Anti-Phospho-Thr[286] CaM Kinase II Antibody

Catalog #: p1005-286 **Size:** 100 µl

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Cite this Antibody: PhosphoSolutions Cat# p1005-286, RRID:AB_2492051

Host	Applications	Species Tested	Species Reactivity*	Molecular Reference
Rabbit	WB 1:1000	M, R	H, Z	α~50 kDa & β~60 kDa

Product Description: Affinity purified rabbit polyclonal antibody.

Biological Significance: Ca^{2+}/calmodulin-dependent protein kinase II (CaM Kinase II) is a multi-functional calcium and calmodulin-dependent protein kinase that mediates cellular responses to a wide variety of intercellular signals (Kennedy, 1998; Schulman and Hanson, 1993). CaM Kinase II has been shown to regulate diverse cellular functions including synaptic plasticity, neurotransmitter synthesis and release, gene expression, ion channel function, carbohydrate metabolism, cytoskeletal function, and Ca^{2+}-homeostasis (Gleason et al., 2003; Soderling, 2000; Hudmon and Schulman, 2002). Phosphorylation of Thr[286] on the kinase produces an autonomously active form of CaM Kinase II (Meng et al., 2003; Picciotto et al., 1993). Autophosphorylation of Thr[305] inhibits the activity CaM Kinase II. Phosphorylation at this site appears to reduce the association of CaM Kinase II with the PSD and reduce LTP and learning (Elgersma et al., 2002).

Antigen: Phosphopeptide corresponding to amino acid residues surrounding the phospho-Thr[286] of rat CaM Kinase II.

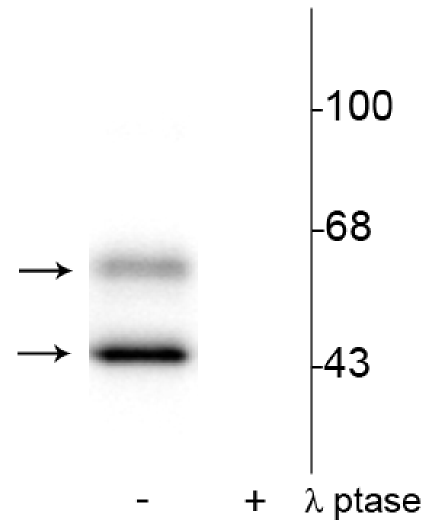
Antibody Specificity: Specific for endogenous levels of the ~50 kDa α-CaM Kinase II and the ~60 kDa β-CaM Kinase II proteins phosphorylated at Thr[286]. Immunolabeling is completely eliminated by treatment with λ-Ptase.

Purification Method: Prepared from pooled rabbit serum by affinity purification via sequential chromatography on phospho and non-phosphopeptide affinity columns.

Quality Control Tests: Western blots performed on each lot.

Packaging: 100 µl in 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg BSA per ml and 50% glycerol.

Storage and Stability: Shipped on blue ice. Storage at -20°C is recommended, as aliquots may be taken without freeze/thawing due to presence of 50% glycerol. Stable for at least 1 year at -20°C.



Western blot of rat brain lysate showing specific immunolabeling of the ~50 kDa α- and the ~60 kDa β-CaM Kinase II phosphorylated at Thr[286] in the first lane (-). Phosphospecificity is shown in the second lane (+) where the immunolabeling is completely eliminated by blot treatment with *lambda* phosphatase (λ-Ptase, 1200 units for 30 minutes).

Application Key: **WB** = Western Blot **IF** = Immunofluorescence **IHC** = Immunohistochemistry **IP** = Immunoprecipitation
Species Reactivity Key: **All**-All Species **A**-Avian **Amp**-Amphibian **Ar**-*Arabidopsis* **B**-Bovine **C**-Canine **Ch**-Chicken **D**-*Drosophila* **GP**-Guinea Pig **H**-Human **Ha**-Hamster **M**-Mouse **NHP**- Non-human primate **P**-Pig **R**-Rat **S**-Sheep **X**-*Xenopus* **Z**-Zebrafish

*Species assumed based on 100% homology with sequence used as antigen **For Research Use Only**

Product Specific References:

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