Datasheet for ABIN361699

anti-CAMKII gamma antibody

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Overview

Quantity:	100 µg
Target:	CAMKII gamma (CAMK2G)
Reactivity:	Rat
Host:	Mouse
Clonality:	Monoclonal
Conjugate:	This CAMKII gamma antibody is un-conjugated
Application:	Western Blotting (WB), Immunohistochemistry (IHC), ELISA, Immunoprecipitation (IP), Immunofluorescence (IF), Immunocytochemistry (ICC)

Product Details

Immunogen:	Synthetic peptide
Clone:	22B1
Isotype:	IgG1
Specificity:	Detects phosphorylated CaMKII from rat tissues. This antibody is specific for α and β subunits of CaMKII only when they are phosphorylated at Thr-286/287 (in β).
Cross-Reactivity:	Human, Mouse, Rat
Purification:	Protein G Purified

Target Details

Target:	CAMKII gamma (CAMK2G)

Target Details

Alternative Name:	CaMKII (CAMK2G Products)
Background:	CaMKII is an important member of the calcium/calmodulin-activated protein kinase family, functioning in neural synaptic stimulation and T-cell receptor signaling (1, 2). CaMKII is expressed in many different tissues but is specifically found in the neurons of the forebrain and its mRNA is found within the dendrites and the soma of the neuron. The CaMKII that is found in the neurons consist of two subunits of 52 (termed alpha genes) and 60 kDa (beta genes). CaMKII has catalytic and regulatory domains, as well as an ATP-binding domain, and a consensus phosphorylation site (3-7). The binding of Ca2+/calmodulin to its regulatory domain releases its auto inhibitory effect and activates the kinase (8). This kinase activation results in autophosphorylation at threonine 286 (8). The threonine phosphorylation state of CaMKII can be regulated through PP1/PKA. Whereas PP1 (protein phosphatase 1) dephosphorylates phospho-CaMKII at Thr286, PKA (protein kinase A) prevents this dephosphorylation (9). Autophosphorylation also enables CaMKII to attain an enhanced affinity for NMDA receptors in postsynaptic densities (10-12).
Gene ID:	25400
NCBI Accession:	NP_037052
UniProt:	P11275
Pathways:	WNT Signaling, Interferon-gamma Pathway, Hormone Transport, Myometrial Relaxation and Contraction, Regulation of long-term Neuronal Synaptic Plasticity

Application Details

Application Notes:	• WB (1:1000) • IHC (1:100) • ICC/IF (1:1000) • optimal dilutions for assays should be determined by the user.
Comment:	1 µg/ml was sufficient for detection of 0.2 µg CamKII by colorimetric immunoblot analysis using Goat Anti-Mouse IgG:HRP as the secondary.
Restrictions:	For Research Use only

Handling

Format:	Liquid
Concentration:	1 mg/mL

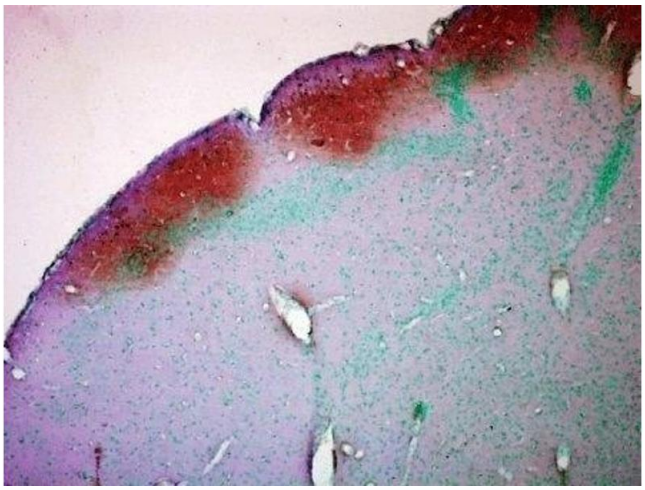
Handling

Buffer:	PBS pH 7.4, 50 % glycerol, 0.09 % sodium azide, Storage buffer may change when conjugated
Preservative:	Sodium azide
Precaution of Use:	This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.
Storage:	-20 °C
Storage Comment:	-20°C

Publications

Product cited in:	Su, Gu, Wang, Wang: "Lidocaine attenuates proinflammatory cytokine production induced by extracellular adenosine triphosphate in cultured rat microglia." in: **Anesthesia and analgesia**, Vol. 111, Issue 3, pp. 768-74, (2010) (PubMed).

Images



Immunohistochemistry

Image 1. Immunohistochemistry analysis using Mouse Anti-CaMKII Monoclonal Antibody, Clone 22B1 (ABIN361698 and ABIN361699). Tissue: colon carcinoma. Species: Human. Fixation: Formalin. Primary Antibody: Mouse Anti-CaMKII Monoclonal Antibody (ABIN361698 and ABIN361699) at 1:5000 for 12 hours at 4 °C. Secondary Antibody: Biotin Goat Anti-Mouse at 1:2000 for 1 hour at RT. Counterstain: Mayer Hematoxylin (purple/blue) nuclear stain at 200 µL for 2 minutes at RT. Magnification: 40x.

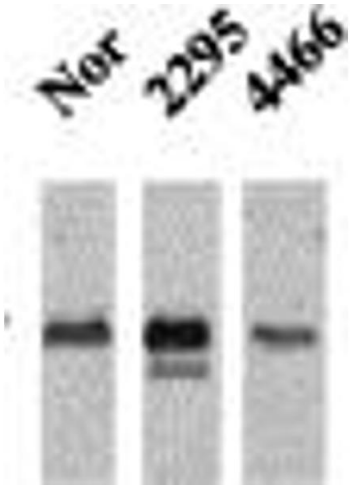
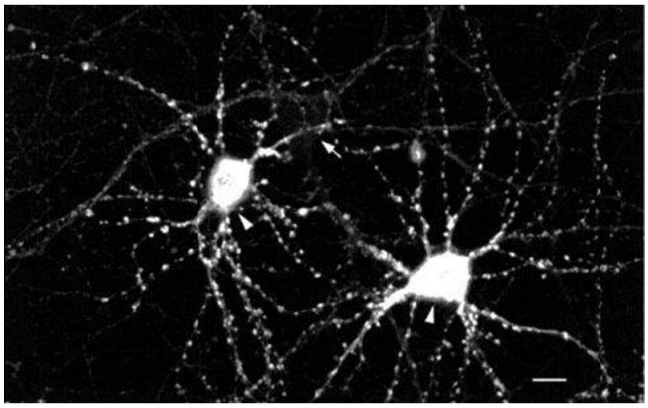


Image 2. CamKII (22B1), Mice ventricles.



Immunocytochemistry

Image 3. Immunocytochemistry/Immunofluorescence analysis using Mouse Anti-CaMKII Monoclonal Antibody, Clone 22B1 (ABIN361698 and ABIN361699). Tissue: dissociated hippocampal neurons. Species: Rat. Fixation: Cold 4 % paraformaldehyde/0.2 % glutaraldehyde in 0.1M sodium phosphate buffer. Primary Antibody: Mouse Anti-CaMKII Monoclonal Antibody (ABIN361698 and ABIN361699) at 1:1000 for 12 hours at 4 °C. Secondary Antibody: FITC Goat Anti-Mouse IgG (green) at 1:50 for 30 minutes at RT. Magnification: 10X. Courtesy of: Mary Kennedy, Caltech.

Please check the product details page for more images. Overall 4 images are available for ABIN361699.