#3929 Store at -20C°

Phospho-4E-BP1 (Thr37/46) (236B4) Rabbit mAb (Biotinylated)

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Entrez-Gene ID #1978
UniProt ID #Q13541

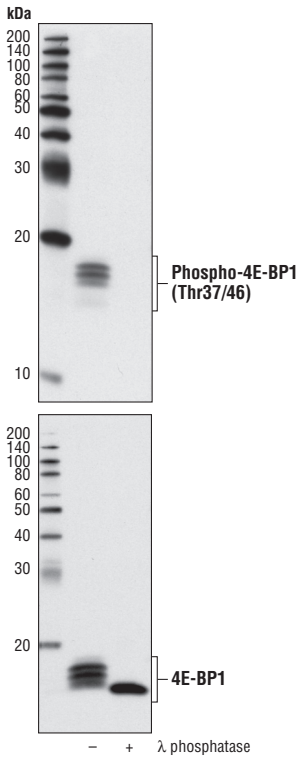
Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W Endogenous	H, M, R, Mk, Dm	15-20 kDa	Rabbit IgG

Description: This Cell Signaling Technology (CST) antibody is conjugated to biotin under optimal conditions. The antibody is expected to exhibit the same species cross-reactivity as the unconjugated Phospho-4E-BP1 (Thr37/46) (236B4) Rabbit mAb #2855.

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 (Thr37/46) (236B4) Rabbit mAb detects endogenous levels of 4E-BP1 only when phosphorylated at Thr37 and/or Thr46. This antibody may cross-react with 4E-BP2 and 4E-BP3 when phosphorylated at analagous sites.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Thr37 and Thr46 of mouse 4E-BP1.



Western blot analysis of extracts from HeLa cells, serum-starved and stimulated with insulin (100 nM for 5 minutes), with (+) or without (-) λ phosphatase treatment, using Phospho-4E-BP1 (Thr37/46) (236B4) Rabbit mAb (Biotinylated) (upper) and 4E-BP1 (53H11) Rabbit mAb #9644 (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 other than human is determined by western blot using the unconjugated antibody.**

Biotinylated antibodies are designed to be detected using streptavidin conjugates.

Recommended Antibody Dilutions:
Western blotting 1:1000

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

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

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.

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 Key: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide

Species Cross-Reactivity Key: **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.