

MEK1/2 Antibody

- Small 100 μ l
(10 Western mini-blot)
- Large 300 μ l
(30 Western mini-blot)

Orders ■ 877-616-CELL (2355)
orders@cellsignaling.com

Support ■ 877-678-TECH (8324)
info@cellsignaling.com

Web ■ www.cellsignaling.com

rev. 10/01/08

This product is for *in vitro* research use only and is not intended for use in humans or animals.
This product is not intended for use as a therapeutic or in diagnostic procedures.

Entrez-Gene ID #5604, 5605
Swiss-Prot Acc. #Q02750, P36507

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W, IP Endogenous	H, M, R, Mk, Dr, (X)	45 kDa	Rabbit**

Background: MEK1 and MEK2, also called MAPK or Erk kinases, are dual-specificity protein kinases that function in a mitogen activated protein kinase cascade controlling cell growth and differentiation (1–3). Activation of MEK1 and MEK2 occurs through phosphorylation of two serine residues at positions 217 and 221 (in the activation loop of subdomain VIII) by Raf-like molecules. MEK1/2 is activated by a wide variety of growth factors and cytokines and also by membrane depolarization and calcium influx (1–4). Constitutively active forms of MEK1/2 are sufficient for the transformation of NIH/3T3 cells or the differentiation of PC12 cells (4). MEK activates p44 and p42 MAP kinase by phosphorylating both threonine and tyrosine residues at sites located within the activation loop of kinase subdomain VIII.

Specificity/Sensitivity: MEK1/2 Antibody detects endogenous levels of total MEK1/2 protein. The antibody does not cross-react with related kinases such as SEK (MKK4), MKK3 or MKK6.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic peptide (KLH-coupled) derived from the sequence of human MEK1/2. Antibodies are purified by protein A and peptide affinity chromatography.

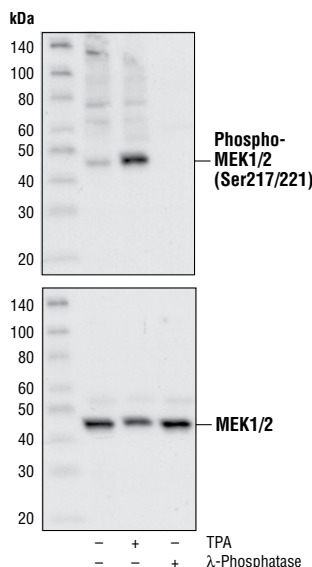
Selected Application References:

Bueno, O.F. et al. (2000) The MEK1-ERK1/2 signaling pathway promotes compensated cardiac hypertrophy in transgenic mice *European Molecular Biology Organization (EMBO)* 19, 6341–6350. Application: W.

Umenishi, F. and Schrier, R.W. (2003) Hypertonicity-induced aquaporin-1 (AQP1) expression is mediated by the activation of MAPK pathways and hypertonicity-responsive element in the AQP1 gene. *J. Biol. Chem.* 278, 15765–15770. Application: W.

Piatelli, M.J. et al. (2004) Phosphatidylinositol 3-kinase-dependent mitogen-activated protein/extracellular signal-regulated kinase kinase 1/2 and NF- κ B signaling pathways are required for B cell antigen receptor-mediated cyclin D2 induction in mature B cells. *J. Immunol.* 172, 2753–2762. Application: W.

Rosenberger, C.M. and Finlay, B.B. (2002) Macrophages Inhibit Salmonella Typhimurium Replication through MEK/ERK Kinase and Phagocyte NADPH Oxidase Activities. *The Journal of Biological Chemistry* 277, 18753–18762. Application: W.



Western blot analysis of extracts from untreated, TPA-treated or λ -phosphatase-treated HeLa cells, using Phospho-MEK 1/2 (Ser217/221) Antibody #9121 (upper) or MEK 1/2 Antibody #9122 (lower).

Deszo, E.L. et al. (2001) Cd45 negatively regulates monocytic cell differentiation by inhibiting phorbol 12-myristate13-acetate-dependent activation and tyrosine phosphorylation of C70protein kinase c δ . *Journal of Biological Chemistry* 276, 10212–10217. Application: W.

Furuno, T. et al. (2001) Nuclear shuttling of mitogen-activated protein (map) kinase (extracellular signal-regulated kinase (erk) 2) was dynamically controlled by map/erk kinase after antigen stimulation in rbl-2h3 cells. *Journal of Immunology* 166, 4416–4421. Applications: IC-IF, W.

Background References:

- (1) Crews, C.M. et al. (1992) *Science* 258, 478–480.
- (2) Alessi, D.R. et al. (1994) *EMBO J.* 13, 1610–1619.
- (3) Rosen, L.B. et al. (1994) *Neuron* 12, 1207–1221.
- (4) Cowley, S. et al. (1994) *Cell* 77, 841–852.

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 μ g/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

*Species cross-reactivity is determined by Western blot.
**Anti-rabbit secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:

Western blotting 1:1000
Immunoprecipitation 1:50

Companion Products:

- Phospho-MEK1/2 (Ser217/221) Antibody #9121
- MEK1/2 HeLa Control Cell Extracts #9160
- Anti-rabbit IgG, HRP-linked Antibody #7074
- Prestained Protein Marker, Broad Range (Premixed Format) #7720
- Biotinylated Protein Ladder Detection Pack #7727
- 20X LumiGLO® Reagent and 20X Peroxide #7003

IMPORTANT: For Western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.