Datasheet for ABIN5693074

anti-CAMK2A antibody (AA 392-457)

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Overview

Quantity:	100 µg
Target:	CAMK2A
Binding Specificity:	AA 392-457
Reactivity:	Human, Mouse, Rat
Host:	Rabbit
Clonality:	Polyclonal
Conjugate:	This CAMK2A antibody is un-conjugated
Application:	Western Blotting (WB), ELISA

Product Details

Purpose:	Anti-CaMKII alpha/CAMK2A Antibody Picoband®
Immunogen:	E. coli-derived human CaMKII alpha recombinant protein (Position: L392-R457).
Isotype:	IgG
Cross-Reactivity (Details):	No cross-reactivity with other proteins.
Characteristics:	Anti-CaMKII alpha/CAMK2A Antibody Picoband® (ABIN5693074). Tested in ELISA, WB applications. This antibody reacts with Human, Mouse, Rat. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.

Target Details

Target:	CAMK2A
Alternative Name:	CAMK2A (CAMK2A Products)
Background:	Synonyms: Calcium/calmodulin-dependent protein kinase type II subunit alpha, CaM kinase II subunit alpha, CaMK-II subunit alpha Tissue Specificity: High levels found in the brain, heart and lung while lower levels are seen in the liver, kidney and skeletal muscle. Background: 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.
Molecular Weight:	50 kDa, 60 kDa
Gene ID:	815
Pathways:	WNT Signaling, Interferon-gamma Pathway, Myometrial Relaxation and Contraction

Application Details

Application Notes:	Western blot, 0.1-0.5 µg/mL ELISA, 0.1-0.5 µg/mL 1. "Entrez Gene: CAMK2A calcium/calmodulin-dependent protein kinase (CaM kinase) II alpha". 2. Dhavan R, Greer PL, Morabito MA, Orlando LR, Tsai LH (Sep 2002). "The cyclin-dependent kinase 5 activators p35 and p39 interact with the alpha-subunit of Ca2+/calmodulin-dependent protein kinase II and alpha-actinin-1 in a calcium-dependent manner". J. Neurosci. 22 (18): 7879-91.
Restrictions:	For Research Use only

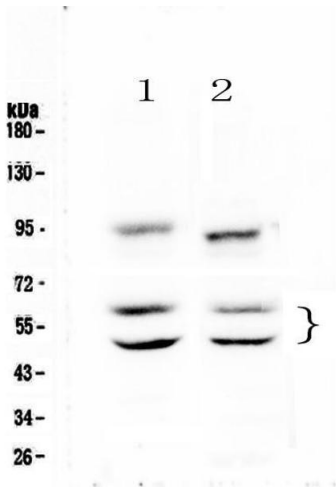
Handling

Format:	Lyophilized
Reconstitution:	Add 0.2 mL of distilled water will yield a concentration of 500 µg/mL.
Concentration:	500 µg/mL
Buffer:	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na_2HPO_4, 0.05 mg NaN_3.
Preservative:	Sodium azide
Precaution of Use:	This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.
Storage:	4 °C,-20 °C
Storage Comment:	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.

Publications

Product cited in:	Wang, Li, Qiu, Jiang, Simon, Ma, Liu, Liu, Wang, Liang, Wu, Di, Zhou: "Anti-epileptic effect of Ganoderma lucidum polysaccharides by inhibition of intracellular calcium accumulation and stimulation of expression of CaMKII α in epileptic hippocampal neurons." in: **PLoS ONE**, Vol. 9, Issue 7, pp. e102161, (2015) (PubMed).

Images



Western Blotting

Image 1. Western blot analysis of CaMKII alpha using anti-CaMKII alpha antibody . 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-

Images

CaMKII alpha antigen affinity purified polyclonal antibody (Catalog #) at 0.5 µg/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.