

Anti-Phospho-CaM Kinase II (Thr286) Camk2a Antibody

Catalog Number: P03241

About CAMK2A/B

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 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).

Overview

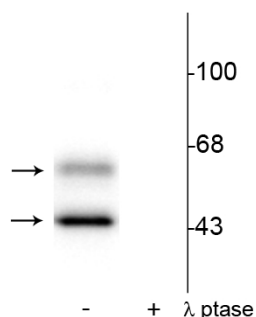
Product Name	Anti-Phospho-CaM Kinase II (Thr286) Camk2a Antibody
Reactive Species	Human, Mouse, Rabbit, Rat
Description	Boster Bio Anti-Phospho-CaM Kinase II (Thr286) Camk2a Antibody (Catalog # P03241). Tested in WB, IHC applications. This antibody reacts with Human, Mouse, Rabbit, Rat.
Application	IHC, WB
Clonality	Polyclonal 608
Formulation	10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg per ml BSA and 50% glycerol.
Storage Instructions	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. After date of receipt, stable for at least 1 year at -20°C.
Host	Rabbit
Uniprot ID	P11275

Technical Details

Immunogen	Synthetic phospho-peptide corresponding to amino acid residues surrounding Thr286 of rat CaMKII, conjugated to keyhole limpet hemocyanin (KLH). Immunogen species is Rat.
Predicted Reactive Species	Zebrafish
Cross Reactivity	No cross reactivity with other proteins.
Isotype	IgG
Form	Liquid

Concentration	0.5-1mg/ml, actual concentration vary by lot. Use suggested dilution ratio to decide dilution procedure.
Purification	Prepared from pooled rabbit serum by affinity purification via sequential chromatography on phospho and non-phosphopeptide affinity columns.
Suggested Dilutions	Dilute the sample so that the expected range of concentrations fall within the detection range of this kit. If the expected range of concentration is unknown, a pilot test should be conducted to decide the optimal dilution ratio for your samples. Some PubMed article(s) citing the expression level of this target are as follows: Boster Bio's internal QC testing used: WB: 1:1000 IHC: 1:1000

Anti-Phospho-CaM Kinase II (Thr286) Camk2a Antibody (P03241) Images



Western blot of rat brain lysate showing specific immunolabeling of the ~50 kDa alpha-and the ~60 kDa beta-CaM Kinase II phosphorylated at Thr²⁸⁶ in the first lane (-). Phosphospecificity is shown in the second lane (+) where the immunolabeling is completely eliminated by blot treatment with lambda phosphatase (gamma-Ptase, 1200 units for 30 minutes).

4 Publications Citing This Product

1. PubMed ID: 32174475, Ma L,Chen X,Zhao B,Shi Y,Han F.Enhanced apoptosis and decreased ampa receptors are involved in deficit in fear memory in rin1 knockout rats.J Affect Disord.2020 May 1;268:173-182.doi:10.1016/j.jad.2020.02.040. Epub 2020 Feb 27.PMID:32174475.
2. PubMed ID: 27451410, Inhibition of CaMKII%u03B1 in the central nucleus of amygdala attenuates fentanyl-induced hyperalgesia in rats
3. PubMed ID: 25010576, Anti-Epileptic Effect of Ganoderma Lucidum Polysaccharides by Inhibition of Intracellular Calcium Accumulation and Stimulation of Expression of CaMKII ? in Epileptic Hippocampal Neurons

Visit [bosterbio.com/anti-cam-kinase-ii-thr286-antibody-phospho-specific-p03241-boster.html](https://www.bosterbio.com/anti-cam-kinase-ii-thr286-antibody-phospho-specific-p03241-boster.html) to see all 4 publications.

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