

Anti-Phospho-Thr286 CaM Kinase II Antibody

Product Data Sheet · P/N 74083 Rev 01 · Reissued 2026-09-19 (layout only)

Product code	Pack size
P40001-100	100 µL
Host Species	Rabbit (Polyclonal)
Mr (kDa)	50 (α-CaM Kinase II) & 60 (β-CaM Kinase II)

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).

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.

Physical State

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

Purification Method

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

Recommended Antibody Dilutions

WB: 1:1000

Storage/Stability

Stable at -20 °C for at least 1 year.

For long term storage -20 °C is recommended

Shipping Conditions

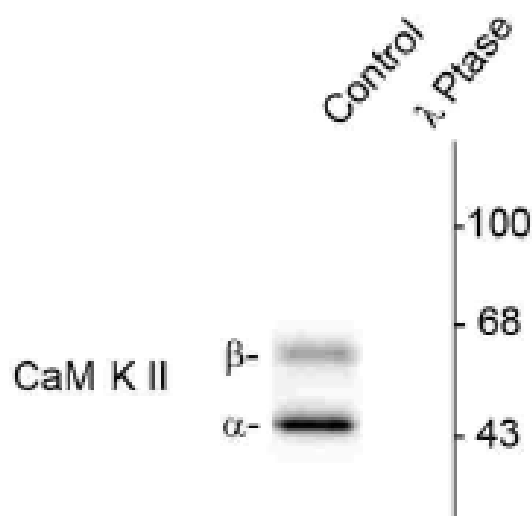
Domestic: Blue Ice

International: Blue Ice or Dry Ice

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.

For research use or further manufacturing only. Not for use in diagnostic procedures, or for human or animal consumption.