

ARG41250 anti-CaMKI alpha antibody

Package: 100 µl
Store at: -20°C

Summary

Product Description	Rabbit Polyclonal antibody recognizes CaMKI alpha
Tested Reactivity	Hu, Ms, Rat
Tested Application	ICC/IF, IHC-P, WB
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Target Name	CaMKI alpha
Species	Human
Immunogen	Synthetic peptide of Human CaMKI alpha.
Conjugation	Un-conjugated
Alternate Names	CaM kinase I; EC 2.7.11.17; CAMKI; CaMKI-alpha; Calcium/calmodulin-dependent protein kinase type 1; CaM-KI; CaM kinase I alpha

Application Instructions

Application table	Application	Dilution
	ICC/IF	1:50
	IHC-P	1:50
	WB	1:2000
Application Note	* The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.	

Properties

Form	Liquid
Purification	Affinity purified
Buffer	50 mM Tris-Glycine (pH 7.4), 150 mM NaCl, 0.01% Sodium azide, 40% Glycerol and 0.05% BSA.
Preservative	0.01% Sodium azide
Stabilizer	40% Glycerol and 0.05% BSA
Concentration	Batch dependent
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.
Note	For laboratory research only, not for drug, diagnostic or other use.

Gene Symbol	CAMK1
Gene Full Name	calcium/calmodulin-dependent protein kinase I
Background	Calcium/calmodulin-dependent protein kinase I is expressed in many tissues and is a component of a calmodulin-dependent protein kinase cascade. Calcium/calmodulin directly activates calcium/calmodulin-dependent protein kinase I by binding to the enzyme and indirectly promotes the phosphorylation and synergistic activation of the enzyme by calcium/calmodulin-dependent protein kinase I kinase. [provided by RefSeq, Jul 2008]
Function	<p>Calcium/calmodulin-dependent protein kinase that operates in the calcium-triggered CaMKK-CaMK1 signaling cascade and, upon calcium influx, regulates transcription activators activity, cell cycle, hormone production, cell differentiation, actin filament organization and neurite outgrowth. Recognizes the substrate consensus sequence [MVLIF]-x-R-x(2)-[ST]-x(3)-[MVLIF]. Regulates axonal extension and growth cone motility in hippocampal and cerebellar nerve cells. Upon NMDA receptor-mediated Ca(2+) elevation, promotes dendritic growth in hippocampal neurons and is essential in synapses for full long-term potentiation (LTP) and ERK2-dependent translational activation. Downstream of NMDA receptors, promotes the formation of spines and synapses in hippocampal neurons by phosphorylating ARHGEF7/BETAPIX on 'Ser-694', which results in the enhancement of ARHGEF7 activity and activation of RAC1. Promotes neuronal differentiation and neurite outgrowth by activation and phosphorylation of MARK2 on 'Ser-91', 'Ser-92', 'Ser-93' and 'Ser-294'. Promotes nuclear export of HDAC5 and binding to 14-3-3 by phosphorylation of 'Ser-259' and 'Ser-498' in the regulation of muscle cell differentiation. Regulates NUMB-mediated endocytosis by phosphorylation of NUMB on 'Ser-276' and 'Ser-295'. Involved in the regulation of basal and estrogen-stimulated migration of medulloblastoma cells through ARHGEF7/BETAPIX phosphorylation (By similarity). Is required for proper activation of cyclin-D1/CDK4 complex during G1 progression in diploid fibroblasts. Plays a role in K(+) and ANG2-mediated regulation of the aldosterone synthase (CYP11B2) to produce aldosterone in the adrenal cortex. Phosphorylates EIF4G3/eIF4GII. In vitro phosphorylates CREB1, ATF1, CFTR, MYL9 and SYN1/synapsin I. [UniProt]</p>
Calculated Mw	41 kDa
PTM	<p>Phosphorylated by CaMKK1 and CaMKK2 on Thr-177.</p> <p>Polyubiquitinated by the E3 ubiquitin-protein ligase complex SCF(FBXL12), leading to proteasomal degradation. [UniProt]</p>
Cellular Localization	Cytoplasm. Nucleus. Note=Predominantly cytoplasmic. [UniProt]