10320 Camino Santa Fe, Suite G
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CAMK4 Antibody
Purified Mouse Monoclonal Antibody
Catalog # AO1785a

Specification

CAMK4 Antibody - Product Information

Application	**WB, IHC, FC, ICC, E**
Primary Accession	Q16566
Reactivity	**Human**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**IgG1**
Calculated MW	**58kDa KDa**

Description
The product of this gene belongs to the serine/threonine protein kinase family, and to the Ca(2+)/calmodulin-dependent protein kinase subfamily. This enzyme is a multifunctional serine/threonine protein kinase with limited tissue distribution, that has been implicated in transcriptional regulation in lymphocytes, neurons and male germ cells.

Immunogen
Purified recombinant fragment of human CAMK4 (AA: 35-292) expressed in E. Coli.

Formulation
Purified antibody in PBS with 0.05% sodium azide

CAMK4 Antibody - Additional Information

Gene ID 814

Other Names
Calcium/calmodulin-dependent protein kinase type IV, CaMK IV, 2.7.11.17, CaM kinase-GR, CAMK4, CAMK, CAMK-GR, CAMKIV

Dilution
WB~~1/500 - 1/2000
IHC~~1/200 - 1/1000
FC~~1:10~50
ICC~~N/A
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
CAMK4 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

CAMK4 Antibody - Protein Information

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Name CAMK4

Synonyms CAMK, CAMK-GR, CAMKIV

Function
Calcium/calmodulin-dependent protein kinase that operates in the calcium-triggered CaMKK-CaMK4 signaling cascade and regulates, mainly by phosphorylation, the activity of several transcription activators, such as CREB1, MEF2D, JUN and RORA, which play pivotal roles in immune response, inflammation, and memory consolidation. In the thymus, regulates the CD4(+)/CD8(+) double positive thymocytes selection threshold during T-cell ontogeny. In CD4 memory T-cells, is required to link T-cell antigen receptor (TCR) signaling to the production of IL2, IFNG and IL4 (through the regulation of CREB and MEF2). Regulates the differentiation and survival phases of osteoclasts and dendritic cells (DCs). Mediates DCs survival by linking TLR4 and the regulation of temporal expression of BCL2. Phosphorylates the transcription activator CREB1 on 'Ser-133' in hippocampal neuron nuclei and contribute to memory consolidation and long term potentiation (LTP) in the hippocampus. Can activate the MAP kinases MAPK1/ERK2, MAPK8/JNK1 and MAPK14/p38 and stimulate transcription through the phosphorylation of ELK1 and ATF2. Can also phosphorylate in vitro CREBBP, PRM2, MEF2A and STMN1/OP18.

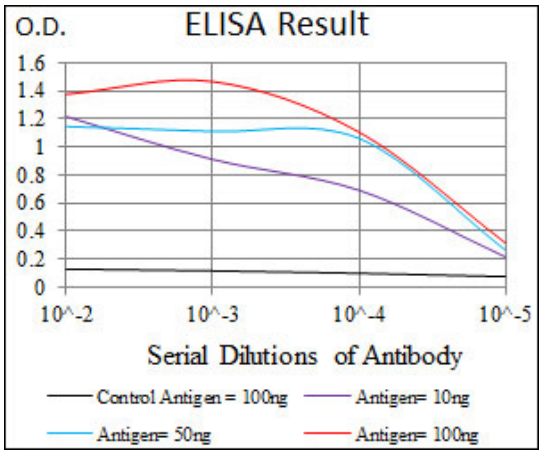
Cellular Location
Cytoplasm. Nucleus. Note=Localized in hippocampal neuron nuclei. In spermatids, associated with chromatin and nuclear matrix (By similarity).

Tissue Location
Expressed in brain, thymus, CD4 T-cells, testis and epithelial ovarian cancer tissue.

CAMK4 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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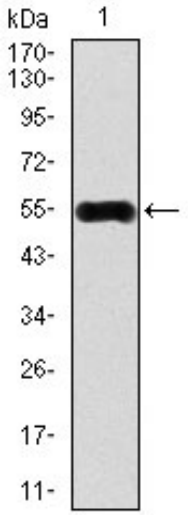

Figure 1: Western blot analysis using CAMK4 mAb against human CAMK4 recombinant protein. (Expected MW is 54.8 kDa)

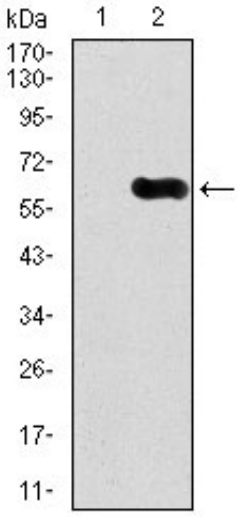

Figure 2: Western blot analysis using CAMK4 mAb against HEK293 (1) and CAMK4 (AA: 35-292)-hIgGFc transfected HEK293 (2) cell lysate.

