

# eIF4E Antibody

- Small 100 µl (10 Western mini-blot)
- Large 300 µl (30 Western mini-blot)

**Orders** ■ 877-616-CELL (2355)  
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**Support** ■ 877-678-TECH (8324)  
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This product is for *in vitro* research use only and is not intended for use in humans or animals. This product is not intended for use as a therapeutic or in diagnostic procedures.

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

**Background:** Eukaryotic initiation factor 4E (eIF4E) binds to the mRNA cap structure, thereby mediating the initiation of translation (1,2). eIF4E interacts with eIF4G, which serves as a scaffold protein for the assembly of eIF4E and eIF4A to form 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 has been shown to phosphorylate eIF4E at Ser209 *in vivo* (3,4). Two Erk and p38 MAPK phosphorylation sites have been identified in mouse Mnk1, Thr197 and Thr202, which 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). It is known that their phosphorylation 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 (KLH-coupled) corresponding to residues surrounding Ser209 of eIF4E. Antibodies are purified by protein A and peptide affinity chromatography.

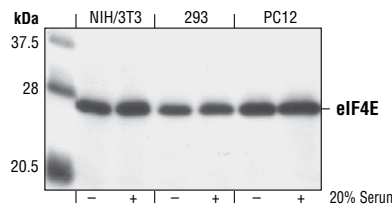
**Selected Application References:**

- Krichevsky, A.M. and Kosik, K.S. (2001) Neuronal RNA granules: A link between RNA localization and stimulation-dependent translation. *Neuron* 32, 683–696. Application: W.
- Banerjee, S. et al. (2002) Murine coronavirus replication-induced p38 mitogen-activated protein kinase activation promotes interleukin-6 production and virus replication in cultured cells. *J. Virol.* 76, 5937–5948. Application: W.

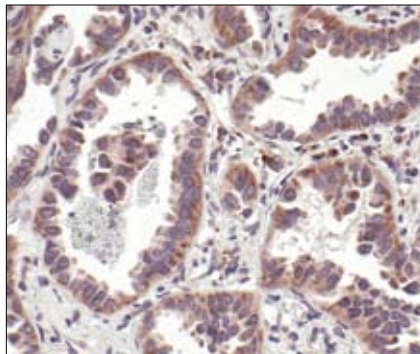
**Background References:**

- (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.

**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.**



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:**

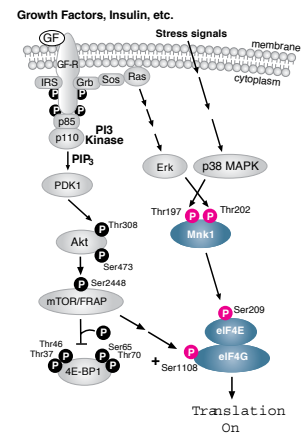
- Western blotting 1:1000
- Immunohistochemistry (Paraffin) 1:100
- IHC protocol: Unmasking buffer/Antibody diluent Citrate/TBST-5%NGS
- Immunohistochemistry (Frozen) 1:100
- Fixative: 10% Neutral buffered formalin

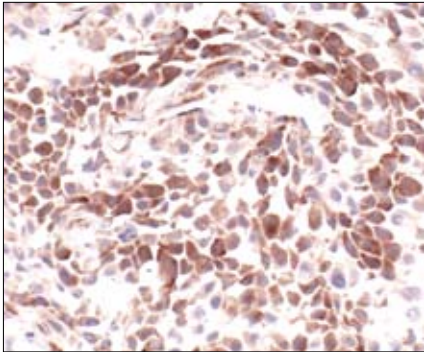
For application specific protocols please see the web page for this product at [www.cellsignal.com](http://www.cellsignal.com).

**Companion Products:**

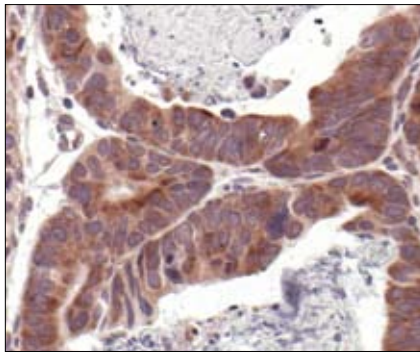
- Phospho-eIF4E (Ser209) Antibody #9741
- Phospho-eIF4G (Ser1108) Antibody #2441
- eIF4G Antibody #2498
- Phospho-4E-BP1 (Ser65) Antibody #9451
- Phospho-4E-BP1 (Thr70) Antibody #9455

Please visit [www.cellsignal.com](http://www.cellsignal.com) for a complete listing of recommended companion products.

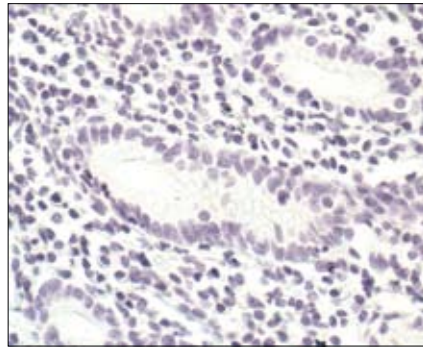
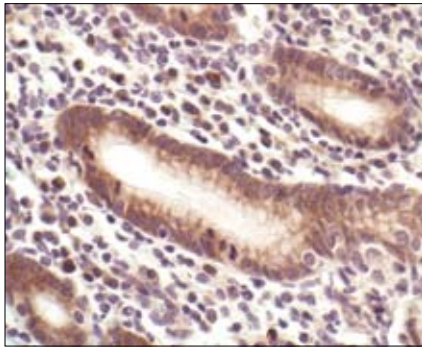




*Immunohistochemical analysis of frozen H1650 xenograft, using eIF4E Antibody.*



*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).*