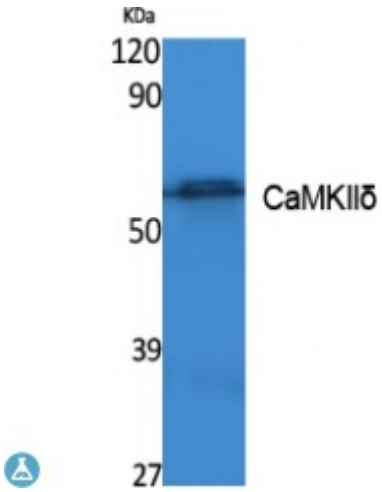
Anti-CaMKI delta antibody



Description	Rabbit polyclonal to CaMKIIdelta.

Model	STJ96428
Host	Rabbit
Reactivity	Human, Mouse, Rat
Applications	ELISA, IHC, WB
Immunogen	Synthesized peptide derived from human CaMKIIdelta.
Immunogen Region	Internal
Gene ID	817
Gene Symbol	CAMK2D
Dilution range	WB 1:500-1:2000IHC-P 1:100-300ELISA 1:40000
Specificity	CaMKIIdelta Polyclonal Antibody detects endogenous levels of CaMKIIdelta protein.
Tissue Specificity	Expressed in cardiac muscle and skeletal muscle. Isoform Delta 3, isoform Delta 2, isoform Delta 8 and isoform Delta 9 are expressed in cardiac muscle. Isoform Delta 11 is expressed in skeletal muscle.
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 II subunit delta CaM kinase II subunit delta CaMK-II subunit delta

Molecular Weight	56 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:1462OMIM:607708
Alternative Names	Calcium/calmodulin-dependent protein kinase type II subunit delta CaM kinase II subunit delta CaMK-II subunit delta
Function	Calcium/calmodulin-dependent protein kinase involved in the regulation of Ca(2+) homeostatis and excitation-contraction coupling (ECC) in heart by targeting ion channels, transporters and accessory proteins involved in Ca(2+) influx into the myocyte, Ca(2+) release from the sarcoplasmic reticulum (SR), SR Ca(2+) uptake and Na(+) and K(+) channel transport. Targets also transcription factors and signaling molecules to regulate heart function. In its activated form, is involved in the pathogenesis of dilated cardiomyopathy and heart failure. Contributes to cardiac decompensation and heart failure by regulating SR Ca(2+) release via direct phosphorylation of RYR2 Ca(2+) channel on 'Ser-2808'. In the nucleus, phosphorylates the MEF2 repressor HDAC4, promoting its nuclear export and binding to 14-3-3 protein, and expression of MEF2 and genes involved in the hypertrophic program. Is essential for left ventricular remodeling responses to myocardial infarction. In pathological myocardial remodeling acts downstream of the beta adrenergic receptor signaling cascade to regulate key proteins involved in ECC. Regulates Ca(2+) influx to myocytes by binding and phosphorylating the L-type Ca(2+) channel subunit beta-2 CACNB2. In addition to Ca(2+) channels, can target and regulate the cardiac sarcolemmal Na(+) channel Nav1.5/SCN5A and the K+ channel Kv4.3/KCND3, which contribute to arrhythmogenesis in heart failure. Phosphorylates phospholamban (PLN/PLB), an endogenous inhibitor of SERCA2A/ATP2A2, contributing to the enhancement of SR Ca(2+) uptake that may be important in frequency-dependent acceleration of relaxation (FDAR) and maintenance of contractile function during acidosis. May participate in the modulation of skeletal muscle function in response to exercise, by regulating SR Ca(2+) transport through phosphorylation of PLN/PLB and triadin, a ryanodine receptor-coupling factor.
Sequence and Domain Family	The CAMK2 protein kinases contain a unique C-terminal subunit association domain responsible for oligomerization.
Cellular Localization	Cell membrane, sarcolemma Sarcoplasmic reticulum membrane
Post-translational Modifications	Autophosphorylation of Thr-287 following activation by Ca(2+)/calmodulin. Phosphorylation of Thr-287 locks the kinase into an activated state.