

Phospho-4E-BP1 (Thr70) Antibody

- Small 100 µl (10 western blots)
- Large 300 µl (30 western blots)

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This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Entrez-Gene ID #1978
Swiss-Prot Acc. #Q13541

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W, IP Endogenous	H, M, R, Mk	15-20 kDa	Rabbit**

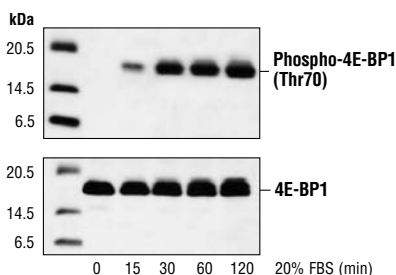
Background: Translation repressor protein 4E-BP1 (also known as PHAS-1) inhibits cap-dependent translation by binding to the eIF4E translation initiation factor. Hyperphosphorylation of 4E-BP1 disrupts this interaction and results in activation of cap-dependent translation (1). Both the PI3 kinase/Akt 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 on 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) Antibody detects endogenous levels of 4E-BP1 only when phosphorylated at threonine 70. This antibody does not detect 4E-BP1 phosphorylated at other sites.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to the sequence of rat 4E-BP1. Antibodies are purified by protein A and peptide affinity chromatography.

Background References:

- (1) Pause, A. et al. (1994) *Nature* 371, 762–767.
- (2) Brunn, G.J. et al. (1997) *Science* 277, 99–101.
- (3) Gingras, A.C. et al. (1998) *Genes Dev* 12, 502–513.
- (4) Fadden, P. et al. (1997) *J Biol Chem* 272, 10240–10247.
- (5) Gingras, A.C. et al. (1999) *Genes Dev* 13, 1422–1437.



Western blot analysis of extracts from 293 cells, untreated or treated with 20% FBS for the indicated number of minutes, using Phospho-4E-BP1 (Thr70) Antibody (upper) or 4E-BP1 Antibody #9452 (lower). (293 cells provided by Dr. Nahum Sonenberg, McGill University, Canada.)

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
Immunoprecipitation	1:50

For application specific protocols please see the web page for this product at www.cellsignaling.com.

Please visit www.cellsignaling.com for a complete listing of recommended companion products.

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.