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Anti-CaM Kinase II (RABBIT) Antibody
CaM Kinase II Antibody
Catalog # ASR5309

Specification

Anti-CaM Kinase II (RABBIT) Antibody - Product Information

Host	**Rabbit**
Conjugate	**Unconjugated**
Target Species	**Human**
Reactivity	**Mouse**
Clonality	**Polyclonal**
Application	**WB, E, I, LCI**
Application Note	**This affinity purified antibody has been tested for use in ELISA and western blot. Specific conditions for reactivity should be optimized by the end user. Expect a band ~ 54 kDa in size corresponding to CaM Kinase II by western blotting in the appropriate cell lysate or extract.**
Physical State	**Liquid (sterile filtered)**
Buffer	**0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2**
Immunogen	**This affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to an N-terminus region of Human CaM Kinase II protein.**
Preservative	**0.01% (w/v) Sodium Azide**

Anti-CaM Kinase II (RABBIT) Antibody - Additional Information

Gene ID 815

Other Names
815

Purity
This affinity purified antibody is directed against human CaM Kinase II protein. The product was affinity purified from monospecific antiserum by immunoaffinity purification. A BLAST analysis was used to suggest reactivity with this protein from human, mouse, rat, and orangutan based on 100% homology for the immunogen sequence. Cross reactivity with CaM Kinase II protein from zebrafish and rabbit may occur as this sequence only varies by one amino acid residue (94% homology). Cross reactivity with CaM Kinase II homologues from other sources has not been determined.

Storage Condition
Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted

liquid. Dilute only prior to immediate use.

Precautions Note
This product is for research use only and is not intended for therapeutic or diagnostic applications.

Anti-CaM Kinase II (RABBIT) 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-CaM Kinase II (RABBIT) 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 Cytomety
- Cell Culture

Anti-CaM Kinase II (RABBIT) Antibody - Images

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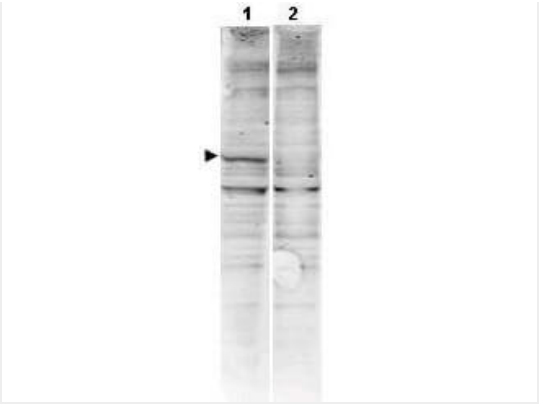

Western blot using Rockland's Affinity Purified anti-CaM Kinase II antibody shows detection of a band ~54 kDa corresponding to human alpha CaM Kinase II (arrowhead lane 1). Specific reactivity with this band is blocked when the antibody is pre-incubated with the immunizing peptide (lane 2). Approximately 35 µg of a mouse brain whole cell lysate (p/n W10-000-T004) was separated by 4-20% SDS-PAGE and transferred onto nitrocellulose. CaM Kinase II was similarly detected on lysates from rat brain (not shown). After blocking the membrane was probed with the primary antibody diluted to 1:1,500 for 2h at room temperature followed by washes and reaction with a 1:10,000 dilution of IRDye™800 conjugated Gt-a-Rabbit IgG [H&L] MX (p/n 611-132-122) for 45 min at room temperature. IRDye™800 fluorescence image was captured using the Odyssey® Infrared Imaging System developed by LI-COR. IRDye is a trademark of LI-COR, Inc. Other detection systems will yield similar results.

Anti-CaM Kinase II (RABBIT) Antibody - Background

CaM Kinase II (also known as CAMK2 and calcium/calmodulin-dependent protein kinase type II alpha chain) is a prominent kinase in the central nervous system that may function in the long-term potentiation of neurotransmitter release. CaM Kinase II autophosphorylates itself at Thr-286 which allows the kinase to switch from a calmodulin-dependent to a calmodulin-independent state. CaM Kinase II is composed of four different chains: alpha, beta, gamma, and delta. The different isoforms assemble into homo- or heteromultimeric holoenzymes composed of 8 to 12 subunits. This kinase is expressed in brain tissue. Alternative splicing occurs for this gene product.