abcam

Product datasheet

Anti-ERK1 + ERK2 antibody ab17942

25 Abreviews 89 References 7 Images

Overview

Product name	Anti-ERK1 + ERK2 antibody
Description	Rabbit polyclonal to ERK1 + ERK2
Host species	Rabbit
Tested applications	**Suitable for:** IHC-P, ICC, ICC/IF, IHC-Fr, WB
Species reactivity	**Reacts with:** Mouse, Rat, Cow, Dog, Human, Culex pipiens
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
Positive control	Mouse kidney tissue lysate - total protein (0 days) (ab7261) can be used as a positive control in WB. A431, PC12, and NIH3T3 cells.
General notes	Please note that this is an intracellular epitope.

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

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
IHC-P	★★★★☆	1/200.
ICC	★★★★☆	1/200.
ICC/IF	★★★★☆	1/200.
IHC-Fr	★★★★★	1/200.
WB	★★★★☆	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.

Images

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

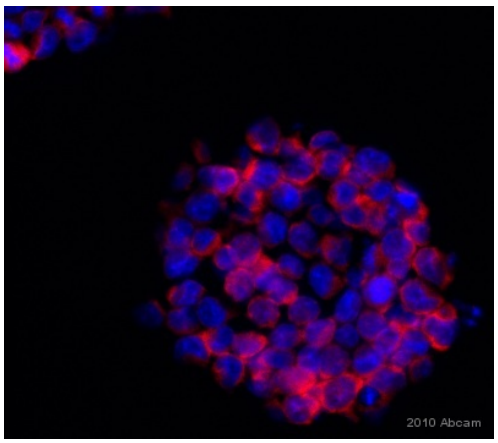
Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 42-44 kDa
Observed band size: 42,44 kDa
why is the actual band size different from the predicted?

Exposure time: 5 minutes

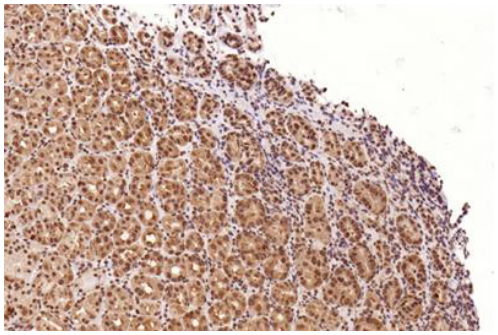
The tissue was harvested seven days post surgery, sonicated with RIPA buffer and the protein estimate made by Lowry. A 10% SDS-PAGE gel was run for 1.5 hr at 100V and transfered to PVDF membrane for 1.5 hr at 274 mA. The blot was blocked with 5% BSA for 1 hour at 23°C. The primary antibody was incubated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



Immunohistochemistry (Frozen sections) - Anti-ERK1 + ERK2 antibody (ab17942)

This image is courtesy of an anonymous Abreview.

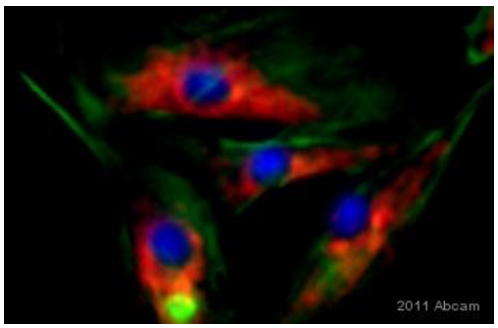
ab17942 staining ERK1 + ERK2 in Embryonic Stem Cell-induced Mouse Neurospheres by Immunohistochemistry (Frozen sections). Sections were formaldehyde-fixed prior to blocking in 10% serum for 30 minutes at room temperature. The primary antibody was diluted 1/1000 and incubated with the sample for 12 hours at 4°C. An Alexa Fluor® 594-conjugated Goat anti-Rabbit polyclonal antibody, diluted 1/1500 was used as the secondary.



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

Image courtesy of an anonymous Abreview

ab17942 staining ERK1 + ERK2 in Human stomach tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with formaldehyde and blocked with 5% serum for 1 hour at 23°C; antigen retrieval was by heat mediation in a citrate buffer. Samples were incubated with primary antibody (1/200 in blocking buffer) for 1 hourat 23°C. A HRP-conjugated GOat anti-rabbit IgG polyclonal was used as the secondary antibody.

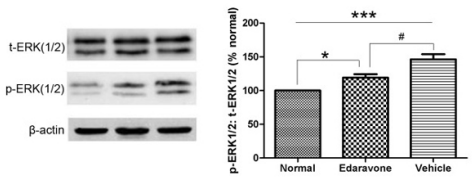


Immunocytochemistry - Anti-ERK1 + ERK2 antibody (ab17942)

This image is courtesy of an anonymous Abreview.

ab17942 staining ERK1 + ERK2 in NIH3T3 Mouse Fibroblasts cell line by ICC/IF (Immunocytochemistry/immunofluorescence). Cells were fixed with PFA, permeabilized with 0.025% Triton-X in TBS and blocked with 5% serum for 1 hour at 23°C. Samples were incubated with primary antibody (1/200 in blocking buffer) for 16 hours at 4°C. An Alexa Fluor® 568-conjugated Goat anti-rabbit IgG polyclonal diluted to 1/1000 was used as the secondary antibody.

Blue channel - DAPI (nuclear staining)
Green channel - Alexa fluor 488 (B-Actin)



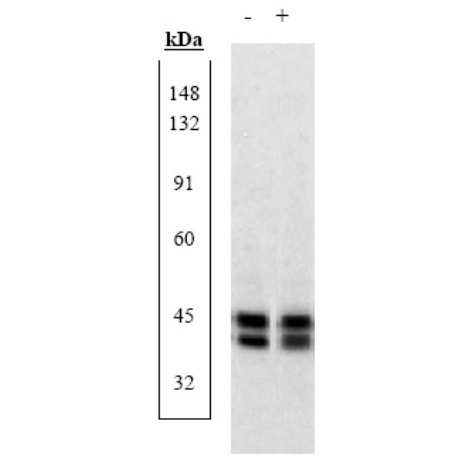
Western blot - Anti-ERK1 + ERK2 antibody (ab17942)

Image from PLoS One. 2014; 9(6): e99219. Fig3A, doi: 10.1371/journal.pone.0099219

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



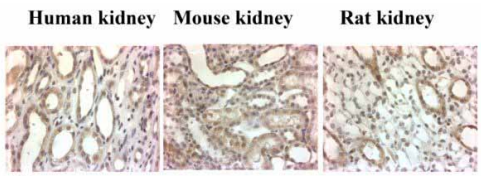
Western blot - Anti-ERK1 + ERK2 antibody (ab17942)

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)

This image is courtesy of an anonymous Abreview

ab17942 at 1/200 staining human (ab30203), rat (ab29480) and mouse (ab7261) kidney sections by IHC-P. The tissue sections were formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. An HRP conjugated goat anti-rabbit antibody was used as the secondary.

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