abcam

Product datasheet

Anti-ERK1 + ERK2 antibody ab17942

25 Abreviews 327 References 8 Images

Overview

Product name	Anti-ERK1 + ERK2 antibody
Description	Rabbit polyclonal to ERK1 + ERK2
Host species	Rabbit
Tested applications	**Suitable for:** ICC, IHC-P, WB
Species reactivity	**Reacts with:** Mouse, Rat, Human
Immunogen	Synthetic peptide corresponding to Human ERK1 + ERK2 aa 317-339 (C terminal). Sequence: RIT VEEALAHPYL EQYYDPTDE Database link: **P27361** Run BLAST with Run BLAST with
General notes	Please note that this is an intracellular epitope. 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. 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&As

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 long term. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.30 Preservative: 0.05% Sodium azide Constituents: 49% PBS, 50% Glycerol, 0.1% BSA phosphate buffered saline without Mg2+ and Ca2+.

Purity	Immunogen affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab17942 in the following tested applications.

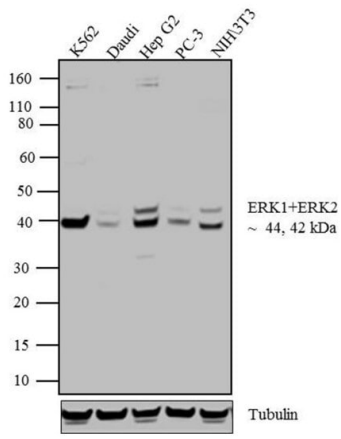
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
ICC	(1)	Use a concentration of 1 µg/ml.
IHC-P	(2)	1/10 - 1/100.
WB	(15)	1/1000. Predicted molecular weight: 42-44 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 (ab17942)

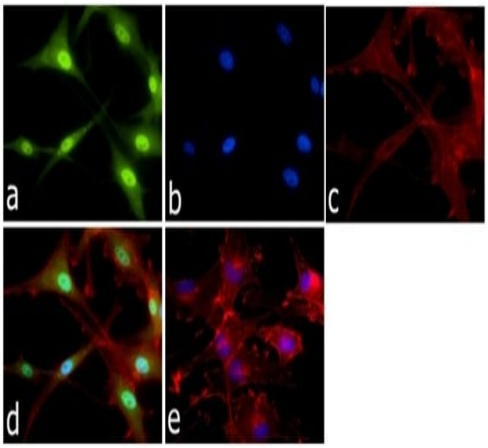
All lanes : Anti-ERK1 + ERK2 antibody (ab17942) at 1/1000 dilution

Lane 1 : K562 cells
Lane 2 : Daudi cells
Lane 3 : Hep G2 cells
Lane 4 : PC-3 cells
Lane 5 : NIH 3T3 cells

Lysates/proteins at 20 µg per lane.

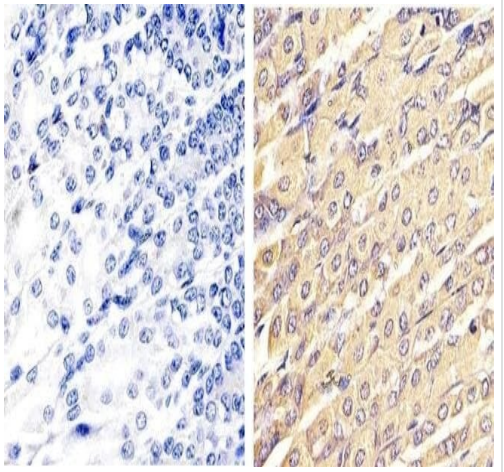
Secondary
All lanes : Anti-Rabbit IgG - HRP Secondary Antibody at 1/5000 dilution

Predicted band size: 42-44 kDa



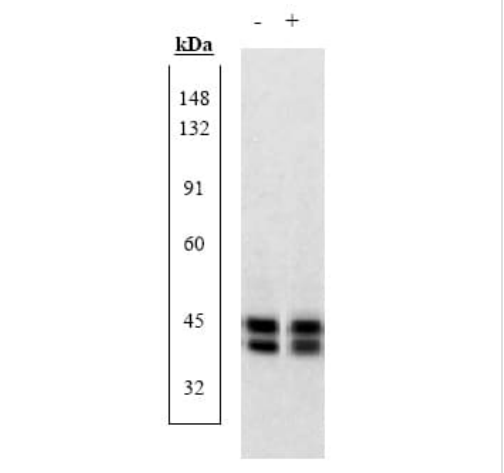
Immunocytochemistry - Anti-ERK1 + ERK2 antibody (ab17942)

