

CaMKI peptide ab5015

描述

产品名称	CaMKI多肽
纯度	> 70 % HPLC. Peptides are analyzed by Reverse-Phase HPLC (RP-HPLC) in order to determine purity. Identities are confirmed by MALDI-MS.
无动物成分	No
性质	Synthetic

技术指标

Our **Abpromise guarantee** covers the use of **ab5015** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

应用	Blocking
形式	Lyophilized
补充说明	This peptide may be used for neutralization and control experiments with the polyclonal antibody that reacts with this product and human CaMKI protein, catalog ab3551 . Using a solution of peptide of equal volume and concentration to the corresponding antibody will yield a large molar excess of peptide (~ 70-fold) for competitive inhibition of antibody-protein binding reactions.

制备和贮存

稳定性和存储	Shipped at 4°C. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
复溶	>95% pure, lyophilized synthetic peptide. Reconstitute with 0.1 ml of distilled water.

常规信息

功能	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
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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.

组织特异性

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

序列相似性

Belongs to the protein kinase superfamily. CAMK Ser/Thr protein kinase family. CaMK subfamily. Contains 1 protein kinase domain.

结构域

The autoinhibitory domain overlaps with the calmodulin binding region and interacts in the inactive folded state with the catalytic domain as a pseudosubstrate.

翻译后修饰

Phosphorylated by CaMKK1 and CaMKK2 on Thr-177.

Polyubiquitinated by the E3 ubiquitin-protein ligase complex SCF(FBXL12), leading to proteasomal degradation.

细胞定位

Cytoplasm. Nucleus. Predominantly cytoplasmic.

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