ERK1 (C-terminal region)

Mouse Monoclonal

Cat. # EM2331
Size 100 µl

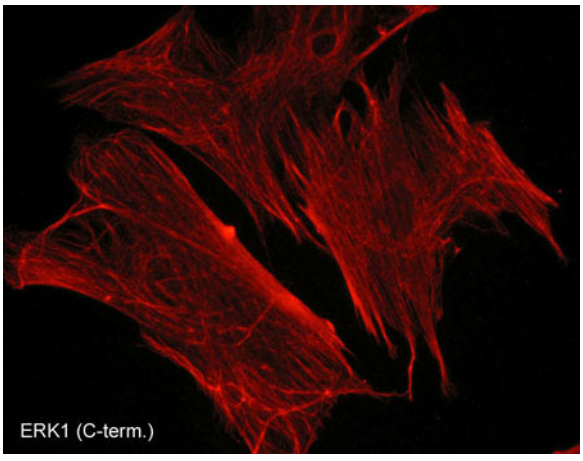
Background

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 ERK1/2 (p44/42) signaling pathway can be activated in response to a diverse range of extracellular stimuli including mitogens, growth factors, and cytokines. Upon stimulation, a sequential three-part protein kinase cascade is initiated, consisting of a MAP kinase kinase kinase (MAPKKK), a MAP kinase kinase (MAPKK), and a MAP kinase (MAPK). Multiple ERK1/2 MAPKKKs 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 ERK1 and ERK2 through phosphorylation of activation loop residues Thr-202/Tyr-204 and Thr-185/Tyr-187, respectively. ERK1/2 are negatively regulated by a family of dual-specificity (Thr/Tyr) MAPK phosphatases. Several downstream targets of ERK1/2 have been identified, including p90RSK and the transcription factor Elk-1.

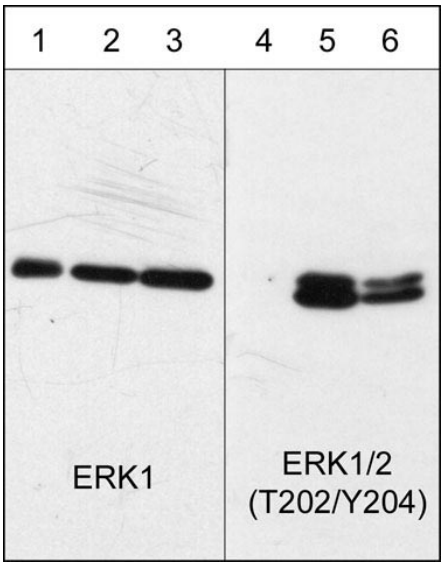
GO mAb
Guaranteed to Outperform

Background References

Roux, P.P. & Blenis, J. (2004) Microbiol Mol Biol Rev 68:320.
Murphy, L.O. & Blenis, J. (2006) Trends Biochem Sci 31:268.
Owens, D.M. & Keyse, S.M. (2007) Oncogene 26:3203.



Immunocytochemical labeling of ERK1 in paraformaldehyde-fixed and NP-40-permeabilized rabbit spleen fibroblasts. The cells were labeled with mouse monoclonal ERK1 (C-terminal region) and detected using appropriate secondary antibodies conjugated to Cy3.



Western blot analysis of human A431 epithelial cells untreated (lanes 1 & 4) or treated with 100 nM calyculin A for 30 min. (lanes 2 & 5) or 100 ng/ml EGF for 60 min. (lanes 3 & 6). The blots were probed with anti-ERK1 (C-terminal region) (lanes 1, 2, & 3) or anti-ERK1/2 (Thr -202/Tyr-204) (lanes 4, 5, & 6).

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Rev 7/16/2020

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Immunogen

Uniprot ID: P27361

Clone (M233) was generated from a recombinant human ERK1 protein that included amino acids residues in the C-terminal region. This sequence is conserved in rat and mouse ERK1, and has low homology to ERK2, as well as other ERK family members.

Buffer and Storage

Mouse monoclonal antibody purified with protein A chromatography is supplied in 100µl phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. Store at –20°C. Stable for 1 year.

Product Citations

Elizondo, DM et al. (2016) J Leukoc Biol. 100(5):855.
WB: mouse dendritic cells

Kyjacova, L. et al. (2015) Cell Death Differ. 22(6):898.
WB: human DU145

Applications

WB	1:1000
ELISA	1:2000
ICC	1:100
IHC	1:100

Species Reactivity

Hu, Rt, Ms

Isotype: IgG1

End user should determine optimal dilution for their particular applications and experiments.
Western blot membranes were incubated with diluted antibody in 5% non-fat milk, Tris buffer, 0.04% Tween20 for 1 hour at room temperature.
Abbreviations: E = ELISA, ICC = immunocytochemistry, IHC = immunohistochemistry, IP = immunoprecipitation, MS = mass spectrometry, WB = western blot
Hu = Human, Ms = Mouse, Rt = Rat, Ck = Chicken, F = Frog, B = Bovine

Specificity

The antibody detects a 44 kDa* protein corresponding to ERK1 on SDS-PAGE immunoblots of human A431 epithelial cells. It does not detect ERK2.

*All molecular weights (MW) are confirmed by comparison to MW standards and to western blot mobilities of known proteins with similar MW.
"Native" western blot utilizes non-reducing sample buffer (no mercaptoethanol or SDS), normal SDS-PAGE gel electrophoresis, and no methanol in transfer buffers.

Related Products

EM2061	ERK1 (Thr-202/Tyr-204)[conserved], phospho-specific Mouse Monoclonal
PM1381	p38α MAP Kinase (C-terminal) M138 Mouse Monoclonal
PM1391	p38 MAP Kinase (Thr-180/Tyr-182), phospho-specific Mouse Monoclonal
PP3411	p38α MAP Kinase (Tyr-323), phospho-specific Rabbit Polyclonal
PK6140	p38 MAPK Phospho-Regulation Antibody Sampler Kit
MK6050	MAP Kinase Activation Antibody Sampler Kit

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