

## Product datasheet for **TA383864M**

### **CAMK2D Rabbit Monoclonal Antibody [Clone ID: R03-8A9]**

#### **Product data:**

Product Type:	Primary Antibodies
Clone Name:	R03-8A9
Applications:	WB
Recommended Dilution:	WB: 1/1000
Reactivity:	Human, Rat
Host:	Rabbit
Isotype:	IgG
Clonality:	Monoclonal
Immunogen:	A synthetic peptide of human CaMKII delta
Formulation:	50mM Tris-Glycine(pH 7.4), 0.15M NaCl, 40% Glycerol, 0.01% Sodium azide and 0.05% BSA
Concentration:	lot specific
Purification:	Affinity Purified
Conjugation:	Unconjugated
Storage:	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.
Stability:	1 year
Predicted Protein Size:	Calculated MW: 56 kDa; Observed MW: 56 kDa
Gene Name:	calcium/calmodulin dependent protein kinase II delta
Database Link:	<a href="#">Entrez Gene 817 Human Q13557</a>

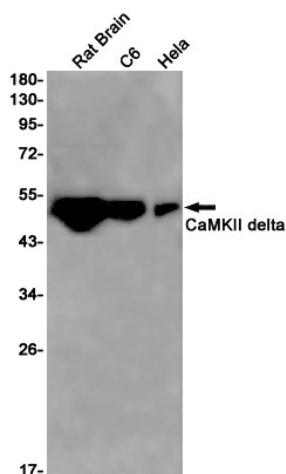
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**Background:**

Swiss-Prot Acc.Q13557.Calcium/calmodulin-dependent protein kinase involved in the regulation of  $\text{Ca}^{2+}$  homeostasis and excitation-contraction coupling (ECC) in heart by targeting ion channels, transporters and accessory proteins involved in  $\text{Ca}^{2+}$  influx into the myocyte,  $\text{Ca}^{2+}$  release from the sarcoplasmic reticulum (SR), SR  $\text{Ca}^{2+}$  uptake and  $\text{Na}^{+}$  and  $\text{K}^{+}$  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  $\text{Ca}^{2+}$  release via direct phosphorylation of RYR2  $\text{Ca}^{2+}$  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  $\text{Ca}^{2+}$  influx to myocytes by binding and phosphorylating the L-type  $\text{Ca}^{2+}$  channel subunit beta-2 CACNB2. In addition to  $\text{Ca}^{2+}$  channels, can target and regulate the cardiac sarcolemmal  $\text{Na}^{+}$  channel Nav1.5/SCN5A and the  $\text{K}^{+}$  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  $\text{Ca}^{2+}$  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  $\text{Ca}^{2+}$  transport through phosphorylation of PLN/PLB and triadin, a ryanodine receptor-coupling factor.

**Synonyms:**

CAMKD; DKFZp686G23119; DKFZp686I2288; MGC44911; OTTHUMP00000163830

**Product images:**


Western blot analysis of CaMKII delta in rat Brain, C6, HeLa lysates using CaMKII delta antibody.