

**CAMK2A Antibody (C-term E370)**  
**Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP7418b****Specification**

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**CAMK2A Antibody (C-term E370) - Product Information**

Application	IHC-P, WB,E
Primary Accession	<a href="#">O9UQM7</a>
Other Accession	<a href="#">P11275</a> , <a href="#">P11798</a>
Reactivity	Human
Predicted	Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Antigen Region	344-371

**CAMK2A Antibody (C-term E370) - 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, CAMK2A, CAMKA, KIAA0968

**Target/Specificity**

This CAMK2A antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 344-371 amino acids from the C-terminal region of human CAMK2A.

**Dilution**

IHC-P~~1:10~50

WB~~1:1000

E~~Use at an assay dependent concentration.

**Format**

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.

**Storage**

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**

CAMK2A Antibody (C-term E370) is for research use only and not for use in diagnostic or therapeutic procedures.

**CAMK2A Antibody (C-term E370) - 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).

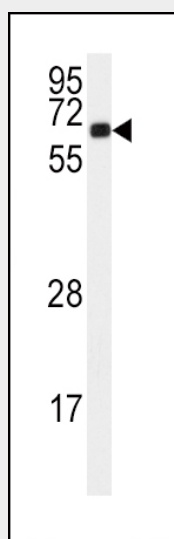
**Cellular Location**

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}

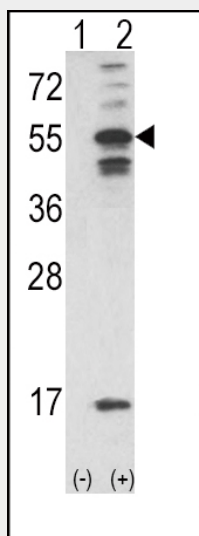
**CAMK2A Antibody (C-term E370) - Protocols**

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](#)

**CAMK2A Antibody (C-term E370) - Images**

Western blot analysis of anti-CAMK2A Antibody (C-term E370) (Cat.#AP7418b) in 293 cell line lysates (35ug/lane). CAMK2A (arrow) was detected using the purified Pab.



Western blot analysis of CAMK2A (arrow) using rabbit polyclonal CAMK2A Antibody (C-term E370) (Cat.#AP7418b). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the CAMK2A gene (Lane 2).



Formalin-fixed and paraffin-embedded human brain tissue reacted with CAMK2A (C-term E370) (Cat.#AP7418b), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

#### **CAMK2A Antibody (C-term E370) - Background**

CAMK2A belongs to the serine/threonine protein kinases family, and to the Ca(2+)/calmodulin-dependent protein kinases subfamily. Calcium signaling is crucial for several aspects of plasticity at glutamatergic synapses. This calcium calmodulin-dependent protein kinase is composed of four different chains: alpha, beta, gamma, and delta. The alpha chain encoded by the gene for CAMK2A is required for hippocampal long-term potentiation (LTP) and spatial learning. In addition to its calcium-calmodulin (CaM)-dependent activity, this protein can undergo autophosphorylation, resulting in CaM-independent activity.

#### **CAMK2A Antibody (C-term E370) - References**

Lee,C.W., Mol. Pharmacol. 73 (5), 1454-1464 (2008)  
Yuan,K., Lab. Invest. 87 (9), 938-950 (2007)