

Product datasheet

Anti-CaMKII beta antibody ab34703

★★★★☆ 7 Abreviews 13 References 4 Images

Overview

Product name	Anti-CaMKII beta antibody
Description	Rabbit polyclonal to CaMKII beta
Host species	Rabbit
Specificity	This antibody does cross-react with CAMKII alpha protein
Tested applications	Suitable for: IHC-FoFr, ICC/IF, WB, IHC-P
Species reactivity	Reacts with: Mouse, Rat
Immunogen	Synthetic peptide conjugated to KLH derived from within residues 350 - 450 of Mouse CaMKII beta. Read Abcam's proprietary immunogen policy (Peptide available as ab27843 .)
Positive control	This antibody gave a positive signal in the following lysates: Brain (Mouse) Tissue Brain (Rat) Tissue This antibody gave a positive result when used in the following formaldehyde fixed cell lines: PC12.

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: 0.02% Sodium Azide Constituents: 1% BSA, PBS, pH 7.4
Purity	Immunogen affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

Our [Abpromise guarantee](#) covers the use of **ab34703** in the following tested applications.

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

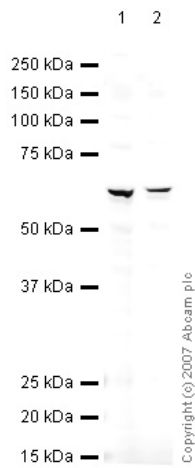
Application	Abreviews	Notes
IHC-FoFr	★★★★☆	1/300.

Application	Abreviews	Notes
ICC/IF		Use a concentration of 5 µg/ml.
WB	★★★★☆	Use a concentration of 1 µg/ml. Detects a band of approximately 60 kDa (predicted molecular weight: 60 kDa). Can be blocked with Mouse CaMKII beta peptide (ab27843) .
IHC-P	★★★★★	Use at an assay dependent concentration. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Target

Function	CaM-kinase II (CAMK2) is a prominent kinase in the central nervous system that may function in long-term potentiation and neurotransmitter release. Member of the NMDAR signaling complex in excitatory synapses, it may regulate NMDAR-dependent potentiation of the AMPAR and synaptic plasticity.
Tissue specificity	Widely expressed. Expressed in adult and fetal brain. Expression is slightly lower in fetal brain.
Sequence similarities	Belongs to the protein kinase superfamily. CAMK Ser/Thr protein kinase family. CaMK subfamily. Contains 1 protein kinase domain.
Form	The multifunctional CaMKII beta, or Ca ²⁺ /calmodulin-dependent protein kinase II, is a well known effector of calcium- and calmodulin- mediated functions. It is present in many tissues but is most abundant in the brain. CaMKII is composed of four different chains: alpha, beta, gamma, and delta. The different isoforms assemble into homo- or heteromultimeric holoenzymes composed of 8 to 12 subunits.

Images



Western blot - CaMKII beta antibody (ab34703)

All lanes : Anti-CaMKII beta antibody

(ab34703) at 1 µg/ml

Lane 1 : Brain Mouse Tissue Lysate

Lane 2 : Brain Rat Tissue Lysate

Lysates/proteins at 10 µg per lane.

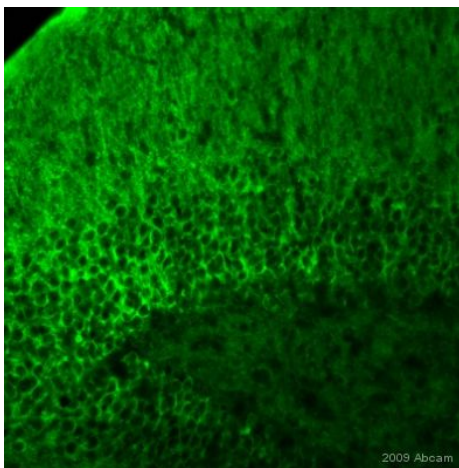
Secondary

All lanes : IRDye 680 Conjugated Goat Anti-Rabbit IgG (H+L) at 1/10000 dilution

Performed under reducing conditions.

Predicted band size: 60 kDa

Observed band size: 60 kDa



Immunohistochemistry (PFA perfusion fixed frozen sections) - CaMKII beta antibody (ab34703)

This image is courtesy of an Abreview submitted by Dr Sophie Pezet

ab34703 staining CaMKII in rat brain tissue section (hippocampus) by

Immunohistochemistry (PFA perfusion fixed frozen sections). Tissue from 4% PFA perfused animals underwent overnight fixation in 4% paraformaldehyde, cryoprotected in 30% sucrose and cut using cryostat. The primary antibody was diluted, 1/300 (PBS + 0.3% Triton X100) and incubated with sample for 18 hours at 20°C. An abcam antibody [ab60314](#), Chromeo488 conjugated goat polyclonal to rabbit IgG was used as secondary at 1/1000 dilution.



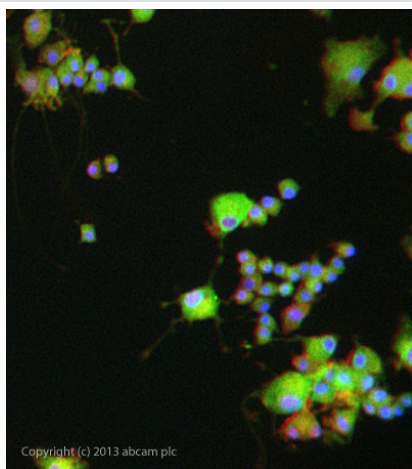
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CaMKII beta antibody (ab34703)

Image courtesy of an anonymous Abreview.

ab34703 staining CaMKII beta in adult mouse cerebellum tissue by Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections).

Tissue was fixed with paraformaldehyde and a heat mediated antigen retrieval step was performed using 0.01M Tris HCL, pH 10. Samples were then permeabilized using 0.3% Triton X-100, blocked with 5% BSA for 45 minutes at 22°C and then incubated with ab34703 at a 1/3000 dilution for 16 hours at 4°C. The secondary used was a biotin conjugated horse polyclonal used at a 1/2000 dilution.

Strong signals were detected in molecular layers (M), and Purkinje cells (P) were positively stained as well. In granule layers (G), some neurons were also strongly stained.



Immunocytochemistry/ Immunofluorescence - Anti-CaMKII beta antibody (ab34703)

ICC/IF image of ab34703 stained PC12 cells.

The cells were 4% formaldehyde fixed (10 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody ab34703 at 5µg/ml overnight at +4°C. The secondary antibody (green) was DyLight® 488 goat anti- rabbit (ab96899) IgG (H+L) used at a 1/250 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.

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