

Product datasheet

Anti-CaMKI antibody ab56380

1 Image

Overview

|                            |  |
|----------------------------|--|
| <b>Product name</b>        | Anti-CaMKI antibody  |
| <b>Description</b>         | Mouse monoclonal to CaMKI  |
| <b>Tested applications</b> | <b>Suitable for:</b> WB  |
| <b>Species reactivity</b>  | <b>Reacts with:</b> Human  |
| <b>Immunogen</b>           | Recombinant fragment: LQHPWIAGDT ALDKNIHQSV SEQIKKNFAK SKWKQAFNAT AVVRHMRKLQ LGTSQEGQGQ TASHGELLTP VAGGPAAGCC CRDCCVEPGT ELSPTLPHQL , corresponding to amino acids 271-371 of Human CaMKI<br><a href="#">Run BLAST with ExPASy</a> <a href="#">Run BLAST with NCBI</a> |

Properties

|                             |   |
|-----------------------------|---|
| <b>Form</b>                 | Liquid  |
| <b>Storage instructions</b> | Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles. |
| <b>Storage buffer</b>       | Preservative: None<br>PBS, pH 7.2   |
| <b>Purity</b>               | Protein G purified  |
| <b>Clonality</b>            | Monoclonal  |
| <b>Isotype</b>              | IgG1  |
| <b>Light chain type</b>     | kappa   |

Applications

Our [Abpromise guarantee](#) covers the use of **ab56380** 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

**Application notes** WB: Use at a concentration of 1-5 µg/ml.

Not yet tested in other applications.

Optimal dilutions/concentrations should be determined by the end user.

## Target

---

### 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.

### Tissue specificity

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

### Sequence similarities

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

Contains 1 protein kinase domain.

### Domain

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

### 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.

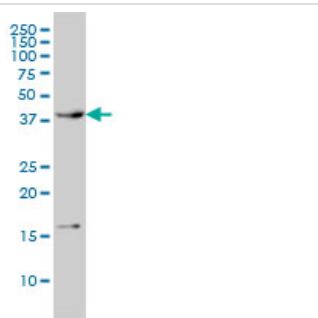
### Cellular localization

Cytoplasm. Nucleus. Predominantly cytoplasmic.

---

## Images

---



Western blot - CaMKI antibody (ab56380)

**Predicted band size : 41 kDa**

CaMKI antibody (ab56380) at 1ug/lane + HL-60 cell lysate at 25ug/lane.

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

### Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit <http://www.abcam.com/abpromise> or contact our technical team.

### Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors