

AP05185PU-N

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

Alternate names:	MEK1, MEK2, MKK1, MKK2, PRKMK1, PRKMK2
Quantity:	10 Blots
Concentration:	Lot specific
Background:	MEK 1 and MEK 2 are integral components of the MAP kinase cascade that regulates cell growth and differentiation and this pathway also plays a key role in synaptic plasticity in brain. Activation of MEK 1/2 occurs via phosphorylation of two serine residues (Ser218 and Ser222). Activated MEK 1/2 then acts as a dual specificity kinase phosphorylating both a threonine and a tyrosine residue on ERK. This phosphorylation of ERK by MEK 1/2 is a critical step in the MAP kinase cascade.
Host / Isotype:	Rabbit / IgG
Immunogen:	Synthetic phosphopeptide corresponding to amino acid residues surrounding the phospho Ser218/222 of Human MEK1/2
Format:	State: Liquid purified Ig fraction Purification: Antigen Immunoaffinity Chromatography Buffer System: HEPES (pH 7.5) solution containing 150 mM NaCl, 100 µg per ml BSA and 50% Glycerol
Applications:	Western Blot: 1/1000 dilution to provide for 10 miniblots. Dot Blot: 1/1000 dilution to provide for 10 miniblots. Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.
Specificity:	Antibody detects only phosphorylated protein and does not detect non-phosphorylated protein as shown by the lack of ability of a non-phospho peptide to block the antibody activity. Specific for the ~45k MEK 1/2 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: Human, Mouse, Rat, Xenopus. Other species not tested.
Storage:	Upon receipt, store 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, Robbins DJ, Haycock JW, Seger R, Cobb MH, Krebs EG. Identification of an activator of the microtubule-associated protein 2 kinases ERK1 and ERK2 in PC12 cells stimulated with nerve growth factor or bradykinin. J Neurochem. 1992 Jul;59(1):147-56.

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5. Park SH, Zarrinpar A, Lim WA. Rewiring MAP kinase pathways using alternative scaffold assembly mechanisms. Science. 2003 Feb 14;299(5609):1061-4. Epub 2003 Jan 2. PubMed PMID: 12511654.

6. Chong H, Vikis HG, Guan KL (2003) Mechanisms of regulating the Raf kinase family. Cellular Signalling 15:463- 469.

7. Kyriakis JM, Brautigan DL, Ingebritsen TS, Avruch J (1991) pp54 Microtubule-associated protein-2 kinase requires both tyrosine and serine/threonine phosphorylation for activity. J Biol Chem 266:10043-10046.

8. Seger R, Ahn NG, Boulton TG, Yancopoulos GD, Panayotatos N, Radziejewska E, Ericsson L, Bratlien RL, Cobb MH, Krebs EG (1991) 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 USA 88:6142-6146.

Pictures:

Western Blot of NIH 3T3 cell lysates. The cells were either serum starved (Control) or incubated in the presence of serum for 5 minutes. The Western blot shows the immunolabeling of the ~45k MEK 1/2 was absent in controls and stimulated by serum. Immunolabeling of an additional band at ~100k was also seen.

