5 seconds

Blocking/dilution buffer: 5% NFDm/TBST.



**All lanes :** Anti-AKT1 + AKT2 antibody [EPR18405] (ab188099) at 1/2000 dilution

**Lane 1 :** HepG2 (Human liver hepatocellular carcinoma) whole cell lysate

**Lane 2 :** A549 (Human lung carcinoma) whole cell lysate

Lysates/proteins at 20 µg per lane.

#### Secondary

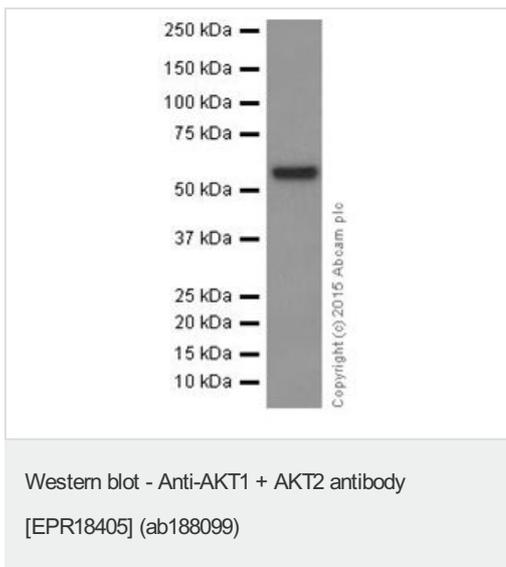
**All lanes :** Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/1000 dilution

**Predicted band size:** 56 kDa

**Observed band size:** 56 kDa

**Exposure time:** 15 seconds

Blocking/dilution buffer: 5% NFDm/TBST.



Anti-AKT1 + AKT2 antibody [EPR18405] (ab188099) at 1/2000 dilution + Human fetal kidney lysate at 10 µg

#### Secondary

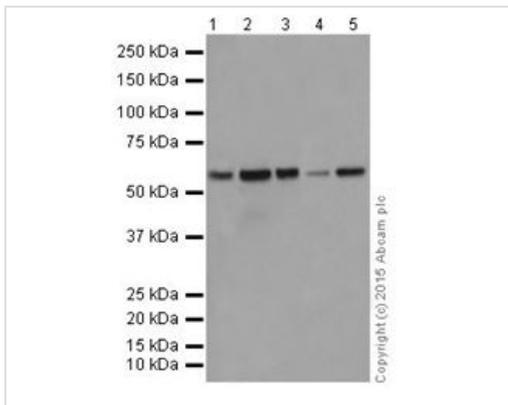
Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/1000 dilution

**Predicted band size:** 56 kDa

**Observed band size:** 56 kDa

**Exposure time:** 3 minutes

Blocking/dilution buffer: 5% NFDm/TBST.



Western blot - Anti-AKT1 + AKT2 antibody [EPR18405] (ab188099)

**All lanes** : Anti-AKT1 + AKT2 antibody [EPR18405] (ab188099) at 1/2000 dilution

**Lane 1** : Mouse brain lysate

**Lane 2** : Rat brain lysate

**Lane 3** : Rat heart lysate

**Lane 4** : PC-12 (rat adrenal gland pheochromocytoma) whole cell lysate

**Lane 5** : NIH/3T3 (mouse embryo fibroblast) whole cell lysate

Lysates/proteins at 10 µg per lane.

### Secondary

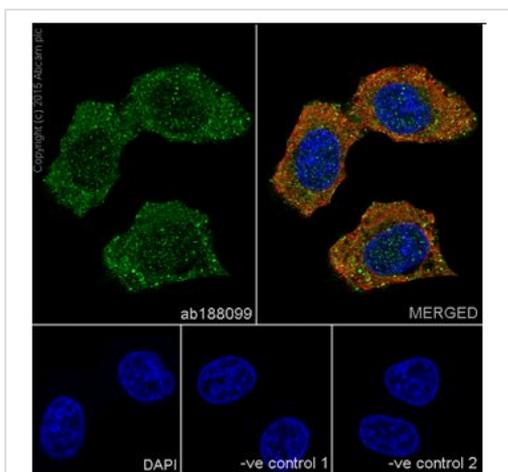
**All lanes** : Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/1000 dilution

**Predicted band size:** 56 kDa

**Observed band size:** 56 kDa

**Exposure time:** 15 seconds

Blocking/dilution buffer: 5% NFDM/TBST.



