Datasheet for ABIN968458

anti-CAMK2A antibody (AA 448-460)

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Overview

Quantity:	150 µg
Target:	CAMK2A
Binding Specificity:	AA 448-460
Reactivity:	Human, Mouse, Rat, Dog
Host:	Mouse
Clonality:	Monoclonal
Conjugate:	This CAMK2A antibody is un-conjugated
Application:	Western Blotting (WB), Immunohistochemistry (IHC), Immunofluorescence (IF), BioImaging (BI)

Product Details

Immunogen:	Rat CaM Kinase IIalpha aa. 448-460
Clone:	45-CaM Kinase II
Isotype:	IgG1
Cross-Reactivity:	Mouse (Murine), Human, Dog (Canine)
Characteristics:	1. Since applications vary, each investigator should titrate the reagent to obtain optimal results. 2. Please refer to us for technical protocols. 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. 4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
Purification:	The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity

Product Details

	chromatography.

Target Details

Target:	CAMK2A
Alternative Name:	CaM Kinase II (CAMK2A Products)
Background:	Ca2+/calmodulin-dependent protein kinase II (CaM kinase II) is a multifunctional Ser/Thr kinase that regulates a number of cellular functions in response to increased intracellular Ca2+. CaM kinase II is widely distributed, but is predominantly expressed in brain. It is involved in the regulation of neuronal functions such as neurotransmitter synthesis, neurotransmitter release, long-term potentiation, and formation of spatial learning. Neuronal CaM kinase II contains heteromers of two major subunits, alpha and beta, at a ratio of 2:1 and homomers of alpha subunits. Each subunit has N-terminal ATP-binding and catalytic/regulatory domains and a C-terminal association domain. The regulatory domain consists of the autoinhibitory and calmodulin-binding sites. Assembly of the association domains of multiple subunits positions the regulatory domains for intersubunit autophosphorylation. After binding Ca2+/calmodulin, CaM kinase II undergoes rapid autophosphorylation of the alpha and beta subunits, which results in a substantial increase in its affinity for Ca2+/calmodulin. Synonyms: Ca2+/calmodulin-dependent protein kinase II
Molecular Weight:	52 kDa
Pathways:	WNT Signaling, Interferon-gamma Pathway, Myometrial Relaxation and Contraction

Application Details

Comment:	Related Products: ABIN967389, ABIN968545
Restrictions:	For Research Use only

Handling

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

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

Publications

Product cited in:

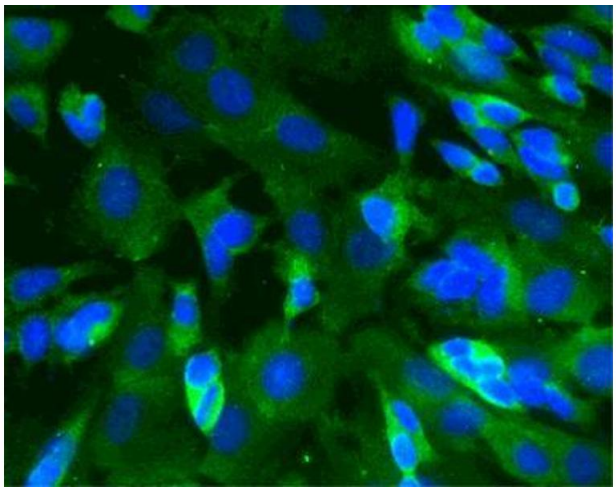
Fallon, Moreau, Croft, Labib, Gu, Fon: "Parkin and CASK/LIN-2 associate via a PDZ-mediated interaction and are co-localized in lipid rafts and postsynaptic densities in brain." in: **The Journal of biological chemistry**, Vol. 277, Issue 1, pp. 486-91, (2002) (PubMed).

Zong, Ren, Young, Pypaert, Mu, Birnbaum, Shulman: "AMP kinase is required for mitochondrial biogenesis in skeletal muscle in response to chronic energy deprivation." in: **Proceedings of the National Academy of Sciences of the United States of America**, Vol. 99, Issue 25, pp. 15983-7, (2002) (PubMed).

Brocke, Chiang, Wagner, Schulman: "Functional implications of the subunit composition of neuronal CaM kinase II." in: **The Journal of biological chemistry**, Vol. 274, Issue 32, pp. 22713-22, (1999) (PubMed).

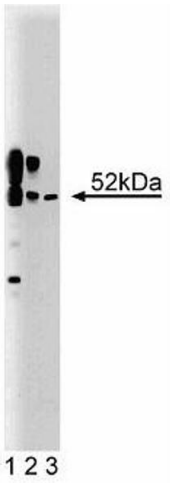
Ishida, Fujisawa: "Stabilization of calmodulin-dependent protein kinase II through the autoinhibitory domain." in: **The Journal of biological chemistry**, Vol. 270, Issue 5, pp. 2163-70, (1995) (PubMed).

Hanson, Schulman: "Neuronal Ca2+/calmodulin-dependent protein kinases." in: **Annual review of biochemistry**, Vol. 61, pp. 559-601, (1992) (PubMed).



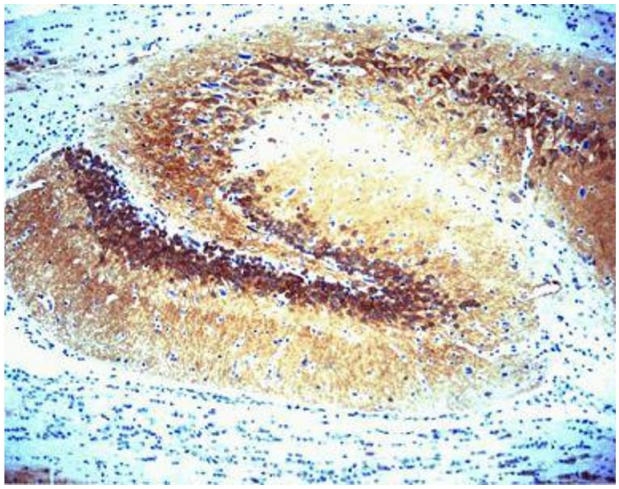
Immunofluorescence

Image 1. Immunofluorescence staining of SK-N-SH cells (Human neuroblastoma, ATCC HTB-11) (Second Panel). Cells were seeded in a collagen coated 384-well imaging plate at ~ 8,000 cells per well. After overnight incubation, cells were stained using the methanol fix/perm protocol and the mouse anti-CaM Kinase II antibody. The second step reagent used was Alexa Fluor® 488 goat anti-mouse Ig (Invitrogen) (pseudo colored green). Cell nuclei were counter stained with Hoechst 33342 (pseudo colored blue). Images was taken either on a BD Pathway 855 or 435 Bioimager System with a 20x objective and merged using BD AttoVision™ software. This antibody also stains SH-SY5Y, C6, U87 and U373 cells using both the Triton X-100 and methanol fix/perm protocols.



Western Blotting

Image 2. Western blot analysis of CaM Kinase II on a rat cerebrum lysate (First Panel). Lane 1: 1:2500, lane 2: 1:5000, lane 3: 1:10,000 dilution of the mouse anti-CaM Kinase II antibody.



Immunohistochemistry (Paraffin-embedded Sections)

Image 3. Immunohistochemical staining of CaM Kinase II on rat brain (center panel). Formalin-fixed paraffin-embedded section without citrate buffer pretreatment (10X magnification).

Images

Please check the product details page for more images. Overall 6 images are available for ABIN968458.