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Anti-CaMK2 alpha/beta/delta (Phospho-T305) Antibody

Catalog # AP54004

Product Information

Application	WB, IHC
Primary Accession	Q9UQM7
Other Accession	Q13554, Q13557
Reactivity	Human, Mouse, Rat, Rabbit, Zebrafish, Pig, Chicken, Bovine
Host	Rabbit
Clonality	Polyclonal
Calculated MW	54088

Additional Information

Gene ID	815
Other Names	CAMK2A; CAMKA; KIAA0968; Calcium/calmodulin-dependent protein kinase type II subunit alpha; CaM kinase II subunit alpha; CaMK-II subunit alpha; CAMK2B; CAM2; CAMK2; CAMKB; Calcium/calmodulin-dependent protein kinase type II subunit beta; CaM kinase II subunit beta; CaMK-II subunit beta; CAMK2D; CAMKD; Calcium/calmodulin-dependent protein kinase type II subunit delta; CaM kinase II subunit delta; CaMK-II subunit delta
Target/Specificity	KLH-conjugated synthetic phosphopeptide corresponding to residues surrounding T305 of human CaMK2 alpha/beta/delta protein. The exact sequence is proprietary.
Dilution	WB~~1/500 - 1/1000 IHC~~1/50 - 1/100
Format	Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

Protein Information

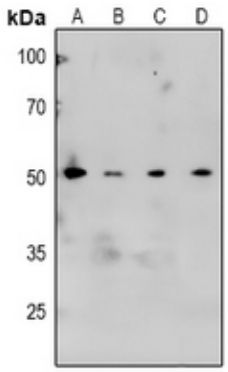
Name	CAMK2A
Synonyms	CAMKA, KIAA0968
Function	Calcium/calmodulin-dependent protein kinase that functions autonomously after Ca(2+)/calmodulin-binding and autophosphorylation, and is involved in various processes, such as synaptic plasticity, neurotransmitter release and long-term potentiation (PubMed:14722083). 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). In response to interferon-gamma (IFN-gamma) stimulation, catalyzes phosphorylation of PSAT1, inhibiting ferroptosis by promoting GPX4 hydroxylation and stability (PubMed:40281343). Acts as a negative regulator of 2-arachidonoylglycerol (2-AG)-mediated synaptic signaling via modulation of DAGLA activity (By similarity).

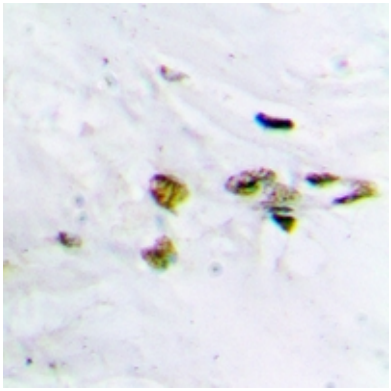
Cellular Location

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}

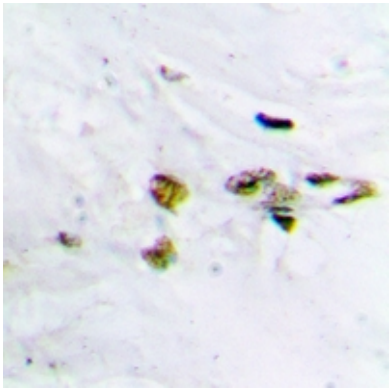
Images



Western blot analysis of CaMK2 alpha/beta/delta (Phospho-T305) expression in HEK293T (A), U87MG (B), A549 (C), rat brain (D) whole cell lysates. (Predicted band size: 54; 72; 56 kD; Observed band size: 50 kD)



Immunohistochemical analysis of CaMK2 alpha/beta/delta (Phospho-T305) staining in human brain formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.



Immunohistochemical analysis of CaMK2 alpha/beta/delta (pT305) staining in human brain formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.