

Anti-CaMKII alpha CAMK2A Rabbit Monoclonal Antibody Catalog # ABO14133

Specification

Anti-CaMKII alpha CAMK2A Rabbit Monoclonal Antibody - Product Information

Application	WB, IP, FC
Primary Accession	O9UQM7
Host	Rabbit
Isotype	Rabbit IgG
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Format	Liquid

Description

Anti-CaMKII alpha CAMK2A Rabbit Monoclonal Antibody . Tested in WB, IP, Flow Cytometry applications. This antibody reacts with Human, Mouse, Rat.

Anti-CaMKII alpha CAMK2A Rabbit Monoclonal Antibody - Additional Information

Gene ID 815

Other Names

Calcium/calmodulin-dependent protein kinase type II subunit alpha, CaM kinase II subunit alpha, CaMK-II subunit alpha, 2.7.11.17, CAMK2A, CAMKA, KIAA0968

Calculated MW

54088 MW KDa

Application Details

WB 1:1000-1:5000
IP 1:50
FC 1:100

Subcellular Localization

Cell junction, synapse, presynaptic cell membrane. Cell junction, synapse. Postsynaptic lipid rafts..

Contents

Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.

Immunogen

A synthesized peptide derived from human CaMKII alpha

Purification

Affinity-chromatography

Storage

Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.

Anti-CaMKII alpha CAMK2A Rabbit Monoclonal Antibody - Protein Information

Name CAMK2A**Synonyms** CAMKA, KIAA0968**Function**

Calcium/calmodulin-dependent protein kinase that functions autonomously after Ca(2+)/calmodulin-binding and autophosphorylation, and is involved in various processes, such as synaptic plasticity, neurotransmitter release and long-term potentiation (PubMed:14722083). Member of the NMDAR signaling complex in excitatory synapses, it regulates NMDAR-dependent potentiation of the AMPAR and therefore excitatory synaptic transmission (By similarity). Regulates dendritic spine development (PubMed:28130356). Also regulates the migration of developing neurons (PubMed:29100089). Phosphorylates the transcription factor FOXO3 to activate its transcriptional activity (PubMed:23805378). Phosphorylates the transcription factor ETS1 in response to calcium signaling, thereby decreasing ETS1 affinity for DNA (By similarity). In response to interferon-gamma (IFN-gamma) stimulation, catalyzes phosphorylation of STAT1, stimulating the JAK- STAT signaling pathway (PubMed:11972023). In response to interferon- beta (IFN-beta) stimulation, stimulates the JAK-STAT signaling pathway (PubMed:35568036). Acts as a negative regulator of 2- arachidonoylglycerol (2-AG)-mediated synaptic signaling via modulation of DAGLA activity (By similarity).

Cellular Location

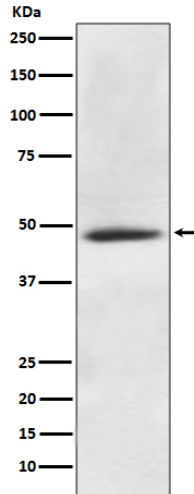
Synapse {ECO:0000250|UniProtKB:P11275}. Postsynaptic density {ECO:0000250|UniProtKB:P11275}. Cell projection, dendritic spine. Cell projection, dendrite. Note=Postsynaptic lipid rafts {ECO:0000250|UniProtKB:P11275}

Anti-CaMKII alpha CAMK2A Rabbit Monoclonal Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Anti-CaMKII alpha CAMK2A Rabbit Monoclonal Antibody - Images



Western blot analysis of CaMKII alpha expression in SH-SY5Y cell lysate.

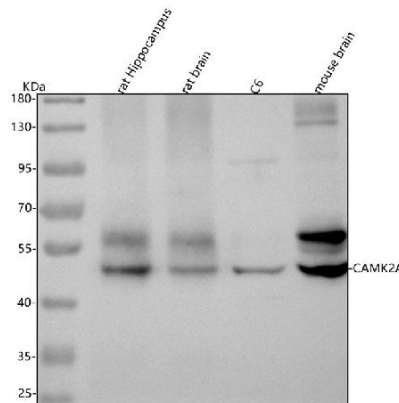


Figure 1. Western blot analysis of CAMK2A using anti-CAMK2A antibody (M03241). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions.

- Lane 1: rat Hippocampus tissue lysates,
- Lane 2: rat brain tissue lysates,
- Lane 3: rat C6 whole cell lysates,
- Lane 4: mouse brain tissue lysates.

After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA 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-CAMK2A antigen affinity purified monoclonal antibody (Catalog # M03241) at 1:1000 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 1:5000 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 CAMK2A at approximately 54 kDa. The expected band size for CAMK2A is at 54 kDa.