Store at -20°C

#13396

Phospho-4E-BP1 (Thr70) (D7F6I) Rabbit mAb

100 µl (10 western blots)

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Entrez-Gene ID #1978
UniProt ID #Q13541

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

Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IP Endogenous	H, Mk	15-20 kDa	Rabbit IgG**

Background: Translation repressor protein 4E-BP1 (also known as PHAS-1) inhibits cap-dependent translation by binding to the translation initiation factor eIF4E. Hyperphosphorylation of 4E-BP1 disrupts this interaction and results in activation of cap-dependent translation (1). Both the PI3 kinase/Akt pathway and FRAP/mTOR kinase regulate 4E-BP1 activity (2,3). Multiple 4E-BP1 residues are phosphorylated *in vivo* (4). While phosphorylation by FRAP/mTOR at Thr37 and Thr46 does not prevent the binding of 4E-BP1 to eIF4E, it is thought to prime 4E-BP1 for subsequent phosphorylation at Ser65 and Thr70 (5).

Specificity/Sensitivity: Phospho-4E-BP1 (Thr70) (D7F6I) Rabbit mAb recognizes endogenous levels of 4E-BP1 protein only when phosphorylated at Ser70.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Thr70 of human 4E-BP1 protein.

Background References:

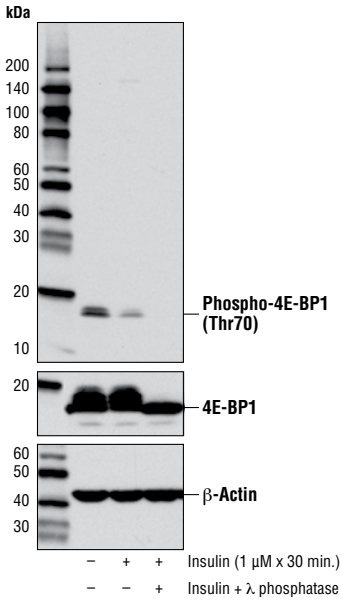
(1) Pause, A. et al. (1994) *Nature* 371, 762-7.

(2) Brunn, G.J. et al. (1997) *Science* 277, 99-101.

(3) Gingras, A.C. et al. (1998) *Genes Dev* 12, 502-13.

(4) Fadden, P. et al. (1997) *J Biol Chem* 272, 10240-7.

(5) Gingras, A.C. et al. (1999) *Genes Dev* 13, 1422-37.



Western blot analysis of extracts from serum starved HeLa cells, untreated (-), insulin-treated (1 µM, 30 min; +), or insulin and λ phosphatase-treated (+), using Phospho-4E-BP1 (Thr70) (D7F6I) Rabbit mAb (upper), 4E-BP1 (53H11) Rabbit mAb #9644 (middle), and β-Actin (D6A8) Rabbit mAb #8457 (lower).

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. 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

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

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.

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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.