

Polyclonal Antibody to MAPKK1 / MAPKK2 pSer218/222 - Aff - Purified

Alternate names:	MEK1, MEK2, MKK1, MKK2, PRKMK1, PRKMK2
Catalog No.:	AP08687PU-N
Quantity:	0.1 ml
Background:	MEK1 (MAP Kinase Kinase, also known as MKK) is an integral component of the MAP kinase cascade that regulates cell growth and differentiation (Ahn, 1993; Chong et al., 2003). This pathway also plays a key role in synaptic plasticity in the brain (Adams and Sweatt, 2002). Activated MEK 1 acts as a dual specificity kinase phosphorylating both a threonine and a tyrosine residue on MAP kinase (Kyriakis et al., 1991; Seger et al., 1991; Crews et al., 1992).
Host / Isotype:	Rabbit / IgG
Immunogen:	Phosphopeptide corresponding to amino acid residues surrounding the phospho-Ser218,222 of Human MEK 1/2. Note: The phosphosites in human MEK 1/2 are Ser218 and Ser222; the phosphosites in mouse MEK 1/2 are Ser217 and Ser221.
Format:	State: Liquid purified Ig fraction. Purification: Sequential Chromatography on phospho- and dephosphopeptide affinity columns. Buffer System: 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% Glycerol.
Applications:	Western blot: 1/1000. Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.
Specificity:	This antibody is specific for the ~45k MEK1/2 protein phosphorylated at Ser218/222 in Western blots. Immunolabeling is blocked by the phosphopeptide used as the antigen but not by the corresponding dephosphopeptide.
Species Reactivity:	Tested: Mouse. Expected from sequence similarity: Bovine, Canine, Chicken, Human, non-Human Primates, Rat, Xenopus and Zebrafish.
Storage:	Store the antibody undiluted (in aliquots) at -20°C. Avoid repeated freezing and thawing. Shelf life: one year from despatch.
General Readings:	1. Adams JP, Sweatt JD. Molecular psychology: roles for the ERK MAP kinase cascade in memory. Annu Rev Pharmacol Toxicol. 2002;42:135-63. PubMed PMID: 11807168. 2. Ahn NG. The MAP kinase cascade. Discovery of a new signal transduction pathway. Mol Cell Biochem. 1993 Nov;127-128:201-9. PubMed PMID: 7935352. 3. Chong H, Vikis HG, Guan KL (2003) Mechanisms of regulating the Raf kinase family. Cellular Signalling 15:463-469.

4. Crews CM, Alessandrini A, Erikson RL. The primary structure of MEK, a protein kinase that phosphorylates the ERK gene product. *Science*. 1992 Oct 16;258(5081):478-80. PubMed PMID: 1411546.
5. Kyriakis JM, Brautigan DL, Ingebritsen TS, Avruch J. pp54 microtubule-associated protein-2 kinase requires both tyrosine and serine/threonine phosphorylation for activity. *J Biol Chem*. 1991 Jun 5;266(16):10043-6. PubMed PMID: 1645334.
6. Seger R, Ahn NG, Boulton TG, Yancopoulos GD, Panayotatos N, Radziejewska E, et al. Microtubule-associated protein 2 kinases, ERK1 and ERK2, undergo autophosphorylation on both tyrosine and threonine residues: implications for their mechanism of activation. *Proc Natl Acad Sci U S A*. 1991 Jul 15;88(14):6142-6. PubMed PMID: 1712480.

Pictures:

Figure 1. Western Blot of NIH 3T3 cell lysates showing specific immunolabeling of the ~45k MEK1/2 protein phosphorylated at Ser218 and Ser222. The cells were either serum starved (Control) or incubated in the presence of serum (Serum). Immunolabeling of an additional band at ~95k was also observed.

