

# CAMK1 antibody - N-terminal region

Rabbit Polyclonal Antibody

Catalog # AI15023

## Product Information

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<b>Application</b>	WB
<b>Primary Accession</b>	<a href="#">Q14012</a>
<b>Other Accession</b>	<a href="#">NM_003656</a> , <a href="#">NP_003647</a>
<b>Reactivity</b>	Human, Mouse, Rat, Rabbit, Zebrafish, Pig, Dog, Guinea Pig, Horse, Bovine
<b>Predicted</b>	Human, Mouse, Rat, Rabbit, Zebrafish, Pig, Dog, Guinea Pig, Horse, Bovine
<b>Host</b>	Rabbit
<b>Clonality</b>	Polyclonal
<b>Calculated MW</b>	41337

## Additional Information

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<b>Gene ID</b>	8536
<b>Alias Symbol</b>	CAMKI, MGC120317, MGC120318
<b>Other Names</b>	Calcium/calmodulin-dependent protein kinase type 1, 2.7.11.17, CaM kinase I, CaM-KI, CaM kinase I alpha, CaMKI-alpha, CAMK1
<b>Format</b>	Liquid. Purified antibody supplied in 1x PBS buffer with 0.09% (w/v) sodium azide and 2% sucrose.
<b>Reconstitution &amp; Storage</b>	Add 50 ul of distilled water. Final anti-CAMK1 antibody concentration is 1 mg/ml in PBS buffer with 2% sucrose. For longer periods of storage, store at 20°C. Avoid repeat freeze-thaw cycles.
<b>Precautions</b>	CAMK1 antibody - N-terminal region is for research use only and not for use in diagnostic or therapeutic procedures.

## Protein Information

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<b>Name</b>	CAMK1
<b>Function</b>	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.

#### Cellular Location

Cytoplasm. Nucleus. Note=Predominantly cytoplasmic.

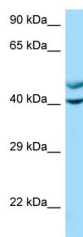
#### Tissue Location

Widely expressed. Expressed in cells of the zona glomerulosa of the adrenal cortex.

## References

- Haribabu B.,et al.EMBO J. 14:3679-3686(1995).  
 Gevaert K.,et al.Nat. Biotechnol. 21:566-569(2003).  
 Hsu L.-S.,et al.J. Biomed. Sci. 5:141-149(1998).  
 McKinsey T.A.,et al.Proc. Natl. Acad. Sci. U.S.A. 97:14400-14405(2000).  
 Hsu L.-S.,et al.J. Biol. Chem. 276:31113-31123(2001).

## Images



WB Suggested Anti-CAMK1 Antibody Titration: 1.0 µg/ml  
 Positive Control: A549 Whole Cell  
 CAMK1 is supported by BioGPS gene expression data to be expressed in A549

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