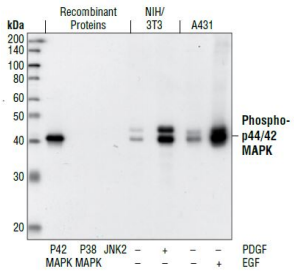
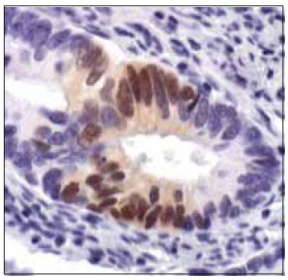
Product Data Sheet: Phospho-ERK1/ERK2 (p44/p42 MAPK) (T202/Y204)

Cat. No:	MAB-94122
Conjugate:	Unconjugated
Size:	100 ug
Clone:	20G11
Concentration:	1mg/ml
Host:	Rabbit
Isotype:	IgG
Immunogen:	Synthesized phospho-peptide around the phosphorylation site of human ERK 1/2 (phosphoThr202/Y204)
Reactivity:	Hu, Ms, Rt
Applications:	Western Blotting 1:1000 Immunoprecipitation 1:50 -1:100 Immunohistochemistry (Paraffin)(Fixed) (Frozen) 1:50-1:100
Molecular Weight:	42, 44 kDa
Purification:	Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Thr202/Tyr204 of human p44 MAP kinase.
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 threepart 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.Phospho-p44/42 MAPK (Erk1/2) (Thr202/Tyr204) (20G11) Rabbit mAb detects endogenous levels of p44 and p42 MAP Kinase (Erk1 and Erk2) when dually phosphorylated at Thr202 and Tyr204 of Erk1 (Thr185 and Tyr187 of Erk2), and singly phosphorylated at Thr202. The antibody does not cross-react with the corresponding phosphorylated residues of either JNK/SAPK or p38 MAP kinase.
Form:	liquid
Buffer:	Liquid in PBS containing 50% glycerol, 0.5% BSAand0.02% sodium azide
Storage:	At +4°C for short terrn. At -20°C for longer term.



Western blot analysis of active p42 MAP Kinase, active p38 MAPK and active JNK2 proteins, as well as extracts from PDGF-treated NIH/3T3 cells and EGF-treated A431 cells, using Phospho-p44/42 MAPK (Erk1/2) (Thr202/Tyr204) (20G11) Rabbit mAb.



Immunohistochemical analysis of paraffin-embedded human colon carcinoma, using Phospho-p44/42 MAPK (Erk1/2) (Thr202/Tyr204) (20G11) Rabbit mAb.

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.