Immunocytochemistry/ Immunofluorescence - Anti-AKT1 + AKT2 antibody [EPR18405] (ab188099)

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized HeLa (Human epithelial cells from cervix adenocarcinoma) cells labeling AKT1 + AKT2 with ab188099 at 1/500 dilution, followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/500 dilution (green).

Confocal image showing cytoplasmic and weakly nuclear staining on HeLa cells.

The nuclear counterstain is DAPI (blue).

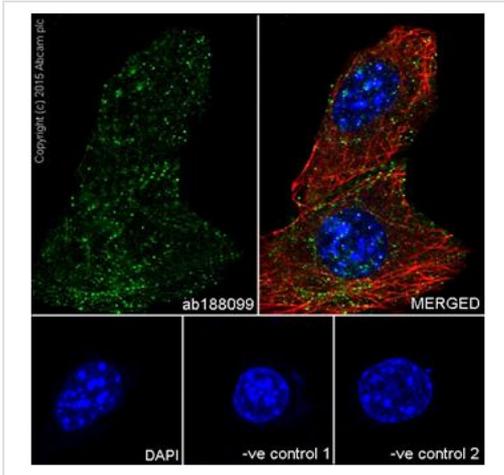
Tubulin is detected with ab7291 (anti-Tubulin mouse mAb) at 1/1000 dilution and ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution (red).

The negative controls are as follows:-

-ve control 1 - ab188099 at 1/500 dilution followed by ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution.

-ve control 2. - ab7291 (anti-Tubulin mouse mAb) at 1/1000 dilution followed by ab150077 (Alexa Fluor®488 Goat Anti-Rabbit IgG

H&L) at 1/500 dilution.



Immunocytochemistry/ Immunofluorescence - Anti-AKT1 + AKT2 antibody [EPR18405] (ab188099)

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized NIH/3T3 (mouse embryonic fibroblast cell line) cells labeling AKT1 + AKT2 with ab188099 at 1/500 dilution, followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/500 dilution (green).

Confocal image showing cytoplasmic and nuclear staining on NIH/3T3 cells.

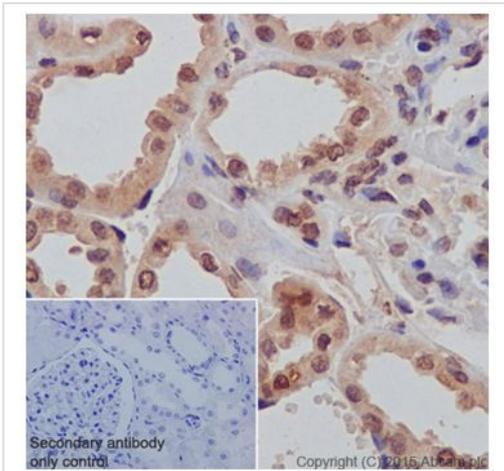
The nuclear counterstain is DAPI (blue).

Tubulin is detected with ab7291 (anti-Tubulin mouse mAb) at 1/1000 dilution and ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution (red).

The negative controls are as follows:-

-ve control 1 - ab188099 at 1/500 dilution followed by ab150120 (AlexaFluor®594 Goat anti-Mouse secondary) at 1/500 dilution.

-ve control 2. - ab7291 (anti-Tubulin mouse mAb) at 1/1000 dilution followed by ab150077 (Alexa Fluor®488 Goat Anti-Rabbit IgG H&L) at 1/500 dilution.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-AKT1 + AKT2 antibody [EPR18405] (ab188099)

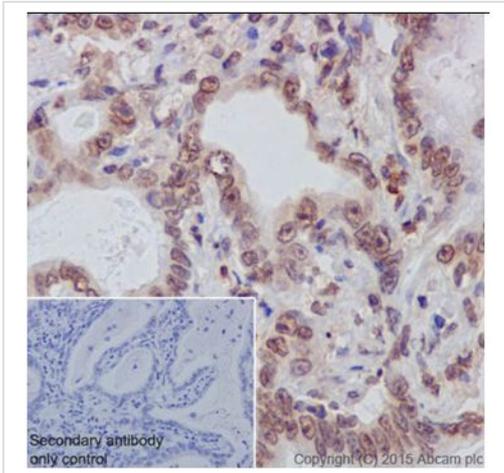
Immunohistochemical analysis of paraffin-embedded Human kidney tissue labeling AKT1 + AKT2 with ab188099 at 1/100 dilution followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

Nucleus and cytoplasm staining on normal Human kidney is observed.

