abcam

Product datasheet

Anti-CAMKIV antibody ab3557

4 Abreviews 11 References 5 Images

Overview

Product name	Anti-CAMKIV antibody
Description	Rabbit polyclonal to CAMKIV
Host species	Rabbit
Tested applications	**Suitable for:** ICC, IHC-Fr, ICC/IF, IHC-P, WB
Species reactivity	**Reacts with:** Mouse, Rat, Dog, Human, Xenopus laevis, Non human primates, Plants, Turtle
Immunogen	Synthetic peptide corresponding to Mouse CAMKIV aa 127-143. Sequence: VEKGYYSERDAADAVKQ (Peptide available as **ab5859**) Run BLAST with Run BLAST with
General notes	The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
Storage buffer	Preservative: 0.05% Sodium azide Constituents: 0.1% BSA, 99% PBS
Purity	Immunogen affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab3557 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
ICC		Use a concentration of 2 µg/ml.
IHC-Fr		Use at an assay dependent concentration.
ICC/IF		Use at an assay dependent concentration. PubMed: 18802105
IHC-P		1/20 - 1/100.
WB	★★★★☆ (3)	Use a concentration of 0.5 µg/ml. Detects a band of approximately 55 kDa (predicted molecular weight: 52 kDa). This antibody detects an ~55 kDa protein representing CaMKIV in HeLa cell lysate.

Target

Function Calcium/calmodulin-dependent protein kinase belonging to a proposed calcium-triggered signaling cascade. May be involved in transcriptional regulation. May be involved in regulation of microtubule dynamics. In vitro, phosphorylates CREB1, CREBBP, PRM2, MEF2A, MEF2D and STMN1/OP18. May be involved in spermatogenesis. May play a role in the consolidation/retention of hippocampus-dependent long-term memory.

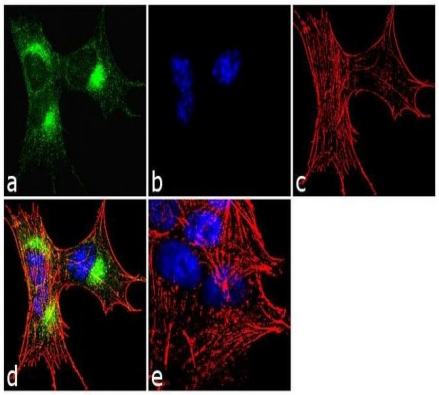
Tissue specificity Expressed in epithelial ovarian cancer tissue.

Sequence similarities Belongs to the protein kinase superfamily. CAMK Ser/Thr protein kinase family. CaMK subfamily. Contains 1 protein kinase domain.

Post-translational modifications Autophosphorylated and phosphorylated by CAMKK1 and CAMKK2 (By similarity). Dephosphorylated by serine/threonine protein phosphatase 2A, probably on Thr-200.

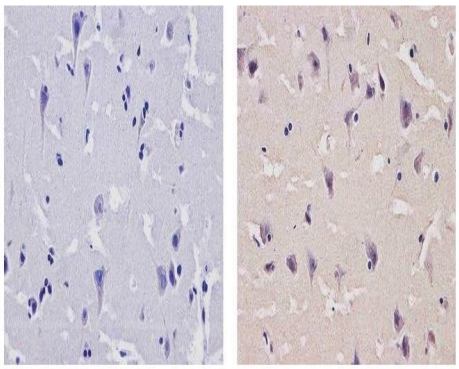
Cellular localization Cytoplasm. Nucleus. Substantial localization in certain neuronal nuclei. In spermatids associated with chromatin and nuclear matrix.

Images



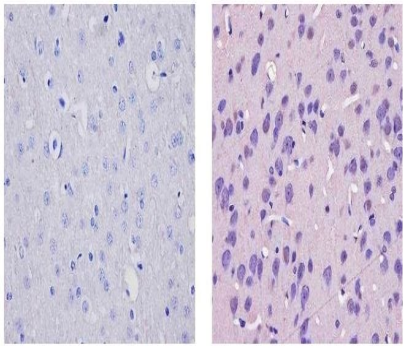
Immunocytochemistry/ Immunofluorescence - Anti-CAMKIV antibody (ab3557)

Immunofluorescence analysis of CaM Kinase IV in SH-SY5Y cells using ab3557. The cells were fixed with 4% paraformaldehyde, permeabilized with 0.1% Triton™ X-100, and blocked with 1% BSA. The cells were labeled with ab3557 at 2 µg/mL in 0.1% BSA and incubated for 3 hours at room temperature followed by Alexa Fluor® 488 conjugate Goat anti-Rabbit IgG (H+L) at a 1/2000 for 45 minutes at room temperature (Panel a: green). Nuclei (Panel b: blue) were stained with DAPI. F-actin (Panel c: red) was stained with Alexa Fluor® 555 Rhodamine Phalloidin at 1/300 dilution. Panel d represents the merged image showing cytoplasmic localization. Panel e shows the no primary antibody control. The images were captured at 60X magnification.



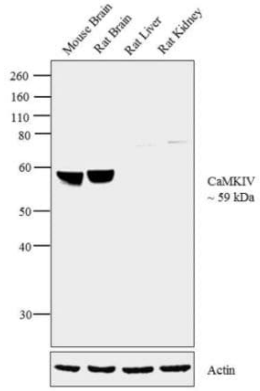
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CAMKIV antibody (ab3557)

Immunohistochemistry analysis of CaM Kinase IV using ab3557 at 1/100 dilution for 1 hour at 37ºC showing staining in the cytoplasm and nucleus of paraffin-embedded human brain tissue (right) compared to a negative control without primary antibody (left) followed by an HRP-conjugated secondary antibody followed by colorimetric detection using a DAB kit. Tissues were counterstained with hematoxylin. Antigen retrieval was performed using 10mM sodium citrate (pH 6.0), microwaved for 8-15 min. Following antigen retrieval, tissues were blocked in 3% H2O2-methanol for 15 min at room temperature.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CAMKIV antibody (ab3557)

Immunohistochemistry analysis of CaM Kinase IV using ab3557 at 1/20 dilution for 1 hour at 37ºC showing staining in the cytoplasm and nucleus of paraffin-embedded rat brain tissue (right) compared to a negative control without primary antibody (left) followed by an HRP-conjugated secondary antibody followed by colorimetric detection using a DAB kit. Tissues were counterstained with hematoxylin. Antigen retrieval was performed using 10mM sodium citrate (pH 6.0), microwaved for 8-15 min. Following antigen retrieval, tissues were blocked in 3% H2O2-methanol for 15 min at room temperature.



Western blot - Anti-CAMKIV antibody (ab3557)

All lanes : Anti-CAMKIV antibody (ab3557) at 1 µg/ml

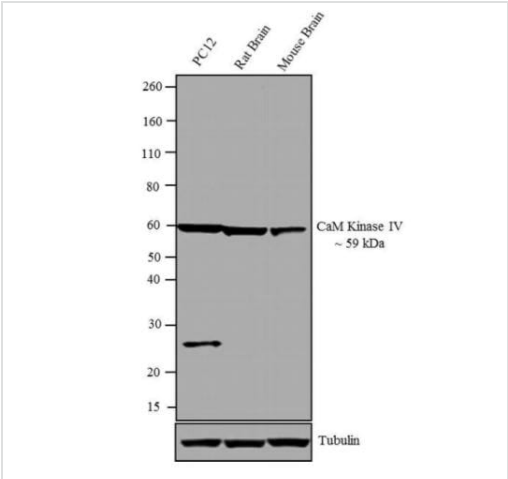
Lane 1 : Mouse Brain tissue extract
Lane 2 : Rat Brain tissue extract
Lane 3 : Rat Liver tissue extract
Lane 4 : Rat Kidney tissue extract

Lysates/proteins at 30 µg per lane.

Secondary
All lanes : Goat anti-Rabbit IgG (H+L) HRP conjugate at 1/4000 dilution

Predicted band size: 52 kDa
Observed band size: 59 kDa

A 59 kDa band corresponding to CaMKIV was observed in Mouse Brain, Rat Brain and not observed in other tissues which are documented to be CaMKIV negative.



Western blot - Anti-CAMKIV antibody (ab3557)

All lanes : Anti-CAMKIV antibody (ab3557) at 1 µg/ml

Lane 1 : PC12
Lane 2 : Rat Brain
Lane 3 : Mouse Brain

Lysates/proteins at 30 µg per lane.

Secondary
All lanes : Goat anti-Rabbit IgG (H+L) HRP conjugate at 1/2500 dilution

Predicted band size: 52 kDa

A ~ 59 kDa band corresponding to CaM Kinase IV was observed across cell lines and tissues tested. Additionally ~25 kDa band was observed in PC12 cell line.

Blocking buffer: 5 % skimmed milk

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit **https://www.abcam.com/abpromise** or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors