Store at 4°C

#4378

p44/42 MAPK (3A7) Mouse mAb (Alexa Fluor® 488 Conjugate)

☑ 100 µl
(50 tests)

New more concentrated formulation

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rev. 03/17/11

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

Applications	Species Cross-Reactivity	Molecular Wt.	Isotype
F Endogenous	H	42 kDa	Mouse IgG1

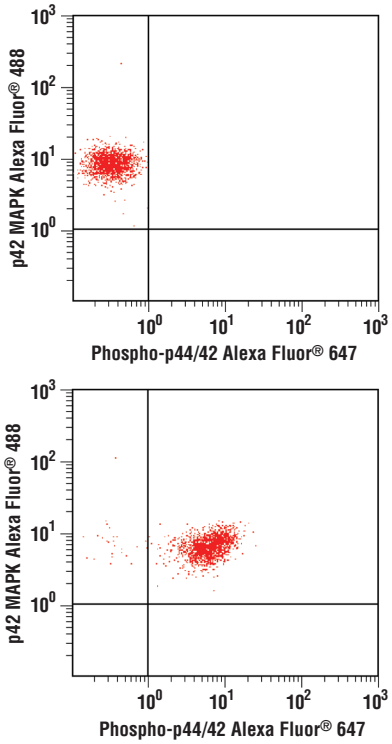
Description: This Cell Signaling Technology Antibody was conjugated to Alexa Fluor® 488 fluorescent dye and tested in-house for direct flow cytometric analysis of human cells.

*The unconjugated antibody #9107 reacts with, among others, human, mouse, rat, and hamster p42 MAPK. CST expects that p42 MAPK (3A7) Mouse mAb (Alexa Fluor® 488 Conjugate) will also recognize p42 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), a MAP kinase kinase (MAPKK), and a MAP kinase. While multiple ERK1/2 MAP3Ks have been identified, including the Raf family, Mos, and Tpl2/Cot, MEK1 and MEK2 are the primary MAPKKs in this pathway (5,6). MEK1 and MEK2 activate ERK1/p44 and ERK2/p42 through phosphorylation of activation loop residues Thr202/Tyr204 and Thr185/Tyr187, respectively. Several downstream targets of ERK1/2 have been identified, including p90RSK (7) and the transcription factor Elk-1 (8,9). ERK1/2 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 MAP Kinase (3A7) Mouse mAb detects endogenous levels of total p42 MAP kinase (Erk2) protein. The antibody also recognizes p44 MAP kinase (Erk1) in some cell types, although with lower affinity. It does not cross-react with either JNK/SAPK or p38 MAP kinase.

Source/Purification: Monoclonal antibody is produced by immunizing mice with a synthetic peptide (KLH-coupled) derived from the sequence of rat p42 MAP kinase. The antibody was conjugated with Alexa Fluor® 488 under optimum conditions with a F/P ratio of 2-6.



Flow cytometric analysis of Jurkat cells, U0126-treated (upper) or PMA-treated (lower) using p44/42 MAPK (3A7) Mouse mAb (Alexa Fluor® 488 Conjugate) and Phospho-p44/42 MAPK (T202/Y204) (E10) Mouse mAb (Alexa Fluor® 647 Conjugate) #4375.

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.*

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:

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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