10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

CAMK2G Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1923a

Product Information

Application	WB, IHC, FC, E
Primary Accession	Q13555
Reactivity	Human, Rat
Host	Mouse
Clonality	Monoclonal
Clone Names	8G10C1
Isotype	IgG1
Calculated MW	62607
Description	The product of this gene is one of the four subunits of an enzyme which belongs to the serine/threonine protein kinase family, and to the Ca(2+)/calmodulin-dependent protein kinase subfamily. Calcium signaling is crucial for several aspects of plasticity at glutamatergic synapses. In mammalian cells the enzyme is composed of four different chains: alpha, beta, gamma, and delta. The product of this gene is a gamma chain. Many alternatively spliced transcripts encoding different isoforms have been described but the full-length nature of all the variants has not been determined.
Immunogen	Purified recombinant fragment of human CAMK2G (AA: 322-481) expressed in E. Coli.
Formulation	Purified antibody in PBS with 0.05% sodium azide.

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, 2.7.11.17, CAMK2G, CAMK, CAMK-II, CAMKG
Dilution	WB~~1/500 - 1/2000 IHC~~1/200 - 1/1000 FC~~1/200 - 1/400 E~~1/10000
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	CAMK2G Antibody 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

The protein encoded by this gene is a member of the chromogranin/secretogranin family of neuroendocrine secretory proteins. It is found in secretory vesicles of neurons and endocrine cells. This gene product is a precursor to three biologically active peptides; vasostatin, pancreastatin, and parastatin. These peptides act as autocrine or paracrine negative modulators of the neuroendocrine system. Other peptides, including chromostatin, beta-granin, WE-14 and GE-25, are also derived from the full-length protein. However, biological activities for these molecules have not been shown. ; ;

References

1. Blood. 2012 Dec 6;120(24):4829-39. 2. Diabetologia. 2002 Apr;45(4):580-3.

Images

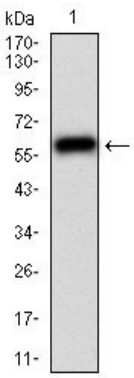
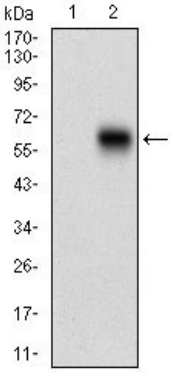


Figure 1: Western blot analysis using CAMK2G mAb against human CAMK2G (AA: 322-481) recombinant protein. (Expected MW is 44 kDa)

Figure 2: Western blot analysis using CAMK2G mAb against HEK293 (1) and CAMK2G (AA: 322-481)-hIgGFc transfected HEK293 (2) cell lysate.



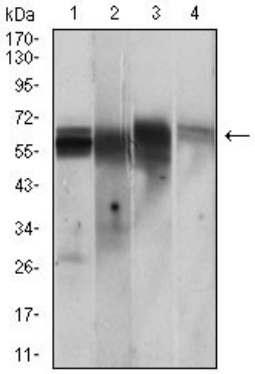


Figure 3: Western blot analysis using CAMK2G mouse mAb against PC-12 (1), Jurkat (2), T47D (3), HepG2 (4) cell lysate.

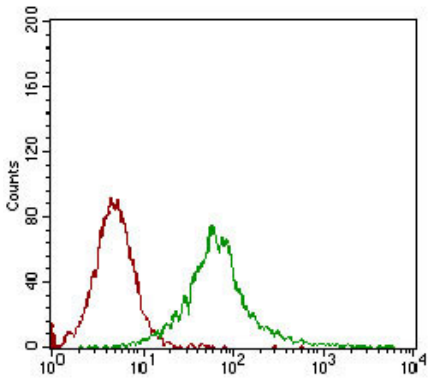


Figure 4: Flow cytometric analysis of Jurkat cells using CAMK2G mouse mAb (green) and negative control (red).

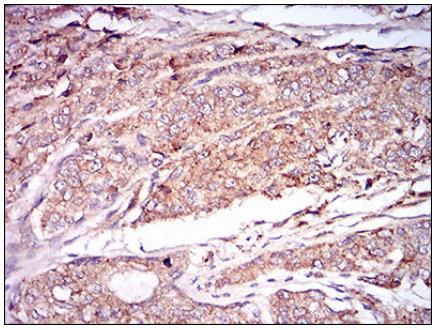


Figure 5: Immunohistochemical analysis of paraffin-embedded prostate cancer tissues using CAMK2G mouse mAb with DAB staining.

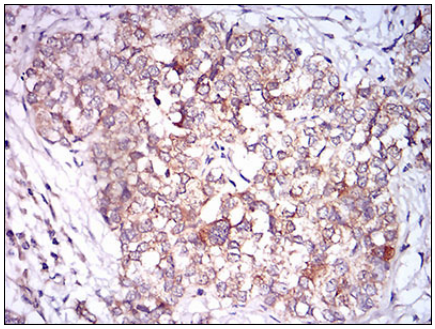


Figure 6: Immunohistochemical analysis of paraffin-embedded bladder cancer tissues using CAMK2G mouse mAb with DAB staining.