

**Datasheet for 200-301-F00****CaMKII Antibody****Overview**

<b>Description:</b>	Anti-CaMKII (MOUSE) Monoclonal Antibody - 200-301-F00
<b>Item No.:</b>	200-301-F00
<b>Size:</b>	100 µg
<b>Applications:</b>	IF, IHC, IP, WB
<b>Reactivity:</b>	Mouse, Rat, Bovine
<b>Host Species:</b>	Mouse

**Product Details**

**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 Ca<sup>2+</sup> 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.

<b>Synonyms:</b>	CamK2, CamK2A, CamK2B, CamK2D, CamK2G, CAMKA, Calcium/calmodulin-dependent protein kinase type II subunit alpha, CaM kinase II subunit alpha
<b>Host Species:</b>	Mouse
<b>Clonality:</b>	Monoclonal
<b>Clone ID:</b>	6G9
<b>Format:</b>	IgG1

**Target Details**

<b>Gene Name:</b>	Camk2a
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<b>Reactivity:</b>	Mouse, Rat, Bovine
<b>Immunogen Type:</b>	Recombinant Protein
<b>Immunogen:</b>	CaMKII Antibody was produced in mice by repeated immunizations with a partially purified rat CaMKII.
<b>Purity/Specificity:</b>	Anti-CaMKII Antibody was purified by Protein G chromatography. A BLAST analysis was used to suggest cross-reactivity with CaMKII from mouse, rat, and bovine based on 100% homology with the immunizing sequence. Cross-reactivity with CaMKII from other sources has not been determined. Cell Signaling research.
<b>Relevant Links:</b>	<ul style="list-style-type: none"><li>• <a href="#">NCBI - NP_037052.1</a></li><li>• <a href="#">GenelD - 25400</a></li><li>• <a href="#">UniProtKB - P11275</a></li></ul>

## Application Details

<b>Tested Applications:</b>	IF, IHC, IP, WB
<b>Application Note:</b>	Anti-CaMKII Antibody has been tested in IF, IP, WB, IHC-P, and RIA/ELISA. Antibody is provided in PBS pH 7.4. Expect a band approximately ~50-60kDa protein, corresponding to the molecular mass of CaMKII $\alpha$ -subunit on SDS page immunoblots. Recognizes both phosphorylated and non-phosphorylated forms. Specific conditions for reactivity should be optimized by the end user.
<b>Assay Dilutions:</b>	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
<b>ELISA:</b>	1:200
<b>IF:</b>	1:50
<b>IHC:</b>	1:2000
<b>IP:</b>	User Optimized
<b>WB:</b>	0.1 $\mu$ g/ml (1:10,000)

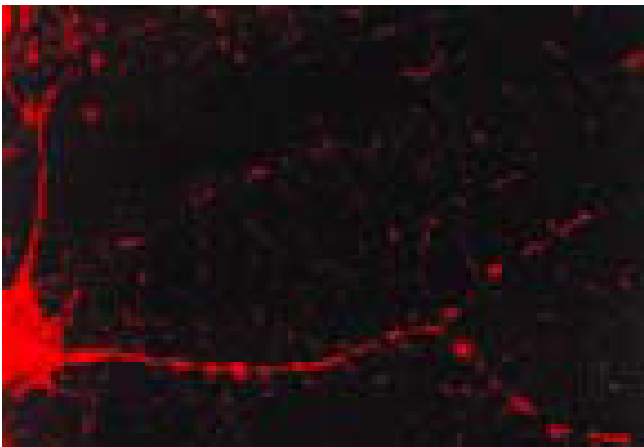
## Formulation

<b>Physical State:</b>	Liquid (sterile filtered)
<b>Concentration:</b>	1.0 mg/mL by UV absorbance at 280 nm
<b>Buffer:</b>	1X PBS, pH 7.4
<b>Preservative:</b>	0.09% (w/v) Sodium Azide
<b>Stabilizer:</b>	50% (v/v) Glycerol

## Shipping & Handling

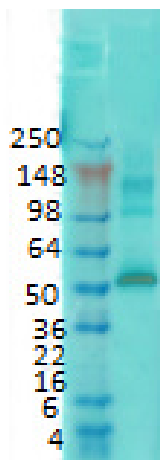
<b>Shipping Condition:</b>	Dry Ice
<b>Storage Condition:</b>	Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.
<b>Expiration:</b>	Expiration date is one (1) year from date of receipt.

## Images



### Immunofluorescence Microscopy

Immunofluorescence Microscopy of mouse anti-CaMKII antibody. Tissue: Hippocampal neurons. Fixation: N/A. Primary antibody: anti-CaMKII for 1h at RT. Secondary antibody: Fluorescein mouse secondary antibody at 1:10,000 for 45 min at RT. Localization: Cytoplasm. Staining: CaMKII as precipitated signal.



### Western Blot

Western Blot of mouse anti-CaMKII antibody. Lane 1: Rat membrane. 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% Biotin overnight at 4°C. Predicated/observed size: 54kDa, ~54 kDa for CaMKII.

## Disclaimer

This product is for research use only and is not intended for therapeutic or diagnostic applications. Please contact a technical service representative for more information. All products of animal origin manufactured by Rockland Immunochemicals are derived from starting materials of North American origin. Collection was performed in United States Department of Agriculture (USDA) inspected facilities and all materials have been inspected and certified to be free of disease and suitable for exportation. All properties listed are typical characteristics and are not specifications. All suggestions and data are offered in good faith but without guarantee as conditions and methods of use of our products are beyond our control. All claims must be made within 30 days following the date of delivery. The prospective user must determine the suitability of our materials before adopting them on a commercial scale. Suggested uses of our products are not recommendations to use our products in violation of any patent or as a license under any patent of Rockland Immunochemicals, Inc. If you require a commercial license to use this material and do not have one, then return this material, unopened to: Rockland Inc., P.O. BOX 5199, Limerick, Pennsylvania, USA.