#5013 Store at -20°C

p44/42 MAPK (Erk1/2) (137F5) Rabbit mAb (Biotinylated)

☑ 100 µl
(10 western blots)

Cell Signaling TECHNOLOGY®

Orders ■ 877-616-CELL (2355)
orders@cellsignal.com
Support ■ 877-678-TECH (8324)
info@cellsignal.com
Web ■ www.cellsignal.com

rev. 12/30/11

Entrez-Gene ID #5594, 5595
Swiss-Prot Acc. #P27361, P28482

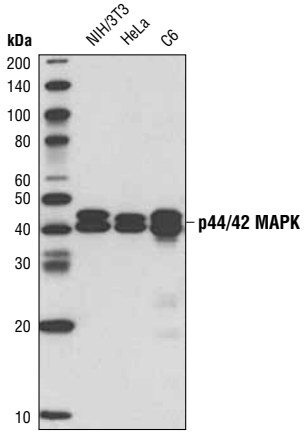
Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IP, F Endogenous	H, M, R, Mk, Mi, Pg, Dm, B, Z	42, 44 kDa	Rabbit IgG

Description: This Cell Signaling Technology (CST) antibody is conjugated to biotin under optimal conditions. The unconjugated p44/42 MAPK (Erk1/2) (137F5) Rabbit mAb #4695 reacts with human, mouse, rat, monkey, mink, pig, *Saccharomyces cerevisiae, Drosophila melanogaster,* hamster, bovine and zebrafish p44/42 MAPK protein. CST expects that p44/42 MAPK (Erk1/2) (137F5) Rabbit mAb (Biotinylated) will also recognize MAPK in these species.

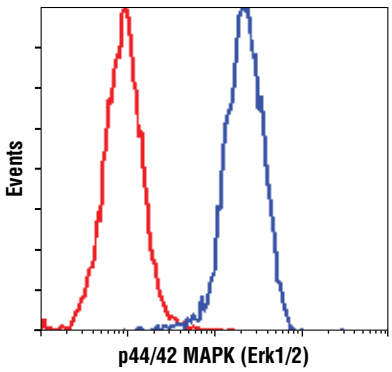
Background: Mitogen-activated protein kinases (MAPKs) are a widely conserved family of serine/threonine protein kinases involved in many cellular programs such as cell proliferation, differentiation, motility, and death. The p44/42 MAPK (Erk1/2) signaling pathway can be activated in response to a diverse range of extracellular stimuli including mitogens, growth factors, and cytokines (1-3) and is 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.

Specificity/Sensitivity: p44/42 MAPK (Erk1/2) (137F5) Rabbit mAb (Biotinylated) detects endogenous levels of total p44/42 MAP kinase (Erk1/Erk2) protein. The antibody does not cross-react with JNK/SAPK or p38 MAP kinase.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the C-terminus of rat p44 MAP kinase.



Western blot analysis of extracts from various cell lines using p44/42 MAPK (Erk1/2) (137F5) Rabbit mAb (Biotinylated).



Flow cytometric analysis of Jurkat cells, using p44/42 MAPK (Erk1/2) (137F5) Rabbit mAb (Biotinylated) (blue) compared to XP® Rabbit (DA1E) mAb IgG Isotype Control (Biotinylated) #4096 (red).

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 2 mg/ml BSA, 50% glycerol. Store at -20ºC.
Do not aliquot antibody.

***Species cross-reactivity other than human is determined by western using the unconjugated antibody.**

Biotinylated antibodies are designed to be detected using streptavidin conjugates.

Recommended Antibody Dilutions:

Western blotting	1:1000
Immunoprecipitation	1:50
Flow Cytometry	1:100

For application specific protocols please see the web page for this product at www.cellsignal.com.

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.
(3) Meloche, S. and Pouysségur, J. (2007) *Oncogene* 26, 3227–39.
(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.
(7) Dalby, K.N. et al. (1998) *J Biol Chem* 273, 1496–505.
(8) Marais, R. et al. (1993) *Cell* 73, 381–93.
(9) Kortenjann, M. et al. (1994) *Mol Cell Biol* 14, 4815–24.
(10) Owens, D.M. and Keyse, S.M. (2007) *Oncogene* 26, 3203–13.

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

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 **Ce**—C. elegans **Hr**—Horse **All**—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.