

钙钙调素依赖蛋白激酶 2D(CaMKII δ) 抗体

产品货号： mlR9921

英文名称： CaMKII delta

中文名称： 钙/钙调素依赖蛋白激酶 2D(CaMKII δ)抗体

别名： CaMK II delta; Calcium / calmodulin dependent protein kinase 2 delta; Calcium / calmodulin dependent protein kinase II delta; Calcium/calmodulin-dependent protein kinase type II subunit delta; CAM kinase 2 delta; CAM kinase II delta; CaM kinase II subunit delta; CAMK 2d; CaMK-II subunit delta; CAMK2D; CAMKD; CAMKI; KCC2D_HUMAN; RATCAMKI.

研究领域： 肿瘤 心血管 信号转导

抗体来源： Rabbit

克隆类型： Polyclonal

交叉反应： Mouse, Rat, Pig, Cow,

产品应用： WB=1:500-2000 ELISA=1:500-1000

not yet tested in other applications.

optimal dilutions/concentrations should be determined by the end user.

分子量： 56kDa

细胞定位： 细胞膜

性状： Lyophilized or Liquid

浓度： 1mg/ml

免疫原： KLH conjugated synthetic peptide derived from Human CAMK2D/CaMKII delta:271-370/499

亚 型 : IgG

纯化方法 : affinity purified by Protein A

储 存 液 : 0.01M TBS(pH7.4) with 1% BSA, 0.03% Proclin300 and 50% Glycerol.

保存条件 : Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. The lyophilized antibody is stable at room temperature for at least one month and for greater than a year when kept at -20°C. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

PubMed : PubMed

产品介绍 : The Ca²⁺/calmodulin-dependent protein kinases (CaM kinases) comprise a structurally related subfamily of serine/threonine kinases which include CaMKI, CaMKII and CaMKIV. CaMKII is a ubiquitously expressed serine/threonine protein kinase that is activated by Ca²⁺ and calmodulin (CaM) and has been implicated in regulation of the cell cycle and transcription. There are four CaMKII isozymes designated α , β , γ and δ , which may or may not be co-expressed in the same tissue type. CaMKIV is stimulated by Ca²⁺ and CaM but phosphorylation by a CaMK is also required for full activation. Stimulation of the T cell receptor CD3 signaling complex with an anti-CD3 monoclonal antibody leads to a 10-40 fold increase in CaMKIV activity. An additional kinase, CaMKK, functions to activate CaMKI through the specific phosphorylation of the regulatory threonine residue at position 177.

Function:

Calcium/calmodulin-dependent protein kinase involved in the regulation of Ca²⁺ homeostasis and excitation-contraction coupling (ECC) in heart by targeting ion channels, transporters and accessory proteins involved in Ca²⁺ influx into the myocyte, Ca²⁺ release from the sarcoplