

**#2332** Store at  $-20^{\circ}\text{C}$

# eEF2 Antibody

100  $\mu\text{l}$   
 (10 western blots)



**Orders** ■ 877-616-CELL (2355)  
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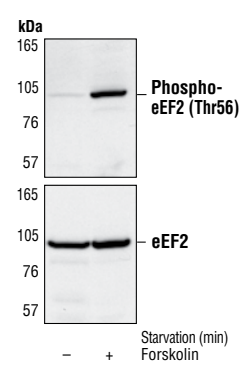
This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications	Species Cross-Reactivity*	Molecular Wt.	Source**
W, IF-IC	H, M, R, Dr, Mk, (C, Hm)	95 kDa	Rabbit

**Background:** Eukaryotic elongation factor 2 (eEF2) catalyzes the translocation of peptidyl-tRNA from the A site to the P site on the ribosome. It has been shown that phosphorylation of eEF2 at threonine 56 by eEF2 kinase inhibits its activity (1–4). eEF2 kinase is normally dependent on  $\text{Ca}^{2+}$  ions and calmodulin (5,6). eEF2 kinase can also be activated by PKA in response to elevated cAMP levels (7–9), which are generally increased in stress- or starvation-related conditions. A variety of treatments known to raise intracellular  $\text{Ca}^{2+}$  or cAMP levels have been shown to result in increased phosphorylation of eEF2, and thus to inhibit peptide-chain elongation. The inactive phosphorylated eEF2 can be converted to its active nonphosphorylated form by a protein phosphatase, most likely a form of protein phosphatase-2A (PP-2A). Insulin, which activates protein synthesis in a wide range of cell types, induces rapid dephosphorylation of eEF2 through mTOR signaling and may involve modulation of the activity of the PP-2A or the eEF2 kinase or both (10).

**Specificity/Sensitivity:** eEF2 Antibody detects endogenous levels of total eEF2 independent of phosphorylation.

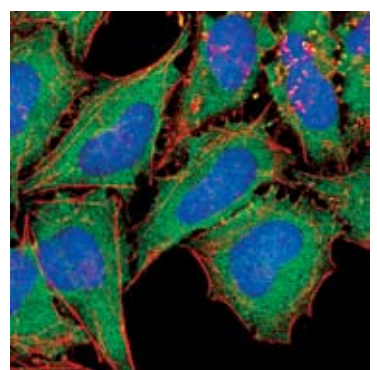
**Source/Purification:** Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues at the amino-terminus of human eEF2. Antibodies are purified by protein A and peptide affinity chromatography.



Western blot analysis of extracts from C6 cells, untreated or forskolin-treated (10  $\mu\text{M}$  for 60 minutes), using Phospho-eEF2 (Thr56) Antibody (upper) or eEF2 Antibody #2332 (lower).

**Background References:**

- (1) Nairn, A.C. and Palfrey, H.C. (1987) *J. Biol. Chem.* 262, 17299–17303.
- (2) Ryazanov, A. G. et al. (1988) *Nature* 334, 170–173.
- (3) Carlberg, U. et al. (1990) *Eur. J. Biochem.* 191, 639–645.
- (4) Redpath, N. T. et al. (1993) *Eur. J. Biochem.* 213, 689–699.
- (5) Nairn, A. C. et al. (1985) *Proc. Natl. Acad. Sci. USA* 82, 7939–7943.
- (6) Palfrey, H. C. et al. (1987) *J. Biol. Chem.* 262, 9785–9792.
- (7) Redpath, N.T. and Proud, C.G. (1993) *Biochem. J.* 293, 31–34.
- (8) Diggle, T. et al. (1998) *Biochem. J.* 336, 525–529.
- (9) Hovland, R. et al. (1999) *FEBS Lett.* 444, 97–101.
- (10) Proud, C. (2000) *Translational Control of Gene Expression*. Cold Spring Harbor Laboratory Press, NY, 719–739.



Confocal immunofluorescent analysis of HeLa cells using eEF2 Antibody (green). Actin filaments have been labeled with DY-554 phalloidin (red). Blue pseudocolor = DRAQ5<sup>®</sup> #4084 (fluorescent DNA dye).

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

**Entrez-Gene ID** #1938  
**Swiss-Prot Acc.** #P13639

**Storage:** Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100  $\mu\text{g}/\text{ml}$  BSA and 50% glycerol. Store at  $-20^{\circ}\text{C}$ . 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
Immunofluorescence (IF-IC)	1:100

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

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

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