Immunofluorescent analysis of ERK1 + ERK2 Antibody was done on 70% confluent log phase U87-MG cells. The cells were fixed with 4% paraformaldehyde for 15 minutes, permeabilized with 0.25% Triton™ X-100 for 10 minutes, and blocked with 5% BSA for 1 hour at room temperature. The cells were labeled with ab17942 at 1:250 dilution in 1% BSA and incubated for 3 hours at room temperature and then labeled with Alexa Fluor 488 Goat Anti-Rabbit IgG Secondary Antibody at a dilution of 1:400 for 45 minutes at room temperature (Panel a: green). Nuclei (Panel b: blue) were stained with SlowFade® Gold Antifade Mountant with DAPI. F-actin (Panel c: red) was stained with Alexa Fluor 594 Phalloidin. Panel d is a merged image showing cytoplasmic and nuclear localization. Panel e is a no primary antibody control. The images were captured at 40X magnification.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ERK1 + ERK2 antibody (ab17942)

Immunohistochemistry analysis of ERK1/2 (pan) showing staining in the cytoplasm and nucleus of paraffin-embedded mouse stomach tissue (right) compared to a negative control without primary antibody (left). To expose target proteins, antigen retrieval was performed using 10mM sodium citrate (pH 6.0), microwaved for 8-15 min. Following antigen retrieval, tissues were blocked in 3% H2O2-methanol for 15 min at room temperature, washed with ddH2O and PBS, and then probed with ab17942 diluted in 3% BSA-PBS at a dilution of 1:20 overnight at 4°C in a humidified chamber. Tissues were washed extensively in PBST and detection was performed using an HRP-conjugated secondary antibody followed by colorimetric detection using a DAB kit. Tissues were counterstained with hematoxylin and dehydrated with ethanol and xylene to prep for mounting.



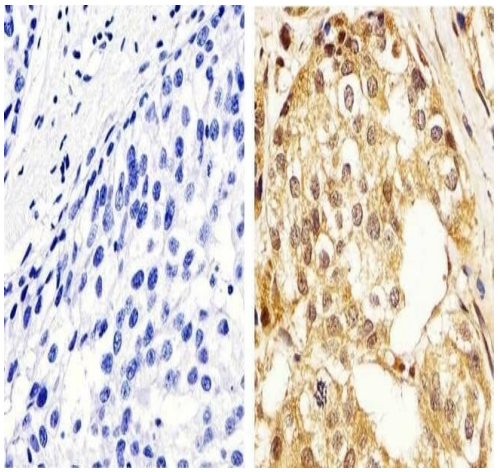
Western blot - Anti-ERK1 + ERK2 antibody (ab17942)

Western Blot for **ab17942**.

Extracts prepared from PC12 cells not stimulated (-), or stimulated with NGF (+) were resolved by SDS-PAGE on a 10% polyacrylamide gel and transferred to nitrocellulose. Membranes were blocked with a 5% BSA-TBST buffer overnight at 4C, then were incubated with ERK1&2 pan antibody for two hours at room temperature in a 3% BSA-TBST buffer. After washing, membranes were incubated
with goat anti-rabbit IgG alkaline phosphatase.

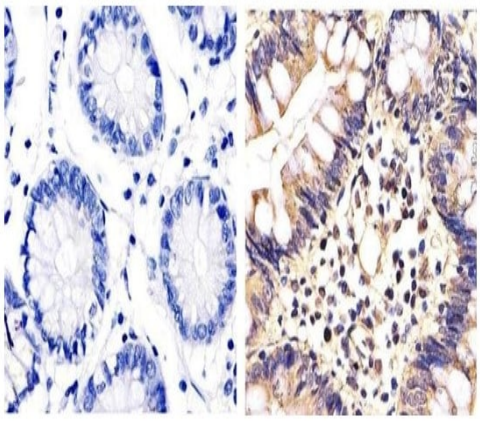
These data show that **ab17942** ERK1&2 antibody allows the total amount of ERK1&2 to be measured.

