

# ERK1/2 (Thr-202/Tyr-204), phospho-specific

Cat. # EM2061

Host Mouse Monoclonal IgG1

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.

## 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.

## Immunogen:

Dual phosphorylated ERK1 (Thr-202/Tyr-204) synthetic peptide (coupled to carrier protein) corresponding to amino acids surrounding Thr-202 and Tyr-204 in human ERK1. This sequence is conserved in rat and mouse ERK1, and is highly conserved in ERK2.

## Applications:

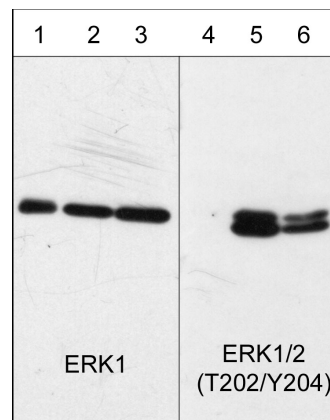
WB	1:1000
ELISA	1:2000
ICC	1:100

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, PBS, 0.04% Tween20 for 1 hour at room temperature.

## Related Products:

- EM2331 ERK1 (C-terminal Region) Mouse Monoclonal  
 PM1381 p38 $\alpha$  MAP Kinase (C-terminal) Mouse Monoclonal  
 PM1391 p38 MAP Kinase (Thr-180/Tyr-182), phospho-specific Mouse Monoclonal  
 PP3411 p38 $\alpha$  MAP Kinase (Tyr-323), phospho-specific Rabbit Polyclonal  
 PK6140 p38 MAPK Phospho-Regulation Antibody Sampler Kit  
 MK6050 MAP Kinase Activation Antibody Sampler Kit

FOR RESEARCH USE ONLY. NOT FOR DIAGNOSTIC OR THERAPEUTIC USE.



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).

## 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. Do not aliquot. Stable for 1 year.

## Specificity:

The antibody detects 42 and 44 kDa\* proteins corresponding to ERK1 and ERK2 on SDS-PAGE immunoblots of human A431 epithelial cells stimulated with EGF or calyculin A. It does not detect bands in control cells.

\*All molecular weights (MW) are confirmed by comparison to Bio-Rad Rainbow Markers and to western blot mobilities of known proteins with similar MW.

web: [www.ecmbiosciences.com](http://www.ecmbiosciences.com)

telephone: 859-879-2075

email: [info@ecmbiosciences.com](mailto:info@ecmbiosciences.com)

toll-free: 1-800-859-8202