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RAT Camk2a Antibody (ascites)

Mouse Monoclonal Antibody (Mab)
Catalog # AM2002a

Product Information

Application	WB, E
Primary Accession	P11275
Other Accession	P11798, NP_037052.1
Reactivity	Rat
Predicted	Mouse
Host	Mouse
Clonality	Monoclonal
Isotype	IgM
Clone Names	390CT12.4.4
Calculated MW	54115

Additional Information

Gene ID	25400
Other Names	Calcium/calmodulin-dependent protein kinase type II subunit alpha, CaM kinase II subunit alpha, CaMK-II subunit alpha, Camk2a
Target/Specificity	Purified His-tagged Camk2a protein(Fragment) was used to produced this monoclonal antibody.
Dilution	WB~~1:1000~8000 E~~Use at an assay dependent concentration.
Format	Mouse monoclonal antibody supplied in crude ascites with 0.09% (W/V) sodium azide.
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	RAT Camk2a Antibody (ascites) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	Camk2a
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. Member of the NMDAR signaling complex in excitatory synapses, it regulates NMDAR- dependent potentiation of the

	AMPAR and therefore excitatory synaptic transmission (PubMed:15312654). Regulates dendritic spine development. Also regulates the migration of developing neurons. Phosphorylates the transcription factor FOXO3 to activate its transcriptional activity (By similarity). 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 (By similarity). Acts as a negative regulator of 2-arachidonoylglycerol (2-AG)-mediated synaptic signaling via modulation of DAGLA activity (By similarity).
Cellular Location	Synapse. Postsynaptic density. Cell projection, dendritic spine {ECO:0000250|UniProtKB:Q9UQM7}. Cell projection, dendrite {ECO:0000250|UniProtKB:Q9UQM7}. Note=Postsynaptic lipid rafts

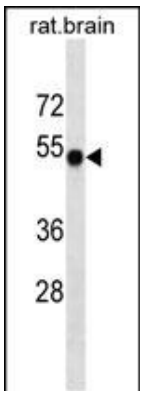
Background

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).

References

Hund, T.J., et al. J. Clin. Invest. 120(10):3508-3519(2010) Xu, L., et al. Circ. Res. 107(3):398-407(2010) Guetg, N., et al. Proc. Natl. Acad. Sci. U.S.A. 107(31):13924-13929(2010) Blaich, A., et al. Proc. Natl. Acad. Sci. U.S.A. 107(22):10285-10289(2010) Jenkins, M.A., et al. J. Neurosci. 30(15):5125-5135(2010)

Images



RAT Camk2a Antibody (Cat. #AM2002a) western blot analysis in rat brain tissue lysates (35µg/lane).This demonstrates the Camk2a antibody detected the Camk2a protein (arrow).