

p44/42 MAPK (Erk1/2) (137F5) Rabbit mAb (Alexa Fluor® 488 Conjugate)

✓ 100 µl
(50 tests)

New more concentrated formulation

Orders ■ 877-616-CELL (2355)
orders@cellsignaling.com

Support ■ 877-678-TECH (8324)
info@cellsignaling.com

Web ■ www.cellsignaling.com

rev. 12/30/11

This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

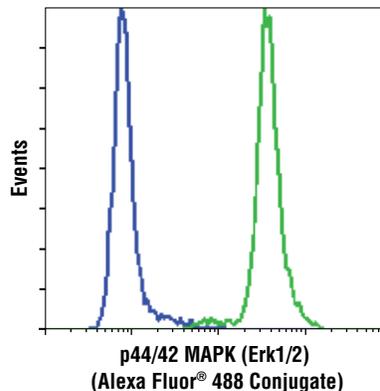
Applications	Species Cross-Reactivity*	Isotype
F Endogenous	H, M, R, Mk, Mi, Pg, Hm, B, Dm, Z, Ce	Rabbit IgG

Description: This Cell Signaling Technology (CST) antibody is conjugated to Alexa Fluor® 488 fluorescent dye and tested in-house for direct flow cytometry in human cells. The antibody is expected to exhibit the same species cross-reactivity as the unconjugated antibody (p44/42 MAPK (Erk1/2) (137F5) Rabbit mAb #4695).

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 (Alexa Fluor® 488 Conjugate) detects endogenous levels of total p44/42 MAPK 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 carboxy terminus of rat p44 MAP kinase. This antibody was conjugated to Alexa Fluor® 488 under optimal conditions with an F/P ratio of 2-6.



Flow cytometric analysis of Jurkat cells, using p44/42 MAPK (Erk1/2) (137F5) Rabbit mAb (Alexa Fluor® 488 Conjugate) (green) compared to XP® Rabbit (DA1E) mAb IgG Isotype Control (Alexa Fluor® 488 Conjugate) #2975 (blue).

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

Storage: Supplied in PBS (pH 7.2), less than 0.1% sodium azide, 2 mg/ml BSA. Store at 4°C. *Protect from light. Do not freeze.*

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

Recommended Antibody Dilutions:

Flow Cytometry 1:50

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

Please visit www.cellsignaling.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 Pouyssegur, 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, 1815-24.
- (10) Owens, D.M. and Keyse, S.M. (2007) *Oncogene* 26, 3203-13.

Alexa Fluor® is a registered trademark of Molecular Probes, Inc.

Rabbit monoclonal antibody is produced under license (granting certain rights including those under U. S. Patents No. 5,675,063 and 7,429,487) from Eptomics, Inc.