#9194 Store at -20°C

p44/42 MAPK (Erk1/2) Control Cell Extracts

☑ 150 µl
(10 western blots)

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For Research Use Only. Not For Use In Diagnostic Procedures.

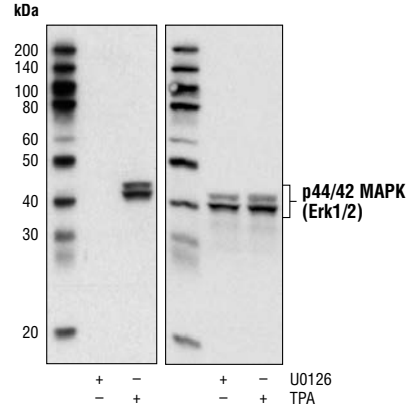
Product Includes	Product #	Quantity
p44/42 MAPK (Erk1/2) Control Cell Extracts (Jurkat +U0126)	80463	150 ul
p44/42 MAPK (Erk1/2) Control Cell Extracts (Jurkat +TPA)	92680	150 ul

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 (1-3), and research investigators consider it an important target in the diagnosis and treatment of cancer (4). 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 (5,6). 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 (7) and the transcription factor Elk-1 (8,9). p44/42 are negatively regulated by a family of dual-specificity (Thr/Tyr) MAPK phosphatases, known as DUSPs or MKPs (10), along with MEK inhibitors, such as U0126 and PD98059.

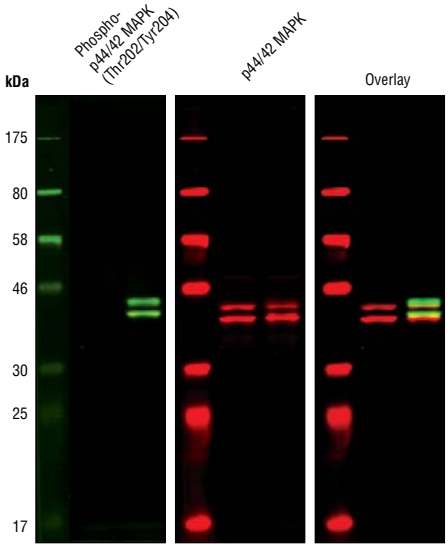
Description: *Nonphosphorylated p44/42 MAPK (Erk1/2) Control Cell Extracts:* Total cell extracts from Jurkat cells treated with U0126 (MEK1/2 Inhibitor) #9903 at 10 µM for 1 hour, to serve as a negative control. Supplied in SDS Sample Buffer.

Phosphorylated p44/42 MAPK (Erk1/2) Control Cell Extracts: Total cell extracts from Jurkat cells treated with TPA #4174 at 200 nM for 20 minutes, to serve as a positive control. Supplied in SDS Sample Buffer.

Directions for Use: Boil for 3 minutes prior to use. Load 15 µl of nonphosphorylated and phosphorylated p44/42 MAPK (Erk1/2) Control Cell Extracts per lane.



Western blot analysis of p44/42 MAPK (Erk1/2) Control Cell Extracts, treated with either U0126 or TPA, using Phospho-p44/42 MAPK (Erk1/2) (Thr202/Tyr204) Antibody #9101 (left) or p44/42 MAPK (Erk1/2) Antibody #9102 (right).



Western blot analysis of p44/42 MAPK (Erk1/2) Control Cell Extracts, using Phospho-p44/42 MAPK (Erk1/2) (Thr202/Tyr204) (E10) Mouse mAb #9106 (green) and p44/42 MAPK (Erk1/2) (137F5) Rabbit mAb #4695 (red).

Storage: *Supplied in SDS Sample Buffer:* 62.5 mM Tris-HCl (pH 6.8 at 25°C), 2% w/v SDS, 10% glycerol, 50 mM DTT, 0.01% w/v bromophenol blue or phenol red.
Store at –20°C or –80°C for long-term storage.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

Background References:

(1) Roux, P.P. and Blenis, J. (2004) *Microbiol Mol Biol Rev* 68, 320-44.

(2) Baccarini, M. (2005) *FEBS Lett* 579, 3271-7.

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(4) Roberts, P.J. and Der, C.J. (2007) *Oncogene* 26, 3291-310.

(5) Rubinfeld, H. and Seger, R. (2005) *Mol Biotechnol* 31, 151-74.

(6) Murphy, L.O. and Blenis, J. (2006) *Trends Biochem Sci* 31, 268-75.

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(10) Owens, D.M. and Keyse, S.M. (2007) Oncogene 26, 3203-13.

Applications Key: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide
Species Cross-Reactivity Key: **H**—human **M**—mouse **R**—rat **Hm**—hamster **Mk**—monkey **Mi**—mink **C**—chicken **Dm**—D. melanogaster **X**—Xenopus **Z**—zebrafish **B**—bovine **Dg**—dog **Pg**—pig **Sc**—S. cerevisiae **All**—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.