

Background

Eukaryotic elongation factor 2 (eEF2) catalyzes the translocation of peptidyl-tRNA from the A site to the P site on the ribosome. eEF2 kinase (eEF2K) phosphorylates and inactivates eEF2, resulting in the inhibition of peptide-chain elongation. eEF2K is normally dependent on Ca²⁺ ions and calmodulin, and can be activated by PKA in response to elevated cAMP levels during cell stress- or starvation-related conditions. Regulation of eEF2K occurs through phosphorylation at multiple sites. Ser-78 phosphorylation is required for calmodulin binding and eEF2K activity, while phosphorylation of Ser-500 is required for Ca²⁺/calmodulin-independent kinase activity. Thr-348 is an autophosphorylation site that is required for kinase activity. Inhibitory phosphorylation may also regulate eEF2K, since phosphorylation at Ser-359 by SAPK4/p38delta causes inactivation of eEF2K. Thus, multisite phospho-regulation of eEF2K may be important for proper control of eEF2K activity and protein translation.

Background References

Ryazanov, A.G. et al. (1997) Proc Natl Acad Sci. USA. 94:4884.
Diggle, T.A., et al. (2001) Biochem J. 353(3):621.
Smith, E.M. & Proud, C.G. (2008) EMBO J. 27(7):1005.

Applications

Blocking 1:1000
ELISA 50 ng/well

End user should determine optimal dilution for their particular applications and experiments.
Western blot membranes were incubated with diluted antibody in 5% non-fat milk, PBS, 0.04% Tween20 for 1 hour at room temperature.

Specificity

The peptide is specifically recognized by anti-eEF2K (C-terminus) antibody (EP4661) in ELISA, and has been shown to block the reactivity of EP4661 during Western blot. In addition, the peptide is recommended for use in blocking EP4661 reactivity in immunocytochemistry.

*All molecular weights (MW) are confirmed by comparison to Bio-Rad Rainbow Markers and to western blot mobilities of known proteins with similar MW.

Peptide Sequence

eEF2K (C-terminus) synthetic peptide includes amino acids in the C-terminal region of human eEF2K. This sequence is well conserved in rat, mouse, chicken, and fish eEF2K, and has low homology to other proteins.

Buffer and Storage

Blocking Peptide is supplied in 50µl phosphate-buffered saline and 0.05% sodium azide.
Store at -20°C. Stable for 1 year.

Related Products

EP4661 eEF2K (C-terminus) Rabbit Polyclonal
EP4391 eEF2K (Ser-78), phospho-specific Rabbit Polyclonal
EP4411 eEF2K (Thr-348), phospho-specific Rabbit Polyclonal
EP4431 eEF2K (Ser-359), phospho-specific Rabbit Polyclonal
EP4451 eEF2K (Ser-500), phospho-specific Rabbit Polyclonal

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