

Anti-CaMKIV antibody



Description	Rabbit polyclonal to CaMKIV.
Model	STJ91992
Host	Rabbit
Reactivity	Human, Mouse, Rat
Applications	ELISA, IF, IHC, WB
Immunogen	Synthesized peptide derived from human CaMKIV around the non-phosphorylation site of T200.
Immunogen Region	140-220 aa
Gene ID	814
Gene Symbol	CAMK4
Dilution range	WB 1:500-1:2000IHC 1:100-1:300IF 1:200-1:1000ELISA 1:5000
Specificity	CaMKIV Polyclonal Antibody detects endogenous levels of CaMKIV protein.
Tissue Specificity	Expressed in brain, thymus, CD4 T-cells, testis and epithelial ovarian cancer tissue.
Purification	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
Note	For Research Use Only (RUO).
Protein Name	Calcium/calmodulin-dependent protein kinase type IV CaMK IV CaM kinase-GR
Molecular Weight	60 kDa

Clonality	Polyclonal
Conjugation	Unconjugated
Isotype	IgG
Formulation	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Concentration	1 mg/ml
Storage Instruction	Store at -20°C, and avoid repeat freeze-thaw cycles.
Database Links	HGNC:1464OMIM:114080
Alternative Names	Calcium/calmodulin-dependent protein kinase type IV CaMK IV CaM kinase-GR
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.
Sequence and Domain Family	The autoinhibitory domain overlaps with the calmodulin binding region and interacts in the inactive folded state with the catalytic domain as a pseudosubstrate.
Cellular Localization	Cytoplasm. Nucleus. Localized in hippocampal neuron nuclei. In spermatids, associated with chromatin and nuclear matrix .
Post-translational Modifications	Phosphorylated by CaMKK1 and CaMKK2 on Thr-200. Dephosphorylated by protein phosphatase 2A. Autophosphorylated on Ser-12 and Ser-13. Glycosylation at Ser-189 modulates the phosphorylation of CaMK4 at Thr-200 and negatively regulates its activity toward CREB1 in basal conditions and during early ionomycin stimulation.