

## CaMK2 delta polyclonal antibody

Catalog: BS67003

Host: Rabbit

Reactivity: Human

### BackGround:

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

### Product:

Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide.

### Molecular Weight:

~ 56 kDa

### Swiss-Prot:

Q13557

### Purification&Purity:

The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen and the purity is > 95% (by SDS-PAGE).

### Applications:

WB (1/500 - 1/1000)

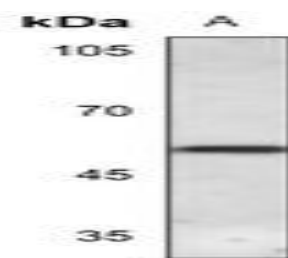
### Storage&Stability:

Store at 4 °C short term. Aliquot and store at -20 °C long term. Avoid freeze-thaw cycles.

### Specificity:

Recognizes endogenous levels of CaMK2 delta protein.

### DATA:



Western blot analysis of CaMK2 delta expression in U2OS (A) whole cell lysates.

### Note:

For research use only, not for use in diagnostic procedure.

### Bioworld Technology, Inc.

Add: 1660 South Highway 100, Suite 500 St. Louis Park, MN 55416, USA.

Email: [info@bioworld.com](mailto:info@bioworld.com)

Tel: 6123263284

Fax: 6122933841

### Bioworld technology, co. Ltd.

Add: No 9, weidi road Qixia District Nanjing, 210046, P. R. China.

Email: [info@biogol.com](mailto:info@biogol.com)

Tel: 0086-025-68037686

Fax: 0086-025-68035151



## PRODUCT DATA SHEET

Bioworld Technology, Inc.

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### **Bioworld Technology, Inc.**

**Add:** 1660 South Highway 100, Suite 500 St. Louis Park,  
MN 55416, USA.

**Email:** [info@bioworld.com](mailto:info@bioworld.com)

**Tel:** 6123263284

**Fax:** 6122933841

### **Bioworld technology, co. Ltd.**

**Add:** No 9, weidi road Qixia District Nanjing, 210046,  
P. R. China.

**Email:** [info@biogot.com](mailto:info@biogot.com)

**Tel:** 0086-025-68037686

**Fax:** 0086-025-68035151