

ERK1 monoclonal antibody

Catalog: MB66948

Host: Mouse

Reactivity: Human, Mouse

Background:

Mitogen-activated protein kinases (MAPKs) are a widely conserved family of serine/threonine protein kinases involved in many cellular programs, such as cell proliferation, differentiation, motility, and death. The p44/42 MAPK (Erk1/2) signaling pathway can be activated in response to a diverse range of extracellular stimuli, including mitogens, growth factors, and cytokines, and research investigators consider it an important target in the diagnosis and treatment of cancer. Upon stimulation, a sequential three-part protein kinase cascade is initiated, consisting of a MAP kinase kinase kinase (MAPKKK or MAP3K), a MAP kinase kinase (MAPKK or MAP2K), and a MAP kinase (MAPK). Multiple p44/42 MAP3Ks have been identified, including members of the Raf family, as well as Mos and Tpl2/COT. MEK1 and MEK2 are the primary MAPKKs in this pathway. MEK1 and MEK2 activate p44 and p42 through phosphorylation of activation loop residues Thr202/Tyr204 and Thr185/Tyr187, respectively. Several downstream targets of p44/42 have been identified, including p90RSK and the transcription factor Elk-1. p44/42 are negatively regulated by a family of dual-specificity (Thr/Tyr) MAPK phosphatases, known as DUSPs or MKPs, along with MEK inhibitors, such as U0126 and PD98059.

Product:

Mouse IgG1 kappa. Liquid in PBS, pH 7.3, 30% glycerol, and 0.01% sodium azide.

Molecular Weight:

~ 44 kDa

Swiss-Prot:

P27361

Purification&Purity:

This antibody is purified through a protein G column.

Applications:

WB (1/500 - 1/1000), IHC (1/50 - 1/200), IF/ICC (1/10 -

1/50)

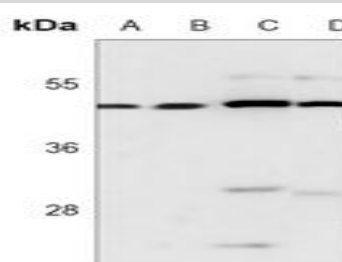
Storage&Stability:

Store at 4 °C short term. Aliquot and store at -20 °C long term. Avoid freeze-thaw cycles.

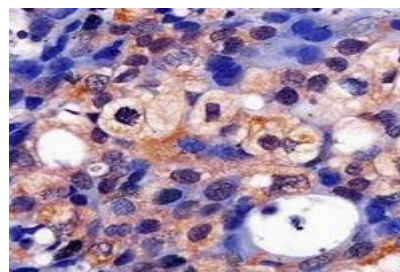
Specificity:

Recognizes endogenous levels of ERK1 protein.

DATA:



Western blot analysis of ERK1 expression in MCF7 (A), HeLa (B), Jurkat (C), mouse brain (D) whole cell lysates.



Immunohistochemical analysis of ERK1 staining in human breast carcinoma formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

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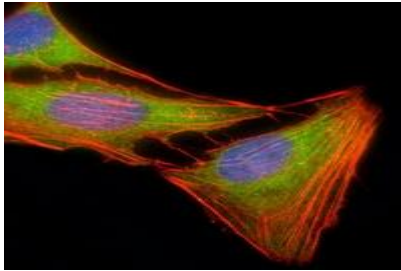
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Immunofluorescent analysis of ERK1 staining in HeLa cells. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for

5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with the primary antibody in 3% BSA-PBS and incubated overnight at 4 °C in a humidified chamber. Cells were washed with PBST and incubated with a AF488-conjugated secondary antibody (green) in PBS at room temperature in the dark. Phalloidin - AF555 was used to stain the cytoplasm (red). DAPI was used to stain the cell nuclei (blue).

Note:

For research use only, not for use in diagnostic procedure.

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