

#6916 Store at -20°C

4EHP (D54C2) Rabbit mAb



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Applications W Endogenous	Species Cross-Reactivity* H	Molecular Wt. 28 kDa	Isotype Rabbit IgG**
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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.

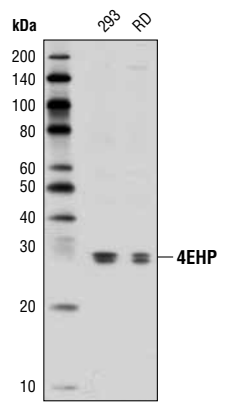
A mammalian cap-binding protein related to eIF4E, 4E Homologous Protein (4EHP), was later identified (6). 4EHP does not interact with eIF4G and therefore cannot activate translation (7). Instead, it inhibits the translation of a subset of mRNAs (7).

Specificity/Sensitivity: 4EHP (D54C2) Rabbit mAb recognizes endogenous levels of total 4EHP protein.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the amino terminus of human 4EHP protein.

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.
- (6) Rom, E. et al. (1998) *J Biol Chem* 273, 13104-9.
- (7) Zuberek, J. et al. (2007) *RNA* 13, 691-7.



Western blot analysis of extracts from 293 and RD cells using 4EHP (D54C2) Rabbit mAb.

Entrez-Gene ID #9470
Swiss-Prot Acc. #060573

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

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.

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.