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CAMK1 Antibody (C-term) Blocking Peptide
Synthetic peptide
Catalog # BP7205a

Specification

CAMK1 Antibody (C-term) Blocking Peptide - Product Information

Primary Accession Q14012

CAMK1 Antibody (C-term) Blocking Peptide - Additional Information

Gene ID 8536

Other Names
Calcium/calmodulin-dependent protein kinase type 1, CaM kinase I, CaM-KI, CaM kinase I alpha, CaMKI-alpha, CAMK1

Target/Specificity
The synthetic peptide sequence is selected from aa 355~370 of human CAMK1.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

CAMK1 Antibody (C-term) Blocking Peptide - Protein Information

Name CAMK1

Function
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.

CAMK1 Antibody (C-term) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

CAMK1 Antibody (C-term) Blocking Peptide - Images

CAMK1 Antibody (C-term) Blocking Peptide - 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.

CAMK1 Antibody (C-term) Blocking Peptide - References

Condon, J.C., et al., Endocrinology 143(9):3651-3657 (2002).Chin, D., et al., J. Biol. Chem. 272(50):31235-31240 (1997).Haribabu, B., et al., EMBO J. 14(15):3679-3686 (1995).Ishikawa, Y., et al., FEBS Lett. 550 (1-3), 57-63 (2003).