

Rabbit CaMK1 alpha Polyclonal Antibody | anti-CaMK1 alpha antibody

Phospho-CaMK1 alpha (Thr177) Antibody

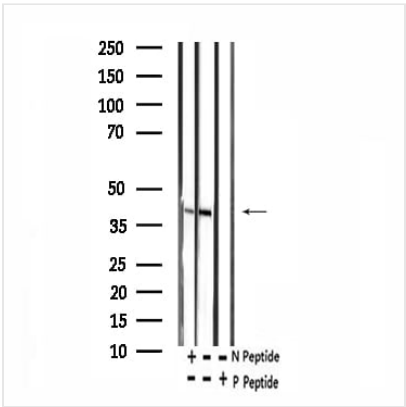
CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA328510	Rabbit	Human, Mouse, RatPredicted: Pig, Bovine, Horse, Sheep, Rabbit, Dog, Chicken, Xenopus	ELISA, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

CaMK1 alpha; Polyclonal Antibody; Phospho-CaMK1 alpha (Thr177) Antibody; Calcium/calmodulin dependent protein kinase 1; Calcium/calmodulin dependent protein kinase I; Calcium/calmodulin dependent protein kinase type 1; Calcium/calmodulin-dependent protein kinase type 1; CaM K1; CaM KI; CaM kinase 1 alpha; CAM kinase 1; CaM kinase I alpha; CaM kinase I; CaM-KI; CaMK 1; CAMK I; CAMK1; CAMK1 PEN; CaMKI alpha; CaMKI-alpha; KCC1A_HUMAN; MGC120317; MGC120318; anti-CaMK1 alpha antibody

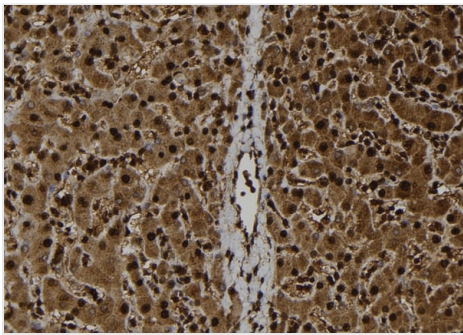
PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat Predicted: Pig, Bovine, Horse, Sheep, Rabbit, Dog, Chicken, Xenopus
Clonality	Polyclonal
Isotype	IgG
Specificity	Phospho-CaMK1-alpha (Thr177) Antibody detects endogenous levels of CaMK1-alpha only when phosphorylated at Thr177.
Purity/Purification	Purified rabbit serum by affinity purification via sequential chromatography on phospho- and non-phospho-peptide affinity columns.
Form/Format	Liquid; Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	370
Applicable Applications for anti-CaMK1 alpha antibody	ELISA (Peptide ELISA), IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human CaMK1-alpha around the phosphorylation site of Thr177.
Tissue Specificity	Widely expressed. Expressed in cells of the zona glomerulosa of the adrenal cortex.
Subcellular Location	Nucleus
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.



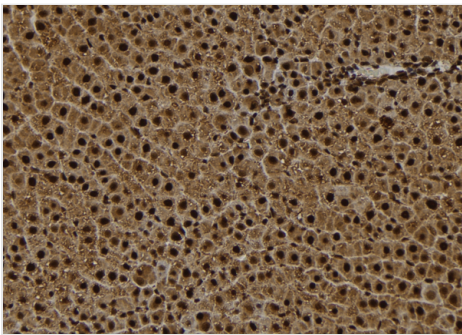
WB (Western Blot)

Western blot analysis of Phospho-CaMK1 (Thr177) in lysates of K562 cells treated with Insulin 0.01U/ml for 15 minutes, using Phospho-CaMK1 (Thr177) Antibody.



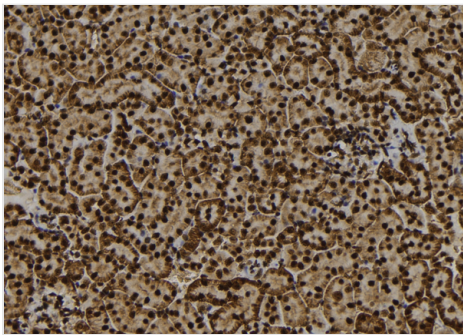
IHC (Immunohistochemistry)

At 1/100 staining human liver tissue sections by IHC-P. The tissue was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The tissue was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary



IHC (Immunohistochemistry)

At 1/100 staining rat liver tissue sections by IHC-P. The tissue was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The tissue was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary



IHC (Immunohistochemistry)

At 1/100 staining mouse kidney tissue sections by IHC-P. The tissue was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The tissue was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary

ADDITIONAL INFORMATION

Related Product Information for anti-CaMK1 alpha antibody	Description: 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-x2-[ST]-x3-[MVLIF]. Regulates axonal extension and growth cone motility in hippocampal and cerebellar nerve cells. Upon NMDA receptor-mediated Ca2+ 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. Post Translational Modifications: Phosphorylated by CaMKK1 and CaMKK2 on Thr-177. Polyubiquitinated by the E3 ubiquitin-protein ligase complex SCF(FBXL12), leading to proteasomal degradation. Subunit Structure: Monomer. Interacts with XPO1 (By similarity). Interacts with MARK2, ARHGEF7/BETAPIX and GIT1. Similarity: The autoinhibitory domain overlaps with the calmodulin binding region and interacts in the inactive folded state with the catalytic domain as a pseudosubstrate. Belongs to the protein kinase superfamily. CAMK Ser/Thr protein kinase family. CaMK subfamily.
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NCBI AND UNIPROT INFORMATION

NCBI GI #	4502553
NCBI GeneID	8536
NCBI Accession #	NP_003647.1
NCBI GenBank Nucleotide #	NP_003647.1
UniProt Accession #	Q14012
Molecular Weight	Observed: 41 kDa Predicted: 42 kDa
NCBI Official Full Name	calcium/calmodulin-dependent protein kinase type 1
NCBI Official Synonym Full Names	calcium/calmodulin dependent protein kinase I
NCBI Official Symbol	CAMK1
NCBI Official Synonym Symbols	CAMKI
NCBI Protein Information	calcium/calmodulin-dependent protein kinase type 1
UniProt Protein Name	Calcium/calmodulin-dependent protein kinase type 1
UniProt Gene Name	CAMK1
UniProt Synonym Gene Names	CaM-KI; CaMKI-alpha
UniProt Entry Name	KCC1A_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

