Datasheet for ABIN6658262

# anti-CAMK2A antibody

2 Images

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## Overview

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|---|---|
| Quantity: | 100 µg |
| Target: | CAMK2A |
| Reactivity: | Rat |
| Host: | Mouse |
| Clonality: | Monoclonal |
| Conjugate: | This CAMK2A antibody is un-conjugated |
| Application: | Western Blotting (WB), ELISA, Immunohistochemistry (IHC), Immunoprecipitation (IP), Immunofluorescence (IF), Fluorescence Microscopy (FM) |

## Product Details

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| Purpose: | CaMKII Antibody |
| Immunogen: | CaMKII Antibody was produced in mice by repeated immunizations with synthetic peptide of rat CaMKII. |
| Clone: | 22B1 |
| Isotype: | IgG1 |
| Cross-Reactivity (Details): | This monoclonal antibody is specific for CaMKII protein. |
| Purification: | Anti-CaMKII Antibody was purified by Protein G chromatography. |
| Sterility: | Sterile filtered |

## Target Details

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| Target: | CAMK2A |
| Alternative Name: | Camk2a (CAMK2A Products) |
| Background: | Synonyms: CamK2, CamK2A, CamK2B, CamK2D, CamK2G, CAMKA, Calcium/calmodulin-dependent protein kinase type II subunit alpha, CaM kinase II subunit alpha<br>Background: CaMKII is an important member of calcium/calmodulin- activated protein kinase family, functioning in neural synaptic stimulation and T-cell receptor signaling. CaMKII is expressed in many different tissues but is specifically found in the neurons of the forebrain and its mRNA is found within the dendrites and the soma of the neuron. The CaMKII that is found in the neurons consist of two subunits of 52 (termed alpha genes) and 60 kDa (beta genes). CaMKII has catalytic and regulatory domains, as well as an ATP-binding domain, and a consensus phosphorylation site. The binding of Ca2+ auto inhibitory effect and activates the kinase . This kinase activation results in autophosphorylation at threonine 286. The threonine phosphorylation state of CaMKII can be regulated through PP1/PKA. Whereas PP1 (protein phosphatase 1) dephosphorylates phospho-CaMKII at Thr286, PKA (protein kinase A) prevents this dephosphorylation. Autophosphorylation also enables CaMKII to attain an enhanced affinity for NMDA receptors in postsynaptic densities.<br>Gene Name: Camk2a |
| Gene ID: | 25400 |
| NCBI Accession: | NP_037052 |
| UniProt: | P11275 |
| Pathways: | WNT Signaling, Interferon-gamma Pathway, Myometrial Relaxation and Contraction |

## Application Details

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| Application Notes: | Immunoprecipitation_Dilution: User Optimized<br>ELISA_Dilution: 1:200<br>IF_Microscopy_Dilution: User Optimized<br>Western_Blot_Dilution: 1 µg/mL |
| Comment: | Anti-CaMKII Antibody is tested by IF, IP, WB, IHC, and ELISA. Detects phosphorylated CaMKII from rat tissues. This antibody is specific for α and β subunits of CaMKII only when they are phosphorylated at Thr-286/287 (in β). Specific conditions for reactivity should be optimized by the end user. |
| Restrictions: | For Research Use only |

## Handling

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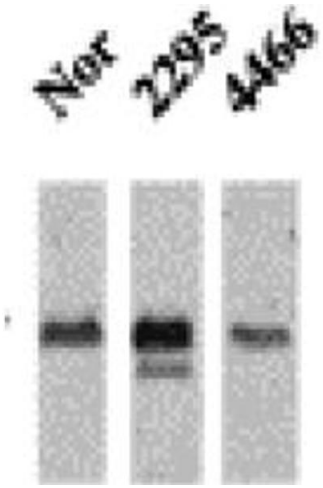
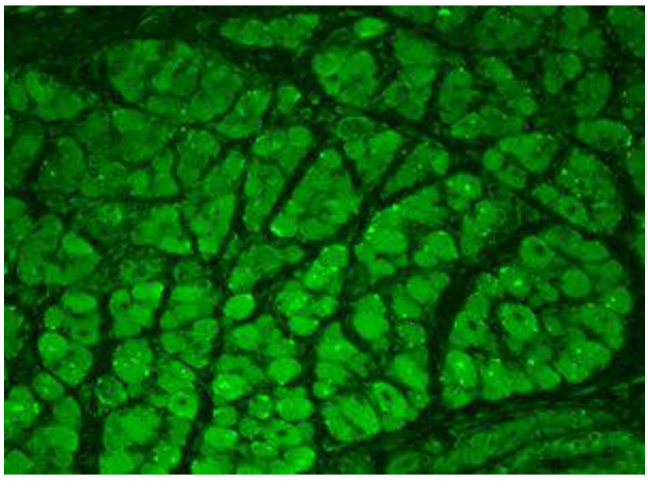
| Format: | Liquid |
| Buffer: | Buffer: 0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2<br>Stabilizer: 50 % (v/v) Glycerol |
| Storage: | 4 °C,-20 °C |
| Storage Comment: | Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use. |
| Expiry Date: | 12 months |

## Images




**Western Blotting**

**Image 1.** CaMKII Western Blot. Western Blot of mouse anti-CaMKII anitbody. Lane 1: Nor. Lane 2: 2295. Lane 3: 4466. (Each lane are ventricles of 14 day old mice over expressing CaMK.) Load: 10ug. Primary antibody: CaMKII at 1:1000 overnight at 4°C. Secondary antibody: Goat anti-mouse IgG HRP at 1:40,000 for 45 min at RT. Blocked: 5% Blotto overnight at 4°C. Predicated/observed size: 54 kDa, 54 Da for CaMKII.



**Immunofluorescence**

**Image 2.** CaMKII Immunofluorescence. Immunofluorescence Microscopy of mouse Anti-CaMKII antibody. Tissue: Backskin section of transgenic mice. Fixation: Paraffin-embedded. Primary antibody: anti-CaMKII for 1h at RT. Seondary antibody: Peroxidase mouse secondary at 1:10,000 for 45 min at RT. Localization: Cell junction. Staining: Calreticulin as precipiated green signal.