

## Product datasheet

# Anti-ERK1 + ERK2 antibody [EPR17526] ab184699

**KO VALIDATED** Recombinant RabMAB

★★★★★ [1 Abreviews](#) [197 References](#) [11 Images](#)

### Overview

<b>Product name</b>	Anti-ERK1 + ERK2 antibody [EPR17526]
<b>Description</b>	Rabbit monoclonal [EPR17526] to ERK1 + ERK2
<b>Host species</b>	Rabbit
<b>Tested applications</b>	<b>Suitable for:</b> Flow Cyt (Intra), IP, ICC/IF, WB
<b>Species reactivity</b>	<b>Reacts with:</b> Mouse, Rat, Human
<b>Immunogen</b>	Recombinant fragment. This information is proprietary to Abcam and/or its suppliers.
<b>Positive control</b>	WB: Human ERK1 full length recombinant protein; Human ERK2 full length recombinant protein; A431, Jurkat, HeLa, HepG2, C6, RAW 264.7, PC-12 and NIH/3T3 whole cell lysates; Human fetal brain, fetal heart and fetal kidney lysates; Mouse brain, heart, kidney and spleen lysates; Rat brain, heart, kidney and spleen lysates. ICC/IF: HeLa cells. Flow Cyt (intra): A431 cells. IP: PC-12 whole cell extract.
<b>General notes</b>	<p>This product is a recombinant monoclonal antibody, which offers several advantages including:</p> <ul style="list-style-type: none"><li>- High batch-to-batch consistency and reproducibility</li><li>- Improved sensitivity and specificity</li><li>- Long-term security of supply</li><li>- Animal-free production</li></ul> <p>For more information <a href="#">see here</a>.</p> <p>Our RabMAB<sup>®</sup> technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to <a href="#">RabMAB<sup>®</sup> patents</a>.</p>

### 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>	pH: 7.2 Preservative: 0.01% Sodium azide Constituents: 59% PBS, 40% Glycerol, 0.05% BSA
<b>Purity</b>	Protein A purified
<b>Clonality</b>	Monoclonal

Clone number                   EPR17526

Isotype                           IgG

## Applications

**The Abpromise guarantee**           Our **Abpromise guarantee** covers the use of ab184699 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)		1/440. <b>ab172730</b> - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.
IP		1/70.
ICC/IF	★★★★★ (1)	1/250.
WB		1/10000. Detects a band of approximately 44, 42 kDa (predicted molecular weight: 43, 41 kDa).

## Target

### Function

Involved in both the initiation and regulation of meiosis, mitosis, and postmitotic functions in differentiated cells by phosphorylating a number of transcription factors such as ELK1. Phosphorylates EIF4EBP1; required for initiation of translation. Phosphorylates microtubule-associated protein 2 (MAP2). Phosphorylates SPZ1 (By similarity). Phosphorylates heat shock factor protein 4 (HSF4) and ARHGEF2. Acts as a transcriptional repressor. Binds to a [GC]AAA[GC] consensus sequence. Repress the expression of interferon gamma-induced genes. Seems to bind to the promoter of CCL5, DMP1, IFIH1, IFITM1, IRF7, IRF9, LAMP3, OAS1, OAS2, OAS3 and STAT1. Transcriptional activity is independent of kinase activity.

### Sequence similarities

Belongs to the protein kinase superfamily. CMGC Ser/Thr protein kinase family. MAP kinase subfamily. Contains 1 protein kinase domain.

### Domain

The TXY motif contains the threonine and tyrosine residues whose phosphorylation activates the MAP kinases.

### Post-translational modifications

Dually phosphorylated on Thr-185 and Tyr-187, which activates the enzyme. Dephosphorylated by PTPRJ at Tyr-187.

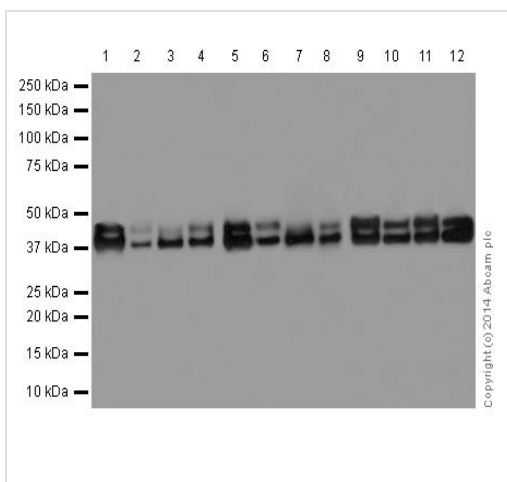
### Cellular localization

Nucleus.

### Form

Mainly expressed in the cytoplasm and only localizes to the nucleus with treatment.

