

KO Validated Anti-CAMK1 Rabbit Monoclonal Antibody
Rabbit monoclonal antibody
Catalog # AGI2414**Specification****KO Validated Anti-CAMK1 Rabbit Monoclonal Antibody - Product Information**

| | |
|-------------------|--|
| Application | WB, FC |
| Primary Accession | Q14012 |
| Reactivity | Rat, Human, Mouse |
| Clonality | Monoclonal |
| Isotype | Rabbit IgG |
| Calculated MW | Predicted, 41 kDa, observed, 41 kDa kDa |
| Gene Name | CAMK1 |
| Aliases | CAMK1; Calcium/Calmodulin Dependent Protein Kinase I 2; CaMKI-Alpha; CaMKI ; Calcium/Calmodulin-Dependent Protein Kinase Type 1; CaM Kinase I Alpha; EC 2.7.11.17; CaM-KI; CaM Kinase I; EC 2.7.11 |
| Immunogen | A synthesized peptide derived from human CaMKI |

KO Validated Anti-CAMK1 Rabbit Monoclonal Antibody - Additional Information

| | |
|---|------|
| Gene ID | 8536 |
| Other Names | |
| Calcium/calmodulin-dependent protein kinase type 1, 2.7.11.17, CaM kinase I, CaM-KI, CaM kinase I alpha, CaMKI-alpha, CAMK1 | |

KO Validated Anti-CAMK1 Rabbit Monoclonal Antibody - Protein Information**Name** CAMK1**Function**

Calcium/calmodulin-dependent protein kinase that operates in the calcium-triggered CaMKK-CaMK1 signaling cascade and, upon calcium influx, regulates transcription activators activity, cell cycle, hormone production, cell differentiation, actin filament organization and neurite outgrowth. Recognizes the substrate consensus sequence [MVLIF]-x-R-x(2)-[ST]-x(3)-[MVLIF]. Regulates axonal extension and growth cone motility in hippocampal and cerebellar nerve cells. Upon NMDA receptor-mediated Ca(2+) elevation, promotes dendritic growth in hippocampal neurons and is essential in synapses for full long-term potentiation (LTP) and ERK2-dependent translational activation. Downstream of NMDA receptors, promotes the formation of spines and synapses in hippocampal neurons by phosphorylating ARHGEF7/BETAPIX on 'Ser-694', which results in the enhancement of ARHGEF7 activity and activation of RAC1. Promotes neuronal differentiation and neurite outgrowth by activation and phosphorylation of MARK2 on 'Ser-91', 'Ser-92', 'Ser-93' and 'Ser-294'. Promotes nuclear export of HDAC5 and binding to 14-3-3 by phosphorylation of 'Ser-259' and 'Ser-498' in the regulation of muscle cell differentiation. Regulates NUMB-mediated endocytosis by phosphorylation of NUMB on 'Ser-276' and 'Ser-295'. Involved in the regulation of basal and estrogen-stimulated migration of medulloblastoma cells

through ARHGEF7/BETAPIX phosphorylation (By similarity). Is required for proper activation of cyclin-D1/CDK4 complex during G1 progression in diploid fibroblasts. Plays a role in K(+) and ANG2-mediated regulation of the aldosterone synthase (CYP11B2) to produce aldosterone in the adrenal cortex. Phosphorylates EIF4G3/eIF4GII. In vitro phosphorylates CREB1, ATF1, CFTR, MYL9 and SYN1/synapsin I.

Cellular Location

Cytoplasm. Nucleus. Note=Predominantly cytoplasmic.

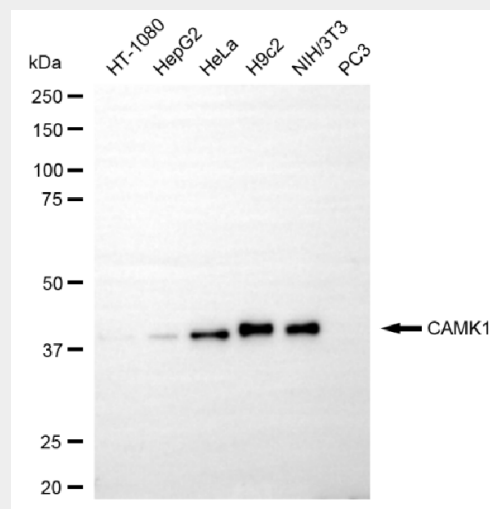
Tissue Location

Widely expressed. Expressed in cells of the zona glomerulosa of the adrenal cortex.

KO Validated Anti-CAMK1 Rabbit Monoclonal Antibody - Protocols

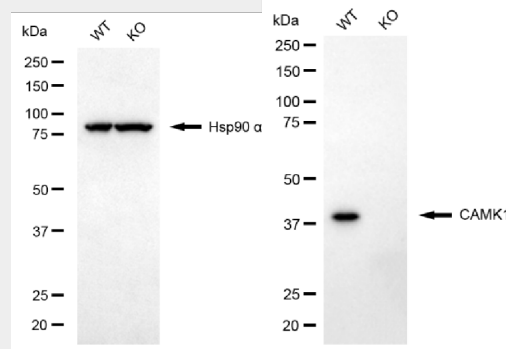
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

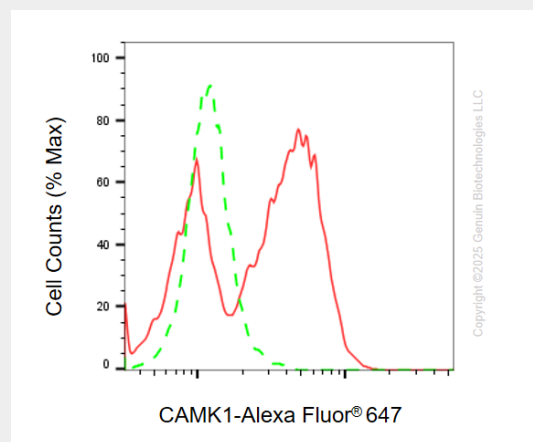
KO Validated Anti-CAMK1 Rabbit Monoclonal Antibody - Images

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Western blotting analysis using anti-CAMK1 antibody (Cat#AGI2414). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-CAMK1 antibody (Cat#AGI2414, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Western blotting analysis using anti-CAMK1 antibody (Cat#AGI2414). CAMK1 expression in wild-type (WT) and CAMK1 knockout (KO) 293T cells with 20 μ g of total cell lysates. Hsp90 α serves as a loading control. The blot was incubated with anti-CAMK1 antibody (Cat#AGI2414, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Flow cytometric analysis of CAMK1 expression in HeLa cells using anti-CAMK1 antibody (Cat#AGI2414, 1:2,000). Green, isotype control; red, CAMK1.