

## Anti-CaMKII alpha/CAMK2A Antibody Picoband™

Catalog Number: A03241-1

### About CAMK2A

MAX (Max protein), also called Myc-associated factor x, is the most conserved dimerization component of the MYC-MAX-MXD1 network of basic helix-loop-helix leucine zipper (bHLHZ) transcription factors that regulate cell proliferation, differentiation, and apoptosis. The conservation of the MAX sequence is particularly high in the bHLHZ domain, which is involved in protein-protein interactions and DNA binding. The MAX gene is located on chromosome 14q23 by fluorescence in situ chromosomal hybridization. Both quasisymmetric heterodimers resemble the symmetric MAX homodimer, albeit with marked structural differences in the coiled-coil leucine zipper regions that explain preferential homo- and heteromeric dimerization of these 3 evolutionarily related DNA-binding proteins. MAX acts as a classic tumor suppressor gene. Normal lymphocytes from patients showed absence of methylation of the MAX promoter and biallelic expression of MAX, which ruled out an imprinting-mediated effect on MAX expression. The ability of these cells to divide, differentiate, and apoptose in the absence of Max demonstrated for the first time that these processes can occur via Max- and possibly Myc-independent mechanisms.

### Overview

Product Name	Anti-CaMKII alpha/CAMK2A Antibody Picoband™
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-CaMKII alpha/CAMK2A Antibody Picoband™ catalog # A03241-1. Tested in ELISA, WB applications. This antibody reacts with Human, Mouse, Rat.
Application	ELISA, WB
Clonality	Polyclonal
Formulation	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na <sub>2</sub> HPO <sub>4</sub> , 0.05mg NaN <sub>3</sub> .
Storage Instructions	Store at -20°C for one year from date of receipt. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for six months. Avoid repeated freeze-thaw cycles.
Host	Rabbit
Uniprot ID	Q9UQM7

### Technical Details

Immunogen	E. coli-derived human CaMKII alpha recombinant protein (Position: L392-R457).
Recommended Detection Systems	Boster recommends Enhanced Chemiluminescent Kit with anti-Rabbit IgG (EK1002) for Western blot.
Cross Reactivity	No cross-reactivity with other proteins.
Isotype	Rabbit IgG
Form	Lyophilized

Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	<p>Dilute the sample so that the expected range of concentrations fall within the detection range of this kit.</p> <p>If the expected range of concentration is unknown, a pilot test should be conducted to decide the optimal dilution ratio for your samples.</p> <p>Some PubMed article(s) citing the expression level of this target are as follows:</p> <p>Boster Bio's internal QC testing used:</p> <p>Western blot, 0.1-0.5ug/ml</p> <p>Direct ELISA, 0.1-0.5ug/ml</p>

## Anti-CaMKII alpha/CAMK2A Antibody Picoband™ (A03241-1) Images

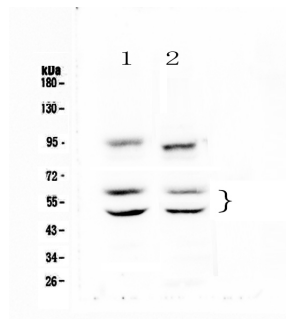


Figure 1. Western blot analysis of CaMKII alpha using anti-CaMKII alpha antibody (A03241-1). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions.  
Lane 1: rat brain tissue lysates,  
Lane 2: mouse brain tissue lysates.  
After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-CaMKII alpha antigen affinity purified polyclonal antibody (Catalog # A03241-1) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1002) with Tanon 5200 system. A specific band was detected for CaMKII alpha at approximately 50, 60KD. The expected band size for CaMKII alpha is at 54KD.

## 5 Publications Citing This Product

1. PubMed ID: -, Meng, X.,Fu, M.,Wang, S.,Chen, W.,Wang, J.,& Zhang, N.(2021). Naringin ameliorates memory deficits and exerts neuroprotective effects in a mouse model of Alzheimer's disease by regulating multiple metabolic pathways. Molecular Medicine Reports,23,332.<https://doi.org/10.3892/mmr.2021.11971>
2. PubMed ID: 27451410, Inhibition of CaMKII $\alpha$  in the central nucleus of amygdala attenuates fentanyl-induced hyperalgesia in rats
3. PubMed ID: 20052459, Sun Z, Niu R, Su K, Wang B, Wang J, Zhang J, Wang J. Arch Toxicol. 2010 May;84(5):353-61. Doi: 10.1007/S00204-009-0508-X. Epub 2010 Jan 6. Effects Of Sodium Fluoride On Hyperactivation And Ca<sup>2+</sup> Signaling Pathway In Sperm From Mice: An In Vivo Study.

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