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CAMK2A / CaMKII Alpha Antibody (Internal)

Goat Polyclonal Antibody
Catalog # ALS13371

Specification

CAMK2A / CaMKII Alpha Antibody (Internal) - Product Information

Application	**WB, IHC-P, E**
Primary Accession	Q9UQM7
Reactivity	**Human, Mouse, Rat, Rabbit, Monkey, Pig, Horse, Bovine, Dog**
Host	**Goat**
Clonality	**Polyclonal**
Calculated MW	**54kDa KDa**
Dilution	**WB~~1:1000** **IHC-P~~N/A** **E~~N/A**

CAMK2A / CaMKII Alpha Antibody (Internal) - 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

Target/Specificity
Human CAMK2A. This antibody is expected to recognize both reported isoforms (NP_057065.2; NP_741960.1).

Reconstitution & Storage
Store at -20°C. Minimize freezing and thawing.

Precautions
CAMK2A / CaMKII Alpha Antibody (Internal) is for research use only and not for use in diagnostic or therapeutic procedures.

CAMK2A / CaMKII Alpha Antibody (Internal) - 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).

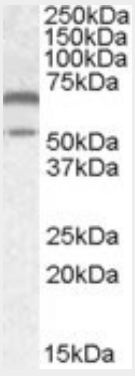
Cellular Location
Synapse {ECO:0000250|UniProtKB:P11275}. Postsynaptic density {ECO:0000250|UniProtKB:P11275}. Cell projection, dendritic spine. Cell projection, dendrite. Note=Postsynaptic lipid rafts {ECO:0000250|UniProtKB:P11275}

CAMK2A / CaMKII Alpha Antibody (Internal) - 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

CAMK2A / CaMKII Alpha Antibody (Internal) - Images



Antibody (0.1 ug/ml) staining of Mouse Brain lysate (35 ug protein in RIPA buffer).

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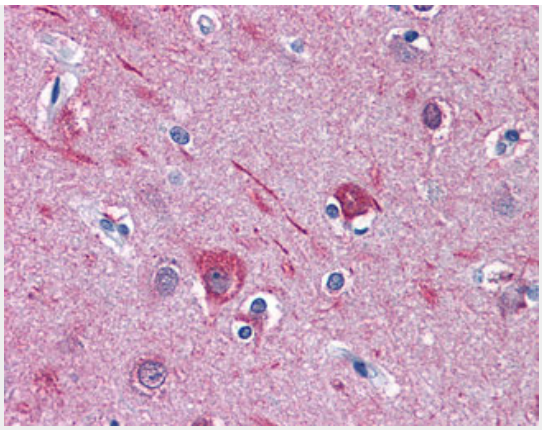

Anti-CAMK2A antibody IHC of human brain, cortex.

CAMK2A / CaMKII Alpha Antibody (Internal) - Background

CaM-kinase II (CAMK2) is a prominent kinase in the central nervous system that may function in long-term potentiation and neurotransmitter release. Member of the NMDAR signaling complex in excitatory synapses it may regulate NMDAR-dependent potentiation of the AMPAR and synaptic plasticity (By similarity).

CAMK2A / CaMKII Alpha Antibody (Internal) - References

Li G.Y.,et al.Submitted (APR-1999) to the EMBL/GenBank/DDBJ databases.
Nagase T.,et al.DNA Res. 6:63-70(1999).
Schmutz J.,et al.Nature 431:268-274(2004).
Krapivinsky G.,et al.Neuron 43:563-574(2004).