Datasheet for ABIN967876

# anti-CAMK4 antibody (AA 1-241)

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## Overview

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|---|---|
| Quantity: | 150 µg |
| Target: | CAMK4 |
| Binding Specificity: | AA 1-241 |
| Reactivity: | Human, Mouse, Rat |
| Host: | Mouse |
| Clonality: | Monoclonal |
| Conjugate: | This CAMK4 antibody is un-conjugated |
| Application: | Western Blotting (WB), Immunohistochemistry (IHC), Immunofluorescence (IF), Immunoprecipitation (IP) |

## Product Details

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| Immunogen: | Human CaM Kinase IV aa. 1-241 |
| Clone: | 26-CaM Kinase IV |
| Isotype: | IgG1 |
| Cross-Reactivity: | Mouse (Murine), Rat (Rattus) |
| Characteristics: | 1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.<br>2. Please refer to us for technical protocols.<br>3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.<br>4. Source of all serum proteins is from USDA inspected abattoirs located in the United States. |

## Product Details

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| Purification: | The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography. |

## Target Details

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| Target: | CAMK4 |
| Alternative Name: | CaM Kinase IV (CAMK4 Products) |
| Background: | CaM-kinase IV (Ca2+/calmodulin-dependent protein kinase IV, also described as CaM-kinase Gr) is activated through the binding of Ca2+/CaM and by phosphorylation. This kinase has high sequence homologies with the catalytic and regulatory domains of CaM-kinase II. CaM-kinase IV is a monomer which is highly expressed in cerebellum, thymus, and testis. Its subcellular distrubution includes localization in both the synaptic regions of the molecular layer of the cerebellum, and the nuclei of cerebellar granule cells. CaM-kinase IV has an autoinhibitory domain within residues 305-321 that can suppress kinase activity in the absence of Ca2+/CaM. This type of domain is common in many other CaM-dependent kinases and phosphatases. CaM-kinase IV does not appear to be significantly activated by autophosphorylation, but it can be activated approximately 5-10-fold when phosphorylated by CaM-kinase IV kinase. |
| Molecular Weight: | 60 kDa |
| Pathways: | EGFR Signaling Pathway, Neurotrophin Signaling Pathway, Production of Molecular Mediator of Immune Response, G-protein mediated Events, Interaction of EGFR with phospholipase C-gamma |

## Application Details

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| Comment: | Related Products: ABIN968537, ABIN967389 |
| Restrictions: | For Research Use only |

## Handling

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| Format: | Liquid |
| Concentration: | 250 µg/mL |
| Buffer: | Aqueous buffered solution containing BSA, glycerol, and ≤0.09 % sodium azide. |
| Preservative: | Sodium azide |
| Precaution of Use: | This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which |

## Handling

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|---|---|
| | should be handled by trained staff only. |
| Storage: | -20 °C |
| Storage Comment: | Store undiluted at -20°C. |

## Publications

Product cited in:

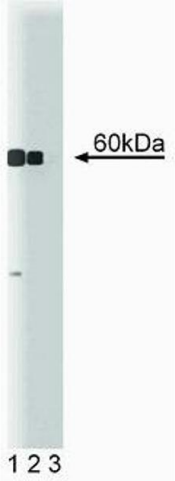

Wei, Qiu, Liauw, Robinson, Ho, Chatila, Zhuo: "Calcium calmodulin-dependent protein kinase IV is required for fear memory." in: **Nature neuroscience**, Vol. 5, Issue 6, pp. 573-9, (2002) ( PubMed).

Slee, Adrain, Martin: "Executioner caspase-3, -6, and -7 perform distinct, non-redundant roles during the demolition phase of apoptosis." in: **The Journal of biological chemistry**, Vol. 276, Issue 10, pp. 7320-6, (2001) (PubMed).

Passier, Zeng, Frey, Naya, Nicol, McKinsey, Overbeek, Richardson, Grant, Olson: "CaM kinase signaling induces cardiac hypertrophy and activates the MEF2 transcription factor in vivo." in: **The Journal of clinical investigation**, Vol. 105, Issue 10, pp. 1395-406, (2000) (PubMed).

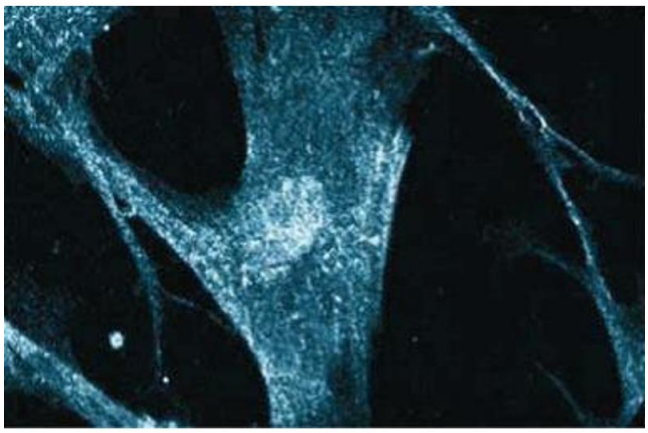
Wayman, Walters, Kolibaba, Soderling, Christian: "CaM kinase IV regulates lineage commitment and survival of erythroid progenitors in a non-cell-autonomous manner." in: **The Journal of cell biology**, Vol. 151, Issue 4, pp. 811-24, (2000) (PubMed).

Ohmstede, Bland, Merrill, Sahyoun: "Relationship of genes encoding Ca2+/calmodulin-dependent protein kinase Gr and calspermin: a gene within a gene." in: **Proceedings of the National Academy of Sciences of the United States of America**, Vol. 88, Issue 13, pp. 5784-8, ( 1991) (PubMed).



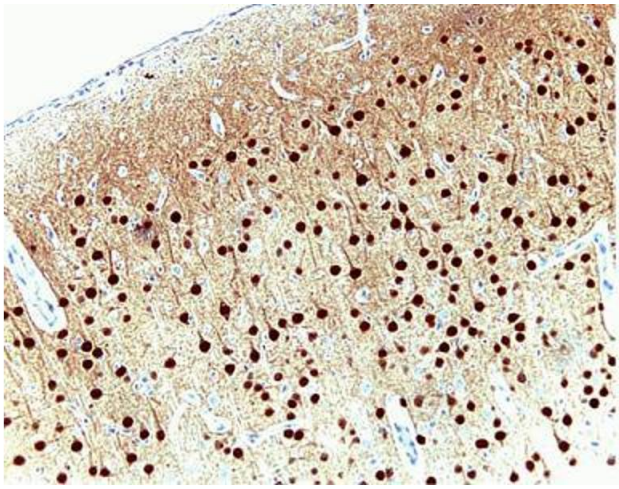

## Western Blotting

**Image 1.** Western blot analysis of CaM Kinase IV on Jurkat lysate. Lane 1: 1:5000, lane 2: 1:10000, lane 3: 1:20000 dilution of anti-CaM Kinase IV.



## Immunofluorescence

**Image 2.** Immunofluorescent staining on WI38 cells.



## Immunohistochemistry (Paraffin-embedded Sections)

**Image 3.** Pyrimidal cells in rat cortex, formalin-fixed paraffin embedded tissue, no pre-treatment, 20X