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



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|                               |  |                                   |                                      |  |                                      |
|-------------------------------|--|-----------------------------------|--------------------------------------|--|--------------------------------------|
| <b>Applications:</b><br>FC-FP | <b>Reactivity:</b><br>H M R Hm Mk Mi<br>Dm Z B Dg Pg<br>Ce | <b>Sensitivity:</b><br>Endogenous | <b>Source/Isotype:</b><br>Rabbit IgG | <b>UniProt ID:</b><br>#P27361, #P28482 | <b>Entrez-Gene Id:</b><br>5595, 5594 |
|-------------------------------|--|-----------------------------------|--------------------------------------|--|--------------------------------------|

|  |   |                         |
|--|---|-------------------------|
| <b>Product Usage Information</b>                                   | <b>Application</b><br>Flow Cytometry (Fixed/Permeabilized)  | <b>Dilution</b><br>1:50 |
| <b>Storage</b>   | 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 antibodies. Protect from light. Do not freeze.  |                         |
| <b>Specificity / Sensitivity</b>                                   | 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.   |                         |
| <b>Species predicted to react based on 100% sequence homology:</b> | Chicken   |                         |
| <b>Source / Purification</b>                                       | Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the C-terminus of rat p44 MAP kinase.   |                         |
| <b>Product Description</b>   | 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.   |                         |
| <b>Background</b>  | 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. |                         |
| <b>Background References</b>                                       | <ol style="list-style-type: none"> <li>1. Roux, P.P. and Blenis, J. (2004) <i>Microbiol Mol Biol Rev</i> 68, 320-44.</li> <li>2. Baccarini, M. (2005) <i>FEBS Lett</i> 579, 3271-7.</li> <li>3. Meloche, S. and Pouyssegur, J. (2007) <i>Oncogene</i> 26, 3227-39.</li> <li>4. Roberts, P.J. and Der, C.J. (2007) <i>Oncogene</i> 26, 3291-310.</li> <li>5. Rubinfeld, H. and Seger, R. (2005) <i>Mol Biotechnol</i> 31, 151-74.</li> <li>6. Murphy, L.O. and Blenis, J. (2006) <i>Trends Biochem Sci</i> 31, 268-75.</li> <li>7. Dalby, K.N. et al. (1998) <i>J Biol Chem</i> 273, 1496-505.</li> <li>8. Marais, R. et al. (1993) <i>Cell</i> 73, 381-93.</li> <li>9. Kortenjann, M. et al. (1994) <i>Mol Cell Biol</i> 14, 4815-24.</li> <li>10. Owens, D.M. and Keyse, S.M. (2007) <i>Oncogene</i> 26, 3203-13.</li> </ol>   |                         |

### Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

**Applications Key****FC-FP:** Flow Cytometry (Fixed/Permeabilized)**Cross-Reactivity Key**

**H:** human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **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  
**GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

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