Extracts prepared from PC12 cells not stimulated (-), or stimulated with NGF (+) were resolved by SDS-PAGE on a 10% polyacrylamide gel and transferred to nitrocellulose. Membranes were blocked with a 5% BSA-TBST buffer overnight at 4C, then were incubated with ERK1&2 pan antibody for two hours at room temperature in a 3% BSA-TBST buffer. After washing, membranes were incubated with goat anti-ra



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ERK1 + ERK2 antibody (ab17942)

Immunohistochemistry analysis of ERK1/2 (pan) showing staining in the cytoplasm and nucleus of paraffin-embedded human breast carcinoma tissue (right) compared to a negative control without primary antibody (left). To expose target proteins, antigen retrieval was performed using 10mM sodium citrate (pH 6.0), microwaved for 8-15 min. Following antigen retrieval, tissues were blocked in 3% H2O2-methanol for 15 min at room temperature, washed with ddH2O and PBS, and then probed with ab17942 diluted in 3% BSA-PBS at a dilution of 1:100 overnight at 4°C in a humidified chamber. Tissues were washed extensively in PBST and detection was performed using an HRP-conjugated secondary antibody followed by colorimetric detection using a DAB kit. Tissues were counterstained with hematoxylin and dehydrated with ethanol and xylene to prep for mounting.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ERK1 + ERK2 antibody (ab17942)

Immunohistochemistry analysis of ERK1/2 (pan) showing staining in the cytoplasm and nucleus of paraffin-embedded human colon carcinoma tissue (right) compared to a negative control without primary antibody (left). To expose target proteins, antigen retrieval was performed using 10mM sodium citrate (pH 6.0), microwaved for 8-15 min. Following antigen retrieval, tissues were blocked in 3% H2O2-methanol for 15 min at room temperature, washed with ddH2O and PBS, and then probed with ab17942 diluted in 3% BSA-PBS at a dilution of 1:20 overnight at 4°C in a humidified chamber. Tissues were washed extensively in PBST and detection was performed using an HRP-conjugated secondary antibody followed by colorimetric detection using a DAB kit. Tissues were counterstained with hematoxylin and dehydrated with ethanol and xylene to prep for mounting.

Western blot - Anti-ERK1 + ERK2 antibody (ab17942)

This image is courtesy of an anonymous Abreview

All lanes : Anti-ERK1 + ERK2 antibody (ab17942) at 1/1000 dilution

Lane 1 : Rat spinal cord tissue homogenate from animals that underwent Sham surgery
Lanes 2-3 : Rat spinal cord tissue homogenate from animals that underwent L5 nerve transection

Lysates/proteins at 20 µg per lane.

Secondary
All lanes : HRP conjugated goat anti-rabbit antibody at 1/3000

dilution

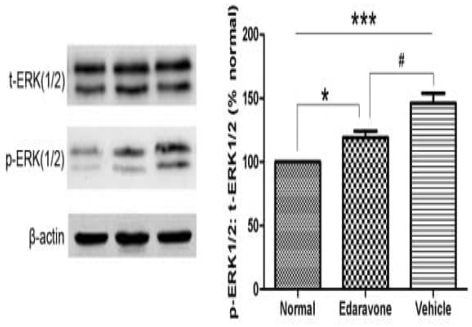
Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 42-44 kDa
Observed band size: 42,44 kDa

Exposure time: 5 minutes

The tissue was harvested seven days post surgery, sonicated with RIPA buffer and the protein estimate made by Lowry. A 10% SDS-PAGE gel was run for 1.5 hr at 100V and transfered to PVDF membrane for 1.5 hr at 274 mA. The blot was blocked with 5% BSA for 1 hour at 23°C. The primary antibody was incubated with the blot for 18 hours at 4°C.



Western blot - Anti-ERK1 + ERK2 antibody (ab17942)

Western blot analysis of Mice retinas (40-50µg/lane) labelling with anti-ERK1/2 at 1:300 (ab17942) and mouse monoclonal anti-phosphorylated ERK1/2 at 1:300 (**ab50011**), in 5% nonfat milk in TBST overnight at 4ºC. HRP conjugated antibodies were used as the secondary antibodies.

Data is expressed as percentage change in phosphorylated ERK1/2 (p-ERK1/2) over total ERK1/2 (t-ERK1/2) calculated in control and diabetic mice maintained with and without Edaravone treatment

Results are expressed as mean±SD. Values obtained from Normal group are considered as 100%. *P<0.05, ***P<0.001 vs. Normal, #P<0.05 vs. Edaravone

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