Counter stained with Hematoxylin.

Negative control: Used PBS instead of primary ab, secondary ab is Goat Anti-Rabbit IgG H&L (HRP) (ab97051).

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-AKT1 + AKT2 antibody [EPR18405] (ab188099)

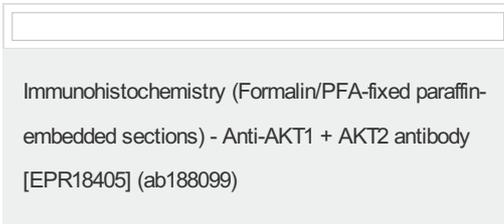
Immunohistochemical analysis of paraffin-embedded Human gastric adenocarcinoma tissue labeling AKT1 + AKT2 with ab188099 at 1/100 dilution followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

Nucleus and cytoplasm staining on tumor cells of gastric adenocarcinoma is observed.

Counter stained with Hematoxylin.

Negative control: Used PBS instead of primary ab, secondary ab is Goat Anti-Rabbit IgG H&L (HRP) (ab97051).

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-AKT1 + AKT2 antibody [EPR18405] (ab188099)

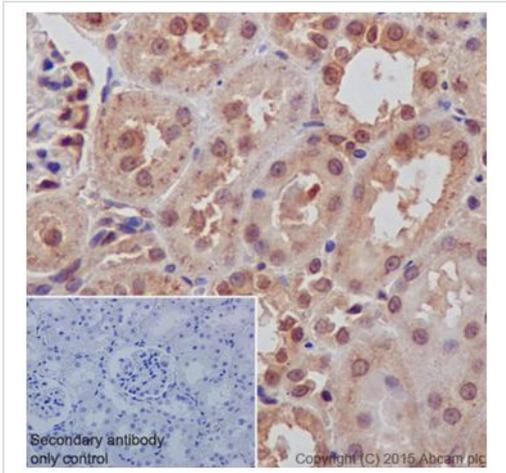
Immunohistochemical analysis of paraffin-embedded Mouse liver tissue labeling AKT1 + AKT2 with ab188099 at 1/100 dilution followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

Nucleus and cytoplasm staining on hepatocytes of mouse liver is observed.

Counter stained with Hematoxylin.

Negative control: Used PBS instead of primary ab, secondary ab is Goat Anti-Rabbit IgG H&L (HRP) (ab97051).

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-AKT1 + AKT2 antibody [EPR18405] (ab188099)

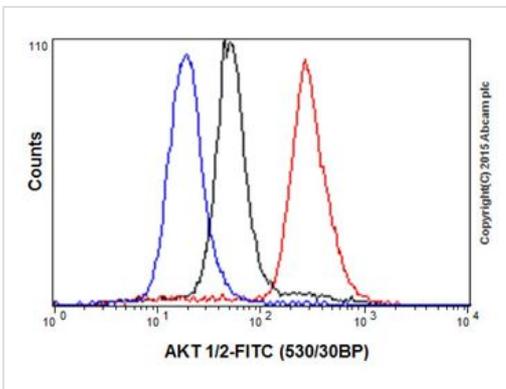
Immunohistochemical analysis of paraffin-embedded Rat kidney tissue labeling AKT1 + AKT2 with ab188099 at 1/100 dilution followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

Nucleus and cytoplasm staining on rat kidney is observed.

Counter stained with Hematoxylin.

Negative control: Used PBS instead of primary ab, secondary ab is Goat Anti-Rabbit IgG H&L (HRP) (ab97051).

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Flow Cytometry - Anti-AKT1 + AKT2 antibody [EPR18405] (ab188099)

Flow cytometric analysis of 4% paraformaldehyde-fixed HeLa (Human epithelial cells from cervix adenocarcinoma) cells labeling AKT1/2 with ab188099 at 1/200 dilution (red) compared with a rabbit monoclonal IgG isotype control (ab172730, black) and an unlabelled control (cells without incubation with primary antibody and secondary antibody; blue). Goat anti rabbit IgG (FITC) at 1/500 dilution was used as the secondary antibody.

**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