

eIF4E Antibody

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

rev. 03/23/10

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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.

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W, IHC-P, IHC-R, Endogenous	H, M, R, Mk, Z	25 kDa	Rabbit**

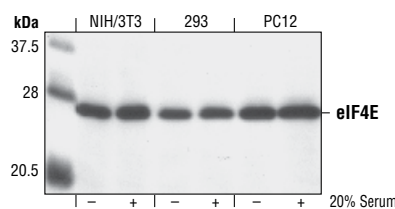
Background: Eukaryotic initiation factor 4E (eIF4E) binds to the mRNA cap structure to mediate the initiation of translation (1,2). eIF4E interacts with eIF4G, a scaffold protein that promotes assembly of eIF4E and eIF4A into the eIF4F complex (2). eIF4B is thought to assist the eIF4F complex in translation 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.

Specificity/Sensitivity: eIF4E Antibody detects endogenous levels of total eIF4E protein. The antibody does not cross-react with other proteins.

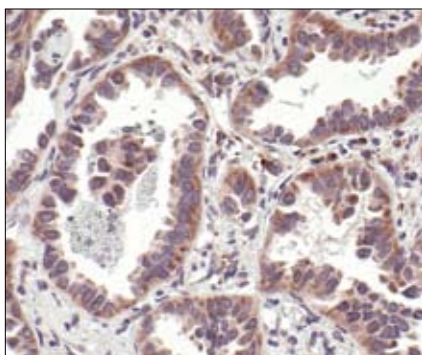
Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ser209 of eIF4E. Antibodies are purified by protein A and peptide affinity chromatography.

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.



Western blot analysis of extracts from control and serum treated NIH/3T3, 293 or PC12 cells, using eIF4E Antibody.



Immunohistochemical analysis of paraffin-embedded human lung carcinoma, showing cytoplasmic localization, using eIF4E Antibody.

Entrez-Gene ID # 1977
Swiss-Prot Acc. # P06730

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.

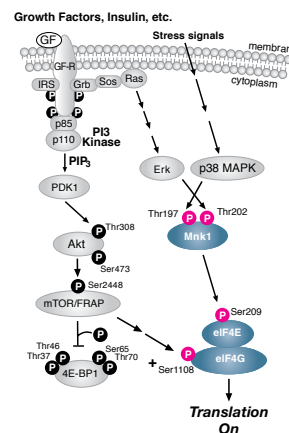
**Anti-rabbit secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:

Western blotting	1:1000
Immunohistochemistry (Paraffin)	1:100
Unmasking buffer:	Citrate
Antibody diluent:	TBST-5%NGS
Immunohistochemistry (Frozen)	1:100
Fixative:	10% Neutral buffered formalin

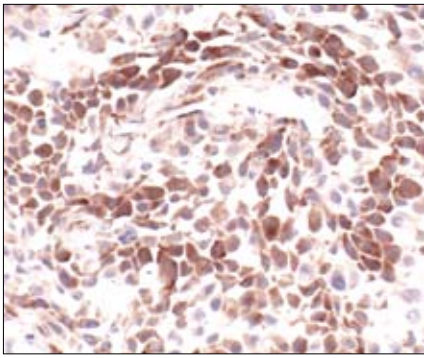
For application specific protocols please see the web page for this product at www.cellsignal.com.

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

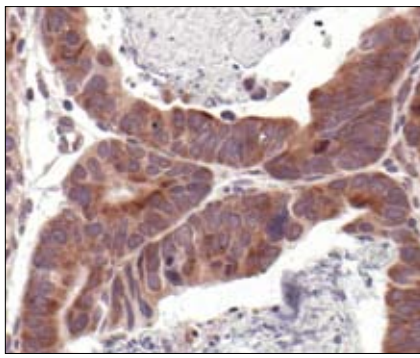


IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

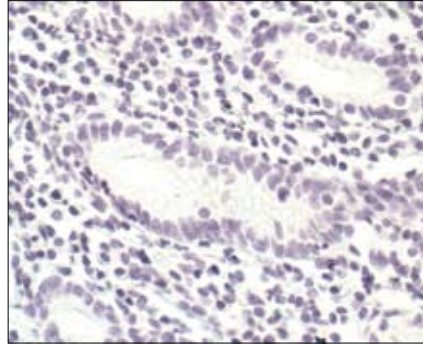
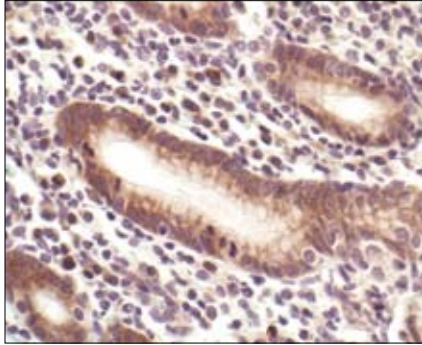
Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide
Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine
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.



Immunohistochemical analysis of frozen H1650 xenograft, using eIF4E Antibody.



Immunohistochemical analysis of paraffin-embedded human renal cell carcinoma, using eIF4E Antibody.



Immunohistochemical analysis of paraffin-embedded human colon, using eIF4E Antibody in the presence of control peptide (left) or antigen-specific peptide (right).