Store at -20°C

#43507

Phospho-Mnk1 (Thr197/Thr202) Antibody

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New 12/18

Entrez-Gene ID #8569
UniProt ID #Q9BUB5

For Research Use Only. Not For Use In Diagnostic Procedures.

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W Endogenous	H, M, R	55 kDa	Rabbit**

Background: Eukaryotic initiation factor 4E (eIF4E) binds to the mRNA cap structure to mediate the initiation of translation (1,2). eIF4E interacts with eIF4G, a scaffold protein that promotes assembly of eIF4E and eIF4A into the eIF4F complex (2). eIF4B is thought to assist the eIF4F complex in translation initiation. Upon activation by mitogenic and/or stress stimuli mediated by Erk and p38 MAPK, Mnk1 phosphorylates eIF4E at Ser209 *in vivo* (3,4). Two Erk and p38 MAPK phosphorylation sites in mouse Mnk1 (Thr197 and Thr202) are essential for Mnk1 kinase activity (3). The carboxy-terminal region of eIF4G also contains serum-stimulated phosphorylation sites, including Ser1108, Ser1148, and Ser1192 (5). Phosphorylation at these sites is blocked by the PI3 kinase inhibitor LY294002 and by the FRAP/mTOR inhibitor rapamycin.

Background References:

(1) Sonenberg, N. et al. (1978) *Proc. Natl. Acad. Sci. USA* 75, 4843-4847.

(2) Gingras, A.C. et al. (1999) *Annu. Rev. Biochem.* 68, 913-963.

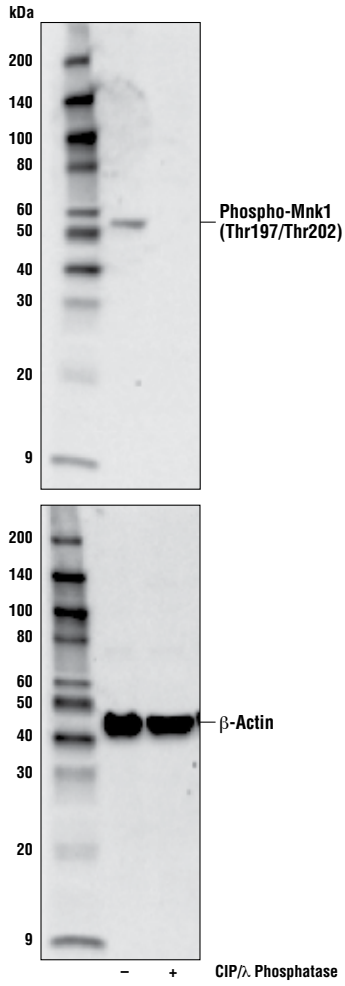
(3) Waskiewicz, A. et al. (1999) *Mol. Cell. Biol.* 19, 1871-1880.

(4) Pyronnet, S. et al. (1999) *EMBO J.* 18, 270-279.

(5) Raught, B. et al. (2000) *EMBO J.* 19, 434-444.

Specificity/Sensitivity: Phospho-Mnk1 (Thr197/Thr202) Antibody recognizes endogenous levels of Mnk1 protein only when phosphorylated at Thr197 and Thr202.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Thr250 and Thr255 of human Mnk1 protein. These two residues correspond to residues Thr197 and Thr202 of a shorter mouse Mnk1 (Waskiewicz, A. J. et al. (1997) *EMBO J.* 16, 1909-1920). Antibodies are purified by protein A and peptide affinity chromatography.



Western blot analysis of extracts from HeLa cells, untreated (-) or treated (+) with calf intestinal alkaline phosphatase (CIP)/λ phosphatase, using Phospho-Mnk1 (Thr197/Thr202) Antibody (upper) or β-Actin (D6A8) Rabbit mAb #8457 (lower).

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.

***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

For product specific protocols and a complete listing of recommended companion products please see the product web page at www.cellsignal.com.

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

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Applications: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide **Species Cross-Reactivity:** **H**—human **M**—mouse **R**—rat **Hm**—hamster **Mk**—monkey **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 **All**—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.