Revision 1

#9121 Store at -20C

Phospho-MEK1/2 (Ser217/221) Antibody

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB, IP	H M R Mk Sc	Endogenous	45	Rabbit	#P36507, #Q02750	5605, 5604

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:50

Storage

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

Specificity / Sensitivity

Phospho-MEK1/2 (Ser217/221) Antibody detects endogenous levels of MEK1/2 only when activated by phosphorylation at Ser217/221. This antibody does not cross-react with related kinases including activated SEK (MKK4), MKK3 or MKK6. It will also react with MEK1/2 singly phosphorylated at Ser217 and singly phosphorylated at Ser221.

Species predicted to react based on 100% sequence homology:

Chicken

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues around Ser217/221 of human MEK1/2. Antibodies are purified by protein A and peptide affinity chromatography.

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, located 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 PC-12 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.
CST's Phospho- MEK1/2 (Ser217/221) Antibody selectively recognizes active MEK, i.e., only when phosphorylated at Ser217/221, and hence is an excellent marker of MEK1/2 activity.

Background References

1. Crews, C.M. et al. (1992) *Science* 258, 478-480.
2. Alessi, D.R. et al. (1994) *EMBO J.* 13, 1610-19.
3. Rosen, L.B. et al. (1994) *Neuron* 12, 1207-21.
4. Cowley, S. et al. (1994) *Cell* 77, 841-52.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

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

Applications Key

WB: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster **X:** Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse **GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

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Limited Uses

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