10320 Camino Santa Fe, Suite G
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CAMK2G Antibody
Purified Mouse Monoclonal Antibody
Catalog # AO1923a

Specification

CAMK2G Antibody - Product Information

Application	**WB, IHC, FC, E**
Primary Accession	Q13555
Reactivity	**Human, Rat**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**IgG1**
Calculated MW	**62.6kDa KDa**

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.

CAMK2G Antibody - 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.

CAMK2G Antibody - 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.

CAMK2G Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

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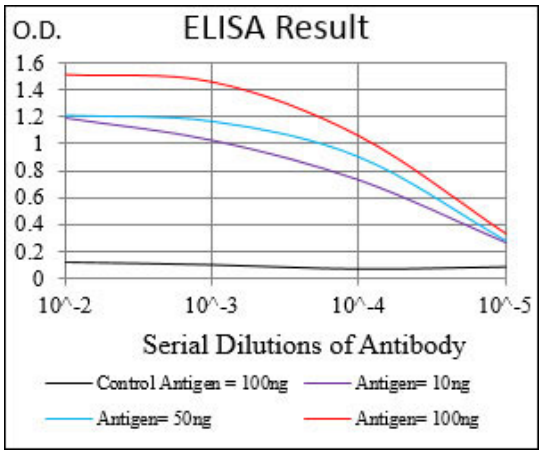

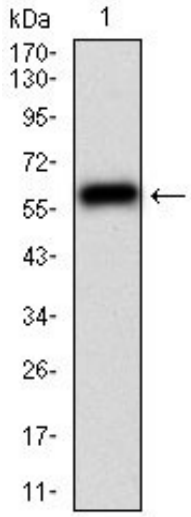

Figure 1: Western blot analysis using CAMK2G mAb against human CAMK2G (AA: 322-481) recombinant protein. (Expected MW is 44 kDa)

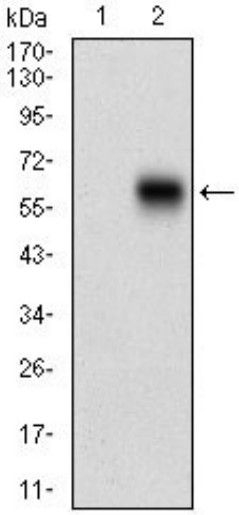

Figure 2: Western blot analysis using CAMK2G mAb against HEK293 (1) and CAMK2G (AA: 322-481)-hIgGFc transfected HEK293 (2) cell lysate.

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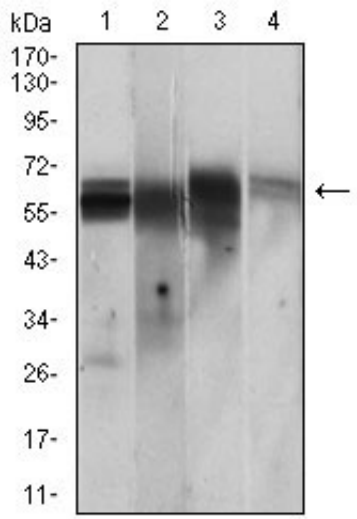

Figure 3: Western blot analysis using CAMK2G mouse mAb against PC-12 (1), Jurkat (2), T47D (3), HepG2 (4) cell lysate.

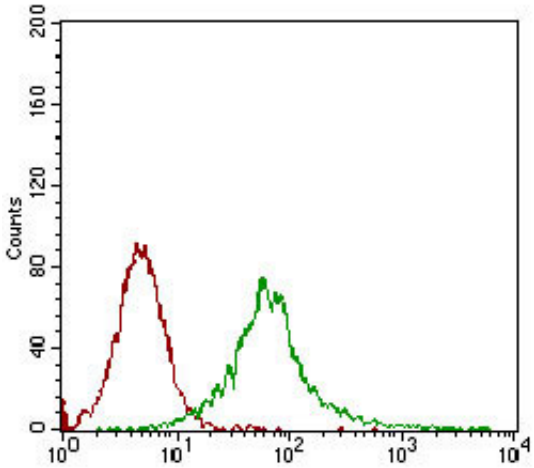

Figure 4: Flow cytometric analysis of Jurkat cells using CAMK2G mouse mAb (green) and negative control (red).

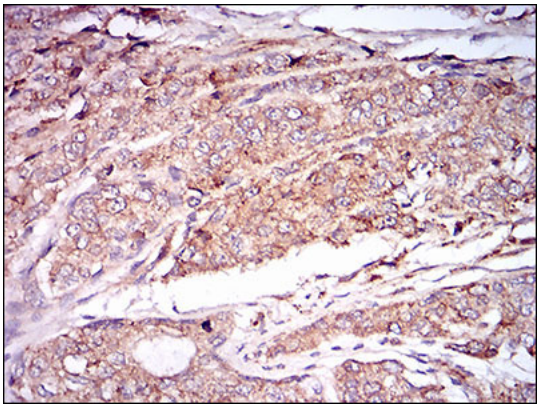

Figure 5: Immunohistochemical analysis of paraffin-embedded prostate cancer tissues using CAMK2G mouse mAb with DAB staining.

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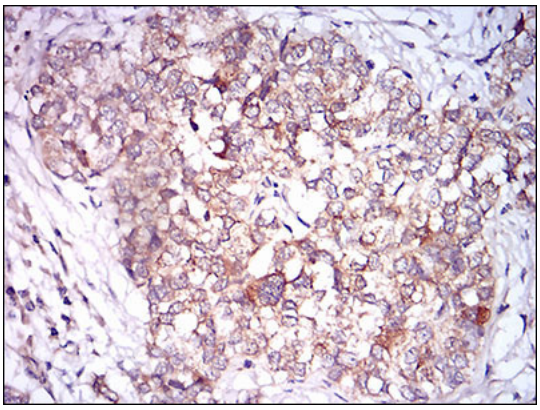

Figure 6: Immunohistochemical analysis of paraffin-embedded bladder cancer tissues using CAMK2G mouse mAb with DAB staining.

CAMK2G Antibody - 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. ; ;

CAMK2G Antibody - References

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