

**Anti-eEF2K (Ser-500), Phosphospecific Antibody**  
Catalog # AN1767**Specification****Anti-eEF2K (Ser-500), Phosphospecific Antibody - Product Information**

Primary Accession	<a href="#">O00418</a>
Reactivity	<b>Bovine</b>
Host	<b>Rabbit</b>
Clonality	<b>Rabbit Polyclonal</b>
Isotype	<b>IgG</b>
Calculated MW	<b>82144</b>

**Anti-eEF2K (Ser-500), Phosphospecific Antibody - Additional Information**Gene ID **29904****Other Names**

eEF-2, eEF-2K, CaMK-III, eukaryotic elongation factor

**Target/Specificity**

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 Ca<sup>2+</sup> 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 Ca<sup>2+</sup>/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/p38 $\delta$  causes inactivation of eEF2K. Thus, multisite phospho-regulation of eEF2K may be important for proper control of eEF2K activity and protein translation.

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**

Anti-eEF2K (Ser-500), Phosphospecific Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**Shipping**

Blue Ice

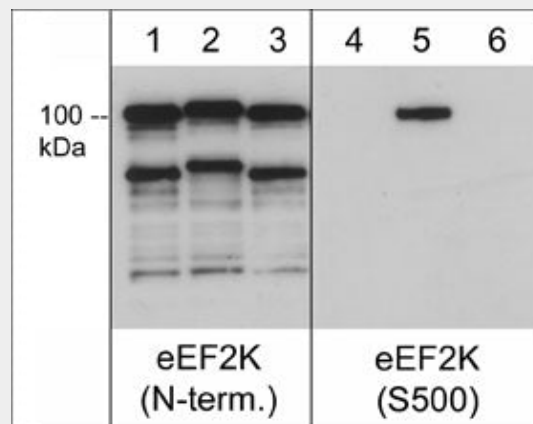
**Anti-eEF2K (Ser-500), Phosphospecific Antibody - Protocols**

Provided below are standard protocols that you may find useful for product applications.

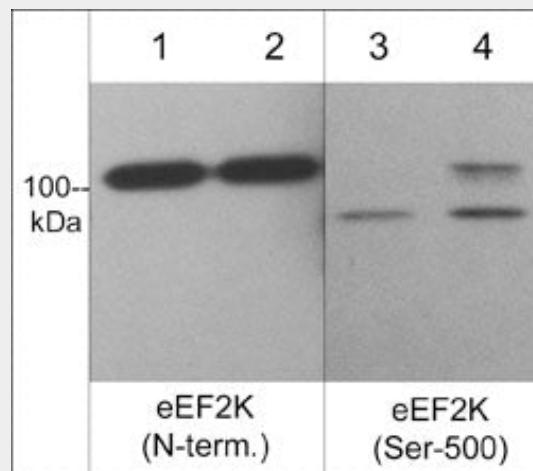
- [Western Blot](#)
- [Blocking Peptides](#)

- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### Anti-eEF2K (Ser-500), Phosphospecific Antibody - Images



Recombinant human eEF2K untreated (lanes 1 & 4), auto-phosphorylated in the presence of Ca<sup>2+</sup> and Calmodulin (lanes 2 & 5), and dephosphorylated with lambda phosphatase (lanes 3 & 6). The blots were probed with rabbit polyclonal anti-eEF2K (N-terminus) (lanes 1-3) or anti-eEF2K (Ser-500) (lanes 4-6). (Images provided by the laboratory of Dr. Kevin Dalby in the Dept. of Pharmacy at the University of Texas at Austin.)



Western blot image of C2C12 untreated (lanes 1 & 3) or treated with calyculin A (100 nM) for 30 min. (lanes 2 & 4). The blot was probed with anti-eEF2K (N-terminus) (lanes 1 & 2) and anti-eEF2K (Ser-500) (lanes 3 & 4).

### Anti-eEF2K (Ser-500), Phosphospecific Antibody - 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 Ca<sup>2+</sup> 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 Ca<sup>2+</sup>/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/p38 $\delta$  causes inactivation of eEF2K. Thus, multisite phospho-regulation of eEF2K may be important for proper control of eEF2K activity and protein translation.