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CAMK2G (CAMK2 gamma) Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7208a

Product Information

Application	WB, IHC-P, E
Primary Accession	Q13555
Other Accession	O15378
Reactivity	Human, Mouse
Predicted	Rat, Bovine, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	62607
Antigen Region	309-338

Additional Information

Gene ID	818
Other Names	Calcium/calmodulin-dependent protein kinase type II subunit gamma, CaM kinase II subunit gamma, CaMK-II subunit gamma, CAMK2G, CAMK, CAMK-II, CAMKG
Target/Specificity	This CAMK2G (CAMK2 gamma) antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 309-338 amino acids from the C-terminal region of human CAMK2G (CAMK2 gamma).
Dilution	WB~~1:1000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.05% (V/V) Proclin 300. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	CAMK2G (CAMK2 gamma) Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CAMK2G
Synonyms	CAMK, CAMK-II, CAMKG

Function	Calcium/calmodulin-dependent protein kinase that functions autonomously after Ca(2+)/calmodulin-binding and autophosphorylation, and is involved in sarcoplasmic reticulum Ca(2+) transport in skeletal muscle and may function in dendritic spine and synapse formation and neuronal plasticity (PubMed:16690701). In slow-twitch muscles, is involved in regulation of sarcoplasmic reticulum (SR) Ca(2+) transport and in fast-twitch muscle participates in the control of Ca(2+) release from the SR through phosphorylation of the ryanodine receptor-coupling factor triadin (PubMed:16690701). In the central nervous system, it is involved in the regulation of neurite formation and arborization (PubMed:30184290). It may participate in the promotion of dendritic spine and synapse formation and maintenance of synaptic plasticity which enables long-term potentiation (LTP) and hippocampus-dependent learning. In response to interferon-gamma (IFN-gamma) stimulation, catalyzes phosphorylation of STAT1, stimulating the JAK-STAT signaling pathway (By similarity).
Cellular Location	Sarcoplasmic reticulum membrane; Peripheral membrane protein; Cytoplasmic side
Tissue Location	Expressed in skeletal muscle.

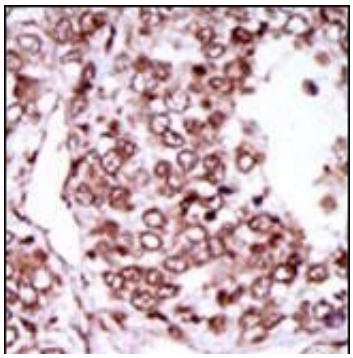
Background

CaM-kinase II (CAMK2) is a prominent Ser/Thr protein kinase in the central nervous system that may function in long-term potentiation and neurotransmitter release. Likely autophosphorylation of Thr-286 allows the kinase to switch from a calmodulin-dependent to a calmodulin-independent state. CAMK2 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.

References

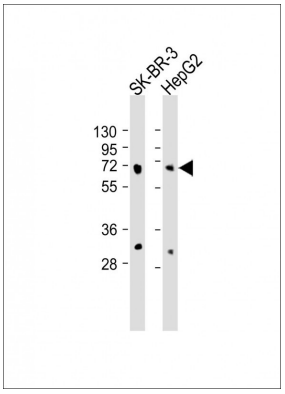
Breen, M.A., et al., Biochem. Biophys. Res. Commun. 236(2):473-478 (1997). Tombes, R.M., et al., Biochim. Biophys. Acta 1355(3):281-292 (1997).

Images



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by AEC staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.

All lanes : Anti-CAMK2G (CAMK2 gamma) Antibody (C-term) at 1:500 dilution Lane 1: SK-BR-3 whole cell lysate Lane 2:HepG2 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 61 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Citations

- Matrine inhibits the growth of natural killer/T-cell lymphoma cells by modulating CaMKIIγ-c-Myc signaling pathway
- Activation of CaMKIIγ potentiates T-cell acute lymphoblastic leukemia leukemogenesis via phosphorylating FOXO3a.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.