abcam

Product datasheet

Anti-ERK1 + ERK2 antibody [ERK-7D8] ab54230

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Overview

Product name	Anti-ERK1 + ERK2 antibody [ERK-7D8]
Description	Mouse monoclonal [ERK-7D8] to ERK1 + ERK2
Host species	Mouse
Tested applications	**Suitable for:** WB, IP, ELISA, EMSA, IHC-P, ICC/IF
Species reactivity	**Reacts with:** Mouse, Human, Zebrafish **Predicted to work with:** Rat
Immunogen	Synthetic peptide corresponding to Rat ERK1 + ERK2 aa 324-345. Sequence: EALAHPYLEQYYDPTDEPVAEE Database link: P21708 Run BLAST with Run BLAST with
Positive control	ICC/IF: U-87 MG (human glioblastoma-astrocytoma epithelial cell line) cells. IHC-P: Human breast carcinoma tissue. Mouse stomach tissue. Human cortex tissue. WB: Recombinant human ERK1 protein (ab116536), Human granulosa cell line whole cell lysate.

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 or -80°C. Avoid freeze / thaw cycle.
Storage buffer	Preservative: 0.05% Sodium Azide Constituents: PBS, pH 7.4
Purity	Immunogen affinity purified
Clonality	Monoclonal
Clone number	ERK-7D8
Isotype	IgG1
Light chain type	kappa

Applications

Our Abpromise guarantee covers the use of **ab54230** in the following tested applications.

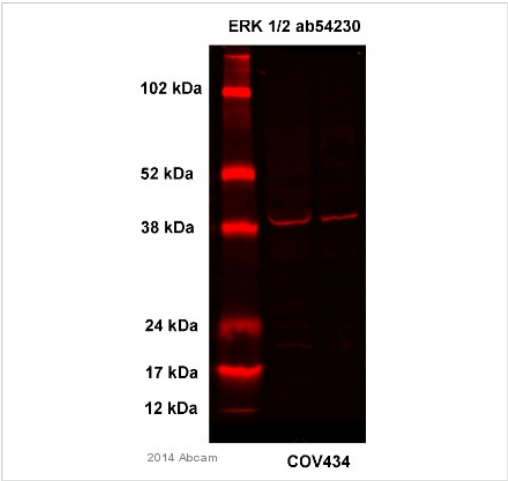
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB	★★★★★	Use a concentration of 1 µg/ml. Predicted molecular weight: 44 kDa.
IP		Use at 2-5 µg/mg of lysate.
ELISA		Use a concentration of 0.1 - 1 µg/ml.
EMSA		Use at an assay dependent concentration.
IHC-P		1/10 - 1/100. Perform heat mediated antigen retrieval before commencing with IHC staining protocol.
ICC/IF	★★★★★	Use a concentration of 1 µg/ml.

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 [ERK-7D8] (ab54230)

This image is courtesy of an Abreview submitted by Francesco Elia Marino

All lanes : Anti-ERK1 + ERK2 antibody [ERK-7D8] (ab54230) at 1/1000 dilution

All lanes : Human granulosa cell line whole cell lysate

Lysates/proteins at 60 µg per lane.

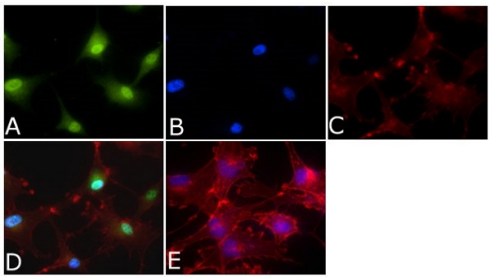
Secondary

All lanes : IRDye® 680-conjugated goat anti-mouse IgG1 (H+L) polyclonal at 1/25000 dilution

Performed under reducing conditions.

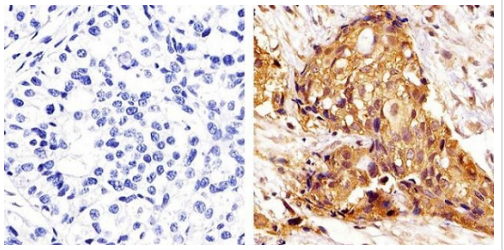
Predicted band size: 44 kDa
Observed band size: 44 kDa

Exposure time: 4 minutes



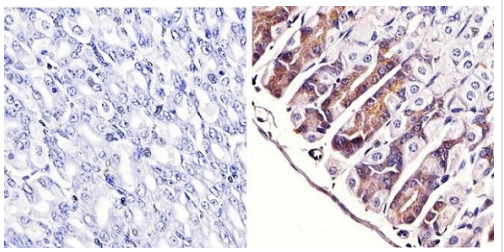
Immunocytochemistry/ Immunofluorescence - Anti-ERK1 + ERK2 antibody [ERK-7D8] (ab54230)

Immunocytochemistry/ Immunofluorescence analysis of ERK1 + ERK2 Antibody (ab54230) 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 ERK1 + ERK2 Antibody [ERK-7D8] (ab54230) at 1µg/mL in 1% BSA and incubated for 3 hours at room temperature and then labeled with Alexa Flour 488® Rabbit Anti-Mouse 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 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.



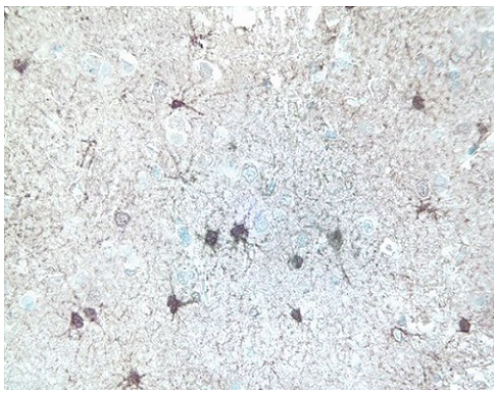
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ERK1 + ERK2 antibody [ERK-7D8] (ab54230)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human breast carcinoma tissue labeling ERK1 + ERK2 with ab54230. Staining in the cytoplasm and nucleus (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% H_2O_2-methanol for 15 min at room temperature, washed with ddH_2O and PBS, and then probed with a ERK1/2 monoclonal antibody (ab54230) diluted in 3% BSA-PBS at a dilution of 1/50 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 [ERK-7D8] (ab54230)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of mouse stomach tissue labeling ERK1 + ERK2 with ab54230. Staining in the cytoplasm and nucleus (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% H_2O_2 -methanol for 15 min at room temperature, washed with ddH_2O and PBS, and then probed with a ERK1/2 monoclonal antibody (ab54230) 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.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ERK1 + ERK2 antibody [ERK-7D8] (ab54230)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human cortex tissue labeling ERK1 + ERK2 with ab54230.

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