

**CAMK2G Antibody**  
**Purified Mouse Monoclonal Antibody**  
**Catalog # AO1923a**

**Specification**

**CAMK2G Antibody - Product Information**

Application	<b>E, WB, FC, IHC</b>
Primary Accession	<a href="#">O13555</a>
Reactivity	<b>Human, Rat</b>
Host	<b>Mouse</b>
Clonality	<b>Monoclonal</b>
Isotype	<b>IgG1</b>
Calculated MW	<b>62.6kDa KDa</b>

**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**

E~~1/10000  
WB~~1/500 - 1/2000  
FC~~1/200 - 1/400  
IHC~~1/200 - 1/1000

**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:<a href="http://www.uniprot.org/citations/16690701" target="\_blank">16690701</a>). 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:<a href="http://www.uniprot.org/citations/16690701" target="\_blank">16690701</a>). In the central nervous system, it is involved in the regulation of neurite formation and arborization (PubMed:<a href="http://www.uniprot.org/citations/30184290" target="\_blank">30184290</a>). 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 Cytometry](#)
- [Cell Culture](#)

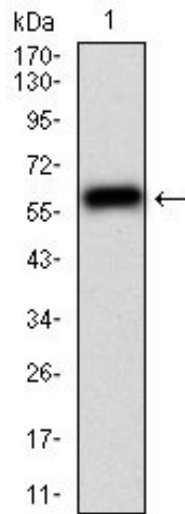
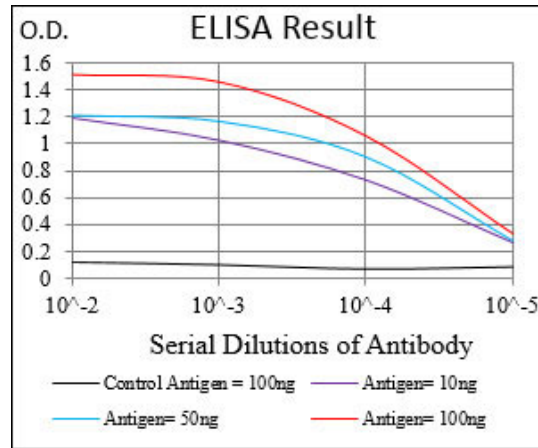


Figure 1: Western blot analysis using CAMK2G mAb against human CAMK2G (AA: 322-481) recombinant protein. (Expected MW is 44 kDa)

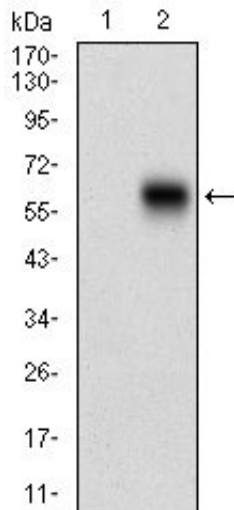


Figure 2: Western blot analysis using CAMK2G mAb against HEK293 (1) and CAMK2G (AA: 322-481)-hlgGfc transfected HEK293 (2) cell lysate.

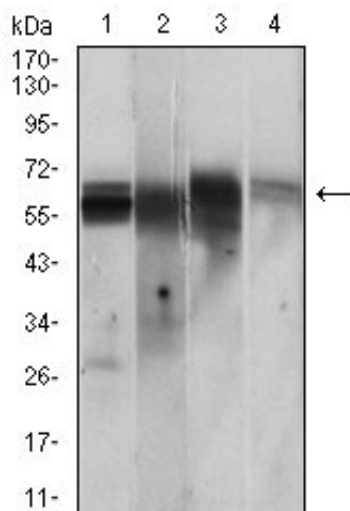


Figure 3: Western blot analysis using CAMK2G mouse mAb against PC-12 (1), Jurkat (2), T47D (3), HepG2 (4) cell lysate.

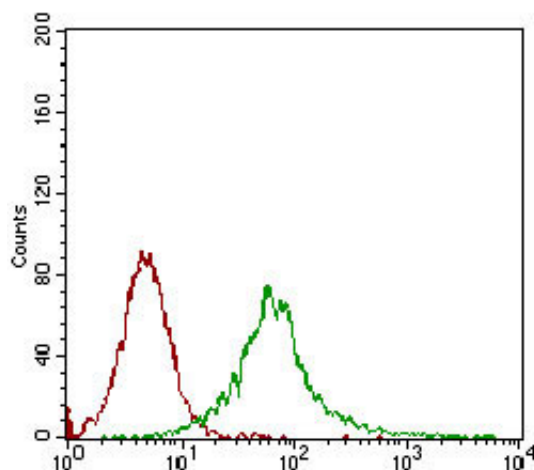


Figure 4: Flow cytometric analysis of Jurkat cells using CAMK2G mouse mAb (green) and negative control (red).

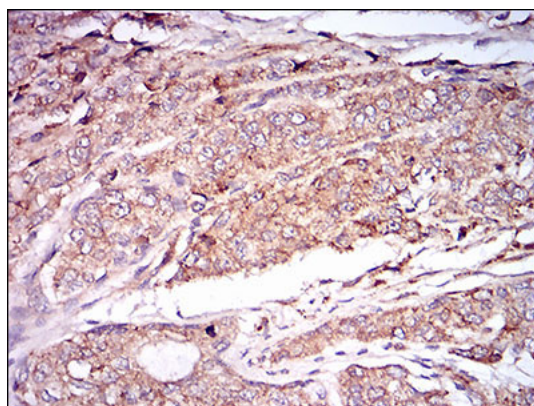


Figure 5: Immunohistochemical analysis of paraffin-embedded prostate cancer tissues using CAMK2G mouse mAb with DAB staining.

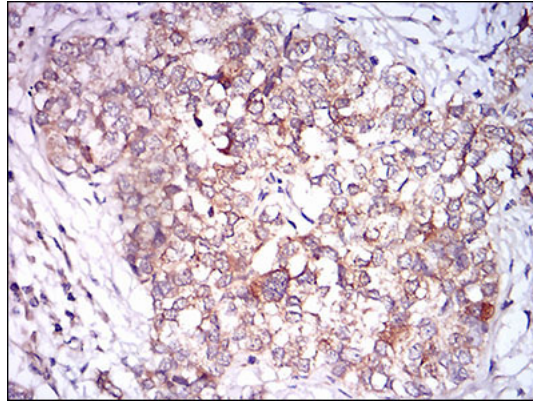


Figure 6: Immunohistochemical analysis of paraffin-embedded bladder cancer tissues using CAMK2G mouse mAb with DAB staining.

### **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.  
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### **CAMK2G Antibody - References**

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