## Images



Western blot - Anti-ERK1 + ERK2 antibody  
[EPR17526] (ab184699)

**All lanes** : Anti-ERK1 + ERK2 antibody [EPR17526] (ab184699)  
at 1/10000 dilution

**Lane 1** : Mouse brain lysates

**Lane 2** : Mouse heart lysates

**Lane 3** : Mouse kidney lysates

**Lane 4** : Mouse spleen lysates

**Lane 5** : Rat brain lysates

**Lane 6** : Rat heart lysates

**Lane 7** : Rat kidney lysates

**Lane 8** : Rat spleen lysates

**Lane 9** : C6 (Rat glial tumor cells) whole cell lysates

**Lane 10** : RAW 264.7 (Mouse macrophage cells transformed with  
Abelson murine leukemia virus) whole cell lysates

**Lane 11** : PC-12 (Rat adrenal gland pheochromocytoma) whole  
cell lysates

**Lane 12** : NIH/3T3 (Mouse embryo fibroblast cells) whole cell  
lysates

Lysates/proteins at 10 µg per lane.

### Secondary

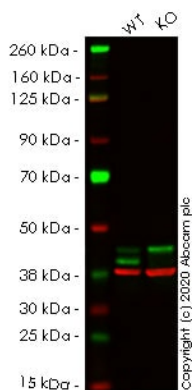
**All lanes** : Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at  
1/1000 dilution

**Predicted band size:** 43, 41 kDa

**Observed band size:** 44, 42 kDa

44kDa band represents ERK1. 42kDa band represents ERK2.

Blocking/Dilution buffer: 5% NFDm/TBST.



Western blot - Anti-ERK1 + ERK2 antibody [EPR17526] (ab184699)

**All lanes** : Anti-ERK1 + ERK2 antibody [EPR17526] (ab184699) at 1/10000 dilution

**Lane 1** : Wild-type HeLa cell lysate

**Lane 2** : MAPK1 knockout HeLa cell lysate

Lysates/proteins at 20 µg per lane.

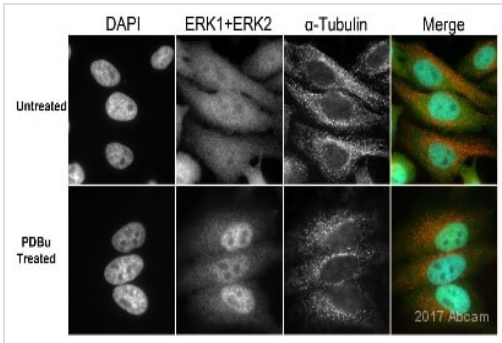
Performed under reducing conditions.

**Predicted band size:** 43, 41 kDa

**Observed band size:** 44 kDa

**Lanes 1-2:** Merged signal (red and green). Green - ab184699 observed at 44 kDa. Red - loading control **ab8245** observed at 37 kDa.

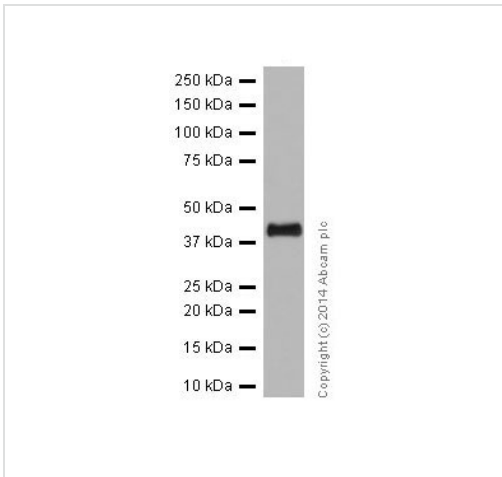
ab184699 Anti-ERK1 + ERK2 antibody [EPR17526] was shown to specifically react with ERK2 in wild-type HeLa cells. Loss of signal was observed when knockout cell line **ab265052** (knockout cell lysate **ab257525**) was used. Wild-type and ERK2 knockout samples were subjected to SDS-PAGE. ab184699 and Anti-GAPDH antibody [6C5] - Loading Control (**ab8245**) were incubated overnight at 4°C at 1 in 10000 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/ Immunofluorescence - Anti-ERK1 + ERK2 antibody [EPR17526] (ab184699)

This image is courtesy of an Abreview submitted by Kirk Mcmanus.

Ab184699 staining ERK1 + ERK2 in HeLa cells by ICC/IF (Immunocytochemistry/Immunofluorescence). Cells were fixed with paraformaldehyde and permeabilized with 0.5% Triton X-100. Samples were incubated with primary antibody (1/500 in PBS) for 1 hour at 22°C. A Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed ([ab150081](#)) was used as the secondary antibody.



Western blot - Anti-ERK1 + ERK2 antibody [EPR17526] (ab184699)

Anti-ERK1 + ERK2 antibody [EPR17526] (ab184699) at 1/10000 dilution + Recombinant Human ERK1 protein ([ab43623](#)) ([ab43623](#)) at 0.01 µg

**Secondary**

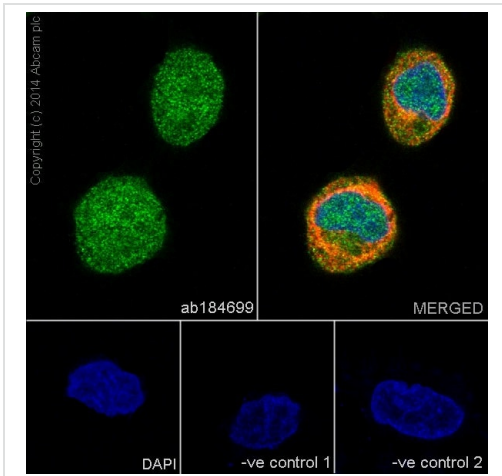
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

**Predicted band size:** 43, 41 kDa

**Observed band size:** 44 kDa

Recombinant full length ERK1 protein ([ab43623](#)) contains aa1-379.

Blocking/Dilution buffer: 5% NFDM/TBST.



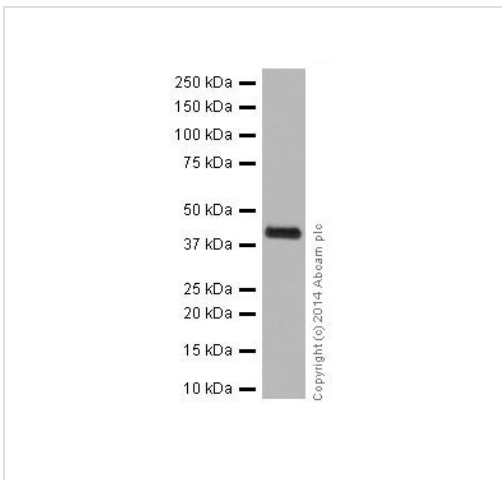
Immunocytochemistry/ Immunofluorescence - Anti-ERK1 + ERK2 antibody [EPR17526] (ab184699)

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized HeLa (Human epithelial cells from cervix adenocarcinoma) cells labeling ERK1 + ERK2 with ab184699 at 1/250 dilution, followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (**ab150077**) secondary antibody at 1/500 dilution (green). Confocal image showing both nuclear and cytoplasmic staining on HeLa cell line. The nuclear counter stain 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: ab184699 at 1/250 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.



Western blot - Anti-ERK1 + ERK2 antibody [EPR17526] (ab184699)

Anti-ERK1 + ERK2 antibody [EPR17526] (ab184699) at 1/10000 dilution + Recombinant Human ERK2 protein (**ab43625**) at 0.01 µg

### Secondary

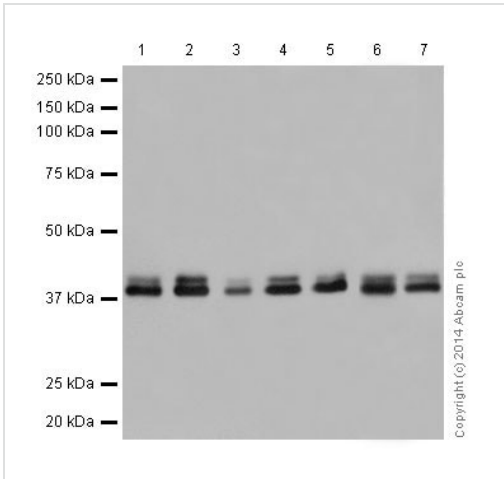
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

**Predicted band size:** 43, 41 kDa

**Observed band size:** 42 kDa

Recombinant full length ERK2 protein (**ab43625**) contains aa1-360.

Blocking/Dilution buffer: 5% NFDM/TBST.



Western blot - Anti-ERK1 + ERK2 antibody [EPR17526] (ab184699)

**All lanes :** Anti-ERK1 + ERK2 antibody [EPR17526] (ab184699) at 1/50000 dilution

**Lane 1 :** A431 (Human epidermoid carcinoma) whole cell lysates

**Lane 2 :** Jurkat (Human T cell leukemia cells from peripheral blood) whole cell lysates

**Lane 3 :** HeLa (Human epithelial cells from cervix adenocarcinoma) whole cell lysates

**Lane 4 :** HepG2 (Human liver hepatocellular carcinoma) whole cell lysates

**Lane 5 :** Human fetal brain lysates

**Lane 6 :** Human fetal heart lysates

**Lane 7 :** Human fetal kidney lysates

Lysates/proteins at 20 µg per lane.

**Secondary**

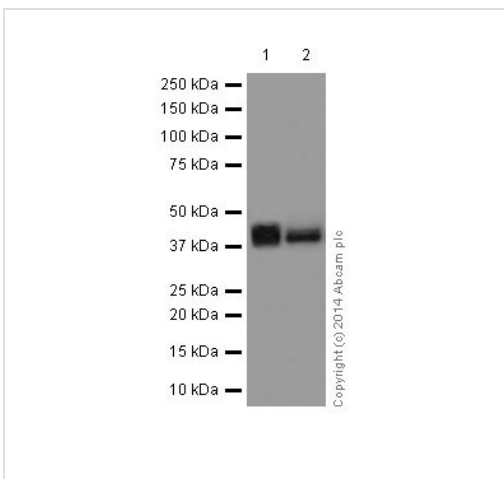
**All lanes :** Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

**Predicted band size:** 43, 41 kDa

**Observed band size:** 42,44 kDa

44kDa band represents ERK1. 42kDa band represents ERK2.

Blocking/Dilution buffer: 5% NFDM/TBST.



Western blot - Anti-ERK1 + ERK2 antibody [EPR17526] (ab184699)

**All lanes :** Anti-ERK1 + ERK2 antibody [EPR17526] (ab184699) at 1/10000 dilution

**Lane 1 :** Human fetal brain lysates

**Lane 2 :** Human fetal heart lysates

Lysates/proteins at 10 µg per lane.

**Secondary**

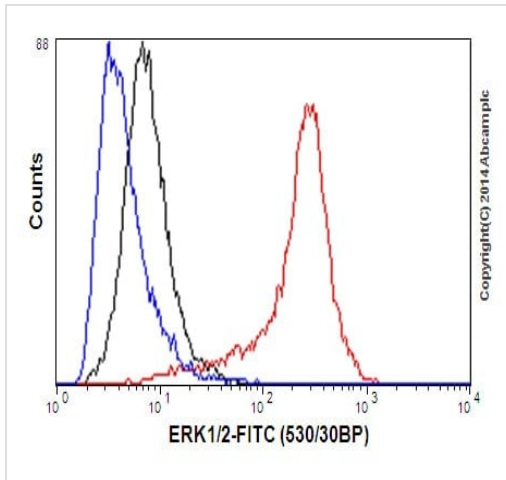
**All lanes :** Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/1000 dilution

**Predicted band size:** 43, 41 kDa

**Observed band size:** 42,44 kDa

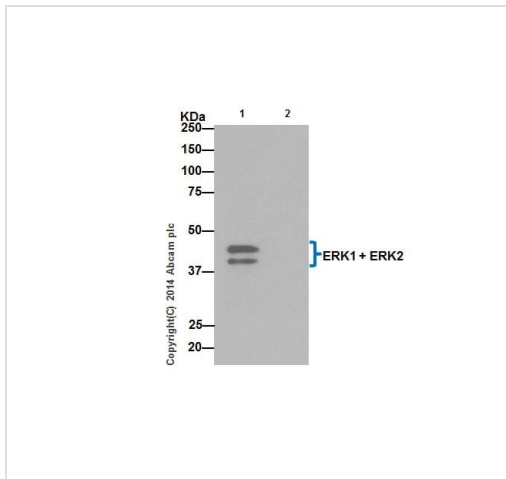
44kDa band represents ERK1. 42kDa band represents ERK2.

Blocking/Dilution buffer: 5% NFDm/TBST.



Intracellular flow cytometric analysis of A431 (Human epidermoid carcinoma) cells labeling ERK1 + ERK2 with ab184699 at 1/440 dilution (red) compared with a rabbit monoclonal IgG isotype control (black) and an unlabelled control (cells without incubation with primary antibody and secondary antibody; blue). Goat anti rabbit IgG (FITC) at 1/150 dilution was used as the secondary antibody.

Flow Cytometry (Intracellular) - Anti-ERK1 + ERK2 antibody [EPR17526] (ab184699)



ERK1 + ERK2 were immunoprecipitated from 1mg of PC-12 (Rat adrenal gland pheochromocytoma) whole cell extract with ab184699 at 1/70 dilution. Western blot was performed from the immunoprecipitate using ab184699 at 1/5000 dilution. Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG, was used as secondary antibody at 1/1500 dilution.

Lane 1: PC-12 whole cell extract. Lane 2: PBS instead of PC-12 whole cell extract.





Blocking and dilution buffer and concentration: 5% NFDm/TBST.

44kDa band represents ERK1. 42kDa band represents ERK2.

Immunoprecipitation - Anti-ERK1 + ERK2 antibody [EPR17526] (ab184699)



Why choose a recombinant antibody?

 <b>Research with confidence</b> Consistent and reproducible results	 <b>Long-term and scalable supply</b> Recombinant technology
 <b>Success from the first experiment</b> Confirmed specificity	 <b>Ethical standards compliant</b> Animal-free production

Anti-ERK1 + ERK2 antibody [EPR17526]  
(ab184699)

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

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