

Product datasheet

Anti-CaMKI antibody ab3551

1 References 1 Image

Overview

<b>Product name</b>	Anti-CaMKI antibody
<b>Description</b>	Rabbit polyclonal to CaMKI
<b>Host species</b>	Rabbit
<b>Specificity</b>	Detects CaMKI from rat brain extract.
<b>Tested applications</b>	<b>Suitable for:</b> WB
<b>Species reactivity</b>	<b>Reacts with:</b> Mouse, Rat <b>Predicted to work with:</b> Human 
<b>Immunogen</b>	Synthetic peptide corresponding to Human CaMKI aa 1-18 (N terminal). Sequence: AVEGPRWKQAEDIRDYD  (Peptide available as <a href="#">ab5015</a> )  <a href="#">Run BLAST with</a>  <a href="#">Run BLAST with</a>
<b>Positive control</b>	WB: AtT20 cell extract, rat brain extract.

Properties

<b>Form</b>	Liquid
<b>Storage instructions</b>	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
<b>Storage buffer</b>	Preservative: 0.05% Sodium azide Constituents: 0.1% BSA, 99% PBS
<b>Purity</b>	Immunogen affinity purified
<b>Clonality</b>	Polyclonal
<b>Isotype</b>	IgG

Applications

Our [Abpromise guarantee](#) covers the use of **ab3551** in the following tested applications.

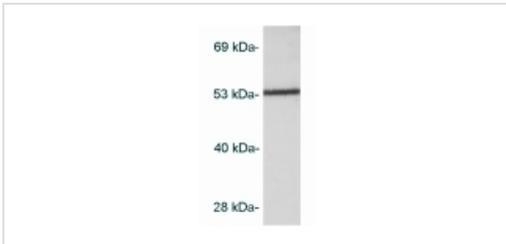
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB		Use a concentration of 2 µg/ml. Predicted molecular weight: 41 kDa. Can be blocked with <a href="#">CaMKI peptide (ab5015)</a> . This antibody detects an ~43 kDa protein representing CaMKI from rat brain extract.

## Target

<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.
<b>Tissue specificity</b>	Widely expressed. Expressed in cells of the zona glomerulosa of the adrenal cortex.
<b>Sequence similarities</b>	Belongs to the protein kinase superfamily. CAMK Ser/Thr protein kinase family. CaMK subfamily. Contains 1 protein kinase domain.
<b>Domain</b>	The autoinhibitory domain overlaps with the calmodulin binding region and interacts in the inactive folded state with the catalytic domain as a pseudosubstrate.
<b>Post-translational modifications</b>	Phosphorylated by CaMKK1 and CaMKK2 on Thr-177. Polyubiquitinated by the E3 ubiquitin-protein ligase complex SCF(FBXL12), leading to proteasomal degradation.
<b>Cellular localization</b>	Cytoplasm. Nucleus. Predominantly cytoplasmic.

## Images



Western blot - Anti-CaMKI antibody (ab3551)

Anti-CaMKI antibody (ab3551) at 2 µg/ml + Cell lysate prepared from AtT20 cells

**Predicted band size:** 41 kDa

ab3551 at a 2µg/ml concentration staining CaMKI in AtT20 cell lysate by Western blot.

**Please note:** All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE"

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