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Datasheet for 100-401-883

CaM Kinase IV Antibody

Overview

Description:	Anti-CaM Kinase IV (RABBIT) Antibody - 100-401-883
Item No.:	100-401-883
Size:	100 µL
Applications:	ELISA, IHC, WB
Reactivity:	Human, Mouse, Rat
Host Species:	Rabbit

Product Details

Background:	CaM Kinase IV (also known as CAM kinase-GR and CaMK IV) is a calcium/ calmodulin-dependent protein kinase belonging to a proposed calcium-triggered signaling cascade. This kinase may be involved in the transcriptional regulation of microtubule dynamics. In vitro, CaMK IV phosphorylates CREB1, CREBBP, PRM2, MEF2A, MEF2D and STMN1/OP18. CaMK IV may also be involved in spermatogenesis and may play a role in the consolidation/ retention of hippocampus-dependent long-term memory. CaMK IV must be phosphorylated to be maximally active and is phosphorylated by CAMKK1 or CAMKK2. In addition autophosphorylation of the N-terminus is required for full activation. Autophosphorylation of Ser-336 allows the kinase to switch to a Ca(2+)/calmodulin-independent state. Most likely the kinase is inactivated by the serine/ threonine protein phosphatase 2A. CaMK IV is a monomer that is located within the cytoplasm and nucleus and substantial localization occurs in certain neuronal nuclei. In spermatids CaMK IV is associated with chromatin and the nuclear matrix. CaMK IV is also specifically expressed in epithelial ovarian cancer tissue.
Synonyms:	rabbit anti-CaM Kinase IV Antibody, CAM kinase 4 antibody, CAM kinase GR antibody, CAM kinase IV antibody, CaMK4 antibody, CaMKGR antibody, Brain Ca(2+) calmodulin dependent protein kinase type IV antibody, Calcium / calmodulin dependent protein kinase type 4 catalytic chain antibody, CAMK, CAMK-GR, CAMKIV
Host Species:	Rabbit
Clonality:	Polyclonal
Format:	Antiserum

Target Details

Gene Name:	CAMK4
Reactivity:	Human, Mouse, Rat
Immunogen Type:	Conjugated Peptide
Immunogen:	This antiserum was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to an internal region near amino acids 300-325 of Human CaM Kinase IV protein.
Purity/Specificity:	This antiserum is directed against human CaM Kinase IV protein. The product was delipidated, defibrinated followed by buffering and clarification. A BLAST analysis was used to suggest reactivity with this protein from human, mouse, and rat based on 100% homology for the immunogen sequence. Cross reactivity with CaM Kinase IV homologues from other sources has not been determined.
Relevant Links:	• NCBI - NP_001310303.1 • UniProtKB - Q16566 • GeneID - 814

Application Details

Tested Applications:	ELISA, IHC, WB
Application Note:	This antiserum has been tested for use in ELISA, IHC, and western blot. Specific conditions for reactivity should be optimized by the end user. Expect a band ~ 52 kDa in size corresponding to CaM Kinase IV by western blotting in the appropriate cell lysate or extract.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	1:5,000 - 1:25,000
IHC:	1:500
WB:	1:500 - 1:2,000

Formulation

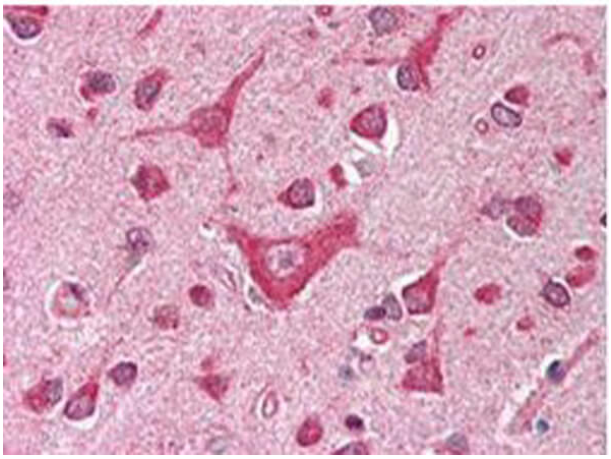
Physical State:	Lyophilized
Concentration:	70 mg/mL by Refractometry
Buffer:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Preservative:	0.01% (w/v) Sodium Azide
Stabilizer:	None

Reconstitution Volume:	100 µL
Reconstitution Buffer:	Restore with deionized water (or equivalent)

Shipping & Handling

Shipping Condition:	Ambient
Storage Condition:	Store vial at 4° C prior to restoration. For extended storage aliquot contents and freeze at -20° C or below. 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



Immunohistochemistry
Immunohistochemistry of Anti-CAMK4 antibody. Tissue: human brain cortex was formalin fixed and paraffin embedded. No pre-treatment of sample was required. Primary Antibody: Anti-CaM Kinase IV was diluted 1:500. The image shows the localization of antibody as the precipitated red signal, with a hematoxylin purple nuclear counter stain.

Western Blot

Western blot using Rockland's Anti-CaM Kinase IV antibody. Lane 1: Rat Brain, adult, WCL (p/n W12-000-T077). Lane 2: Jurkat Whole Cell Lysate (p/n W09-001-370). Lane 3: Rat Brain, adult, WCL (p/n W12-000-T077), preincubated with immunizing peptide. Lane 4: Jurkat Whole Cell Lysate (p/n W09-001-370), preincubated with immunizing peptide. Load: 35µg lysate/lane. Primary Antibody: Anti-CaM Kinase IV at 1:1,000 for 2hr at RT. Secondary Antibody: Goat Anti-Rabbit IgG IRDye800 (p/n 611-132-122) at 1:10,000 for 45 mins at RT. Block: Fluorescent Buffer (p/n MB-070) 30 mins at RT. Results: band ~52 kDa corresponding to CaM Kinase IV (arrowhead). CaM Kinase IV was similarly detected on lysates from mouse brain (not shown). IRDye800 fluorescence image was captured using the Odyssey® Infrared Imaging System developed by LI-COR. IRDye is a trademark of LI-COR, Inc.

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