

Anti-Phospho-Ser^{218,222} MEK1/2

CATALOG NO.: XPS-1018

FORM: Affinity Purified

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.

SOURCE:

Rabbit anti-MEK 1/2 (Ser218/222) polyclonal antibody was raised against a synthetic phosphopeptide corresponding to amino acids residues surrounding the phosphoSer^{218/222} of human MEK 1/2. Rabbit anti- MEK 1/2 (Ser218/222) was purified by sequential chromatography on phospho- and non-phosphopeptide affinity columns.

APPLICATION:

This polyclonal antibody is specific for MEK 1/2 phosphorylated at Ser^{218/222}. The antibody immunolabels the ~45k MEK protein in a Western blot of serum-stimulated NIH 3T3 cells. The immunolabeling is blocked by the phosphopeptide used as antigen but not the corresponding non-phosphopeptide. Applications include Dot Blots (DB) and Western Blots (WB). Suitability for Immunohistochemistry (IHC) has not yet been determined. Human, mouse, rat and *Xenopus* have 100% amino acid sequence identity with the antigen used to raise the antibody. When internally tested under ideal conditions the working dilutions were 1:1000 for DB and WB.

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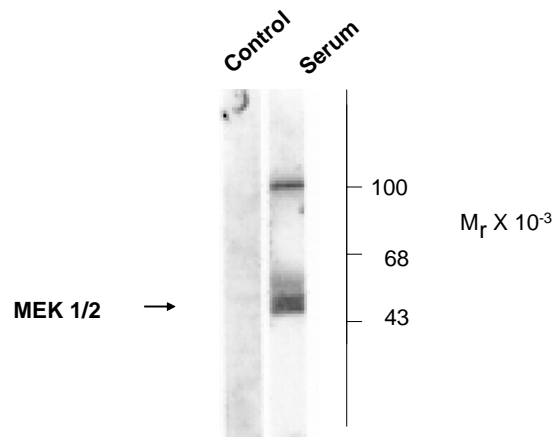


Figure: Western Blot of NIH 3T3 cell lysates. The cells were either serum starved (Control) or incubated in the presence of serum for 5 minutes. The Western blot shows the immunolabeling of the ~45k MEK 1/2 was absent in controls and stimulated by serum. Immunolabeling of an additional band at ~100k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

STORAGE:

It is supplied as affinity purified polyclonal antibody, 100 µl in 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg per ml BSA and 50% glycerol, and there is adequate amount of material to conduct 10-mini Western Blots. For long term storage -80°C is recommended, but shorter term storage at -20°C is also acceptable as aliquots may be taken without freeze/thawing due to the presence of 50% glycerol. Stock solutions are stable for a minimum of 1 year at -20°C.

REFERENCES:

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2. Crews, C.M., Alessandrini, A. and Erikson, R.L., "The primary structure of MEK, a protein kinase that phosphorylates the ERK gene product," *Science* **258** (1992) 478 - 480.
3. Ahn, N.G. "The MAP kinase cascade. Discovery of a new signal transduction pathway," *Mol. Cell Biochem.* **127 - 128** (1993) 201 - 209.
4. Adams, J.P. and Sweatt, J.D., "Molecular psychology: Roles for the ERK MAP kinase cascade in memory," *Annu. Rev. Pharmacol. Toxicol.* **42** (2002) 135 - 163.
5. Park, S.H., Zarrinpar, A. and Lim, W.A., "Rewiring MAP kinase pathways using alternative scaffold assembly mechanisms," *Science* **299** (2003) 1061 - 1064.