

Datasheet for 200-301-F01**CaMKII Antibody****Overview**

Description:	Anti-CaMKII (MOUSE) Monoclonal Antibody - 200-301-F01
Item No.:	200-301-F01
Size:	100 µg
Applications:	IF, IHC, IP, WB
Reactivity:	Rat
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:	22B1
Format:	IgG1

Target Details

Gene Name:	Camk2a
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Reactivity:	Rat
Immunogen Type:	Conjugated Peptide
Immunogen:	CaMKII Antibody was produced in mice by repeated immunizations with synthetic peptide of rat CaMKII.
Purity/Specificity:	Anti-CaMKII Antibody was purified by Protein G chromatography. This monoclonal antibody is specific for CaMKII protein. A BLAST analysis was used to suggest cross-reactivity with CaMKII from rat 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 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.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	1:200
IF:	User Optimized
IP:	User Optimized
WB:	1 μ g/ml

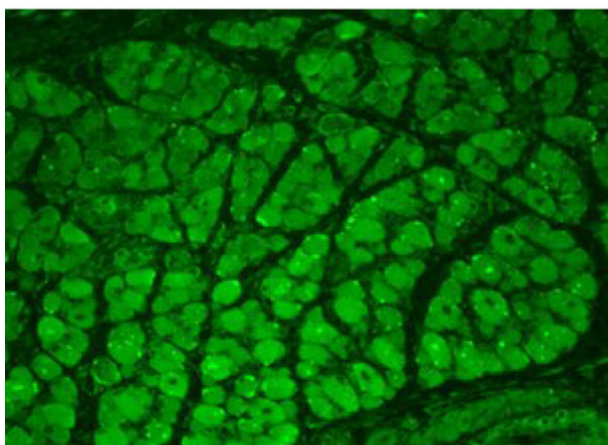
Formulation

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

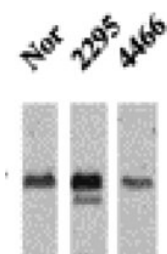


Immunofluorescence Microscopy

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

Western Blot

Western Blot of mouse anti-CaMKII antibody. 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.



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.