

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



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rev. 03/08/16

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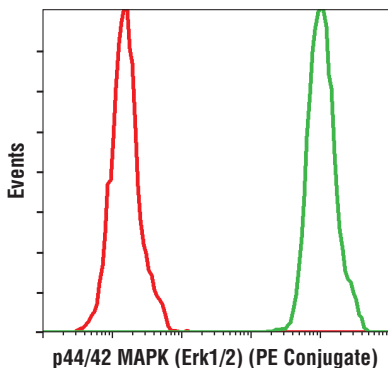
Applications	Species Cross-Reactivity*	Isotype
F Endogenous	H, M, R, Hm, Mk, Mi, Dm, Z, B, Dg, Pg, Ce, (C)	Rabbit IgG

Description: This Cell Signaling Technology antibody is conjugated to phycoerythrin (PE) and tested in-house for direct flow cytometry analysis in human cells. The antibody is expected to exhibit the same species cross-reactivity as the unconjugated 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 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.

Specificity/Sensitivity: p44/42 MAPK (Erk1/2) (137F5) Rabbit mAb (PE Conjugate) recognizes endogenous levels of total p44/42 MAPK (Erk1/2) 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.



Flow cytometric analysis of Jurkat cells using p44/42 MAPK (Erk1/2) (137F5) Rabbit mAb (PE Conjugate) (green) compared to concentration-matched Rabbit (DA1E) mAb IgG XP[®] Isotype Control (PE Conjugate) #5742 (red).

Entrez-Gene ID #5595, 5594
UniProt ID #P27361, P28482

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

***Species cross-reactivity other than human is determined by western 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.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 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, 4815-24.
- (10) Owens, D.M. and Keyse, S.M. (2007) *Oncogene* 26, 3203-13.

U.S. Patent No. 5,675,063