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Datasheet for 200-301-F00

CaMKII Antibody

Overview

Description:	Anti-CaMKII (MOUSE) Monoclonal Antibody - 200-301-F00
Item No.:	200-301-F00
Size:	100 µg
Applications:	IF, IHC, IP, WB
Reactivity:	Mouse, Rat, Bovine
Host Species:	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 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.
Synonyms:	CamK2, CamK2A, CamK2B, CamK2D, CamK2G, CAMKA, Calcium/calmodulin-dependent protein kinase type II subunit alpha, CaM kinase II subunit alpha
Host Species:	Mouse
Clonality:	Monoclonal
Clone ID:	6G9
Format:	IgG1

Target Details

Gene Name:	Camk2a

Reactivity:	Mouse, Rat, Bovine
Immunogen Type:	Recombinant Protein
Immunogen:	CaMKII Antibody was produced in mice by repeated immunizations with a partially purified rat CaMKII.
Purity/Specificity:	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.
Relevant Links:	• NCBI - NP_037052.1 • GeneID - 25400 • UniProtKB - P11275

Application Details

Tested Applications:	IF, IHC, IP, WB
Application Note:	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 α-subunit on SDS page immunoblots. Recognizes both phosphorylated and non-phosphorylated forms. Specific conditions for reactivity should be optimized by the end user.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	1:200
IF:	1:50
IHC:	1:2000
IP:	User Optimized
WB:	0.1µg/ml (1:10,000)

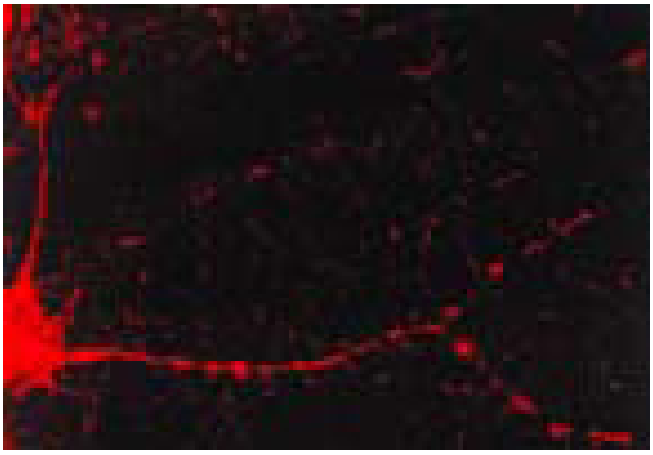
Formulation

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

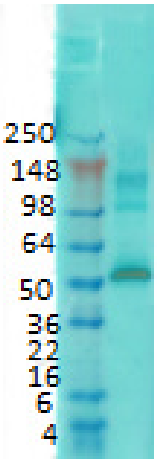
Shipping & Handling

Shipping Condition:	Dry Ice
Storage Condition:	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.
Expiration:	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% Blotto overnight at 4°C. Predicated/observed size: 54kDa, ~54 kDa for CaMKII.

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