Anti-Phospho-Thr^{386} MEK 1 Antibody

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Catalog #: p180-386 **Size:** 100 µl

Cite this Antibody: PhosphoSolutions Cat# p180-386, RRID:AB_2492148

Host	Applications	Species Tested	Species Reactivity*	Molecular Weight
Rabbit	WB 1:1000	H, R	B, C, Ch, M, NHP, X	~45 kDa

Product Description: Affinity purified rabbit polyclonal antibody.

Biological Significance: MEK 1 (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). Conversely, there also appears to be a feedback phosphorylation of MEK 1 by MAP kinase. The sites on MEK 1 that are phosphorylated by MAP kinase are Thr^{292} and Thr^{386} (Mansour et al., 1994).

Antigen: Phosphopeptide corresponding to amino acid residues surrounding the phospho-Thr^{386} of human MEK 1.

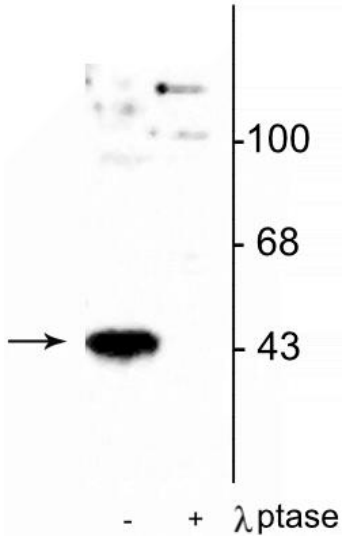
Antibody Specificity: Specific for endogenous levels of the ~45 kDa MEK 1 protein phosphorylated at Thr^{386}. The immunolabeling is completely eliminated by treatment with λ-phosphatase.

Purification Method: Prepared from pooled rabbit serum by affinity purification via sequential chromatography on phospho and non-phosphopeptide affinity columns.

Quality Control Tests: Western blots performed on each lot.

Packaging: 100 µl in 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg BSA per ml and 50% glycerol.

Storage and Stability: Shipped on blue ice. Storage at -20°C is recommended, as aliquots may be taken without freeze/thawing due to presence of 50% glycerol. Stable for at least 1 year at -20°C.



Western blot of human T47D cells showing specific immunolabeling of the ~45 kDa MEK 1 protein phosphorylated at Thr^{386} in the first lane (-). Phosphospecificity is shown in the second lane (+) where immunolabeling is completely eliminated by blot treatment with *lambda* phosphatase (λ-Ptase, 1200 units for 30 min).

Application Key: **WB** = Western Blot **IF** = Immunofluorescence **IHC** = Immunohistochemistry **IP** = Immunoprecipitation
Species Reactivity Key: **All**-All Species **A**-Avian **Amp**-Amphibian **Ar**-*Arabidopsis* **B**-Bovine **C**-Canine **Ch**-Chicken **D**-*Drosophila* **G**-Goat **GP**-Guinea Pig **H**-Human **Ha**-Hamster **M**-Mouse **NHP**- Non-human primate **P**-Pig **R**-Rat **S**-Sheep **X**-*Xenopus* **Z**-Zebrafish
*Species assumed based on 100% homology with sequence used as antigen **For Research Use Only**

General References:

Adams JP, Sweatt JD (2002) Molecular psychology: Roles for the ERK MAP kinase cascade in memory. *Annu Rev Pharmacol Toxicol* 42:135-163.

Ahn NG (1993) The MAP kinase cascade. Discovery of a new signal transduction pathway. *Mol Cell Biochem* 127-128:201-209.

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

Crews CM, Alessandrini A, Erikson RL (1992) The primary structure of MEK, a protein kinase that phosphorylates the ERK gene product. *Science* 258:478-480.

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.

Mansour SJ, Resing KA, Candi JM, Hermann AS, Gloor JW, Herskind KR, Wartmann M, Davis RJ, Ahn NG (1994) Mitogen-activated protein (MAP) kinase phosphorylation of MAP kinase kinase: Determination of phosphorylation sites by mass spectrometry and site-directed mutagenesis. *J Biochem (Tokyo)* 116:304-314.

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 autophos-phorylation on both tyrosine and threonine residues: Implications for their mechanism of activation. *Proc Natl Acad Sci USA* 88:6142-6146.

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