

PRODUCT DATA SHEET

Product Name: ANTI-PHOSPHO-Thr²⁸⁶ CaM KINASE II ANTIBODY

Product Code: P40001-100

Pack Size: 100 µL

Description: Ca²⁺/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 Ca²⁺-homeostasis (Gleason et al., 2003; Soderling, 2000; Hudmon and Schulman, 2002). Phosphorylation of Thr²⁸⁶ on the kinase produces an autonomously active form of CaM Kinase II (Meng et al., 2003; Picciotto et al., 1993). Autophosphorylation of Thr³⁰⁵ 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).

Physical State: Liquid; Buffer contents: 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg per mL BSA and 50% glycerol

Storage/Stability: Stable at -20 °C for at least 1 year. For long term storage -20 °C is recommended

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

Shipping Conditions: Domestic: Blue Ice
International: Blue Ice or Dry Ice

Host Species: Rabbit (Polyclonal)

Mr (kDa): 50 (α-CaM Kinase II) & 60 (β-CaM Kinase II)

Immunogen: Phosphopeptide corresponding to amino acid residues surrounding the phospho-Thr²⁸⁶ found in rat brain CaM Kinase II.

Species Reactivity: The antibody has been directly tested for reactivity in Western blots with rat tissue. It is anticipated that the antibody will react with human, mouse and *Xenopus* based on the fact that these species have 100% homology with the amino acid sequence used as antigen.

Recommended Antibody Dilutions:

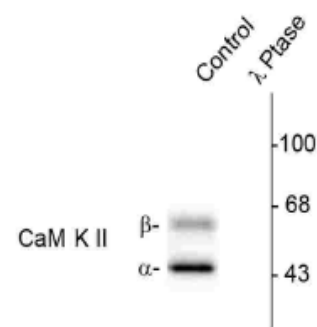
WB: 1:1000

References:

- 1) Elgersma Y et al. (2002) *Neuron* 36:493-505.
- 2) Gleason MR et al. (2003) *Nature Neurosci* 6:217-218.
- 3) Hudmon A et al. (2002) *Annu Rev Biochem* 71:473-510.
- 4) Kennedy MB (1998) *Brain Res Rev* 26:243-257.
- 5) Meng FJ et al. (2003) *Brain Res* 967:161-169.
- 6) Picciotto MR (1993) *J Biol Chem* 268:26512-26521.
- 7) Schulman H et al. (1993) *Neurochem Res* 18:65-77.
- 8) Soderling TR (2000) *Curr Opin Neurobiol* 10:375-380.

Western Blot

Rat brain lysate showing specific immunolabeling of the ~50k α- and the ~60k β-CaM Kinase II phosphorylated at Thr²⁸⁶ (Control). Immunolabeling is completely eliminated by treatment with λ-Phosphatase in lane 2.



Application Key: WB – Western Blot IF – Immunofluorescence IHC – Immunohistochemistry IP - Immunoprecipitation

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