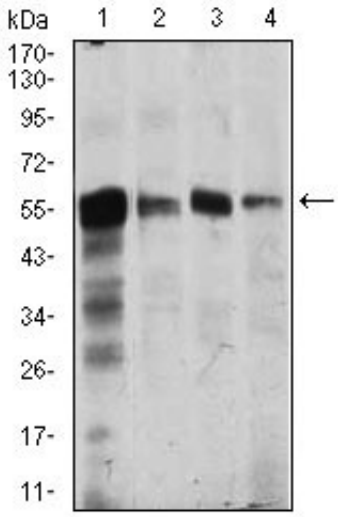

Figure 3: Western blot analysis using CAMK4 mouse mAb against Jurkat (1), SK-N-SH (2), Raji (3), and HeLa (4) cell lysate.

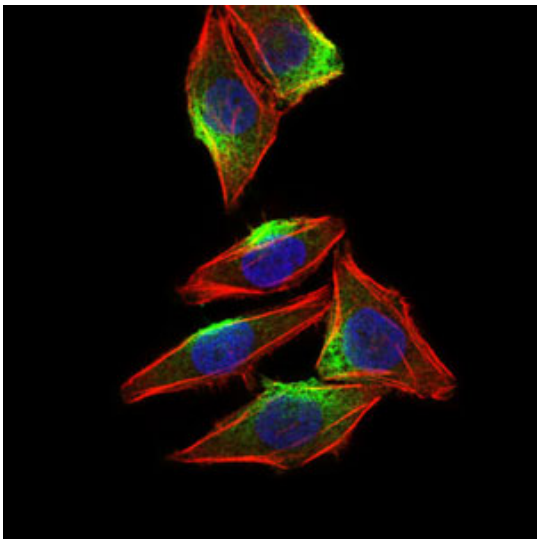

Figure 3: Immunofluorescence analysis of HepG2 cells using CAMK4 mouse mAb (green). Blue: DRAQ5 fluorescent DNA dye. Red: Actin filaments have been labeled with Alexa Fluor-555 phalloidin.

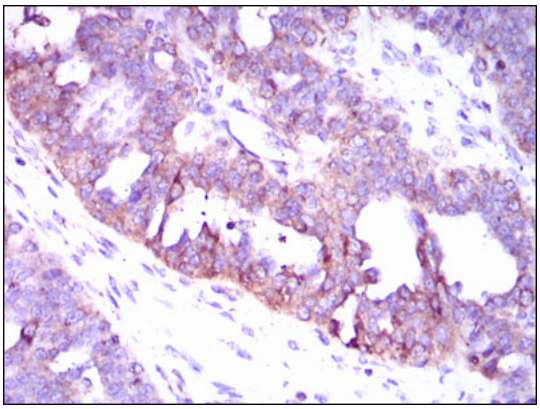

Figure 6: Immunohistochemical analysis of paraffin-embedded ovarian cancer tissues using CAMK4 mouse mAb with DAB staining.

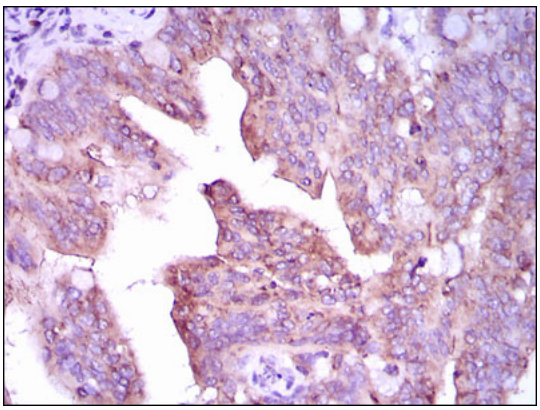

Figure 7: Immunohistochemical analysis of paraffin-embedded rectum cancer tissues using CAMK4 mouse mAb with DAB staining.

CAMK4 Antibody - References

1.J Biol Chem. 2009 Aug 7;284(32):21327-37. 2.Rejuvenation Res. 2011 Jun;14(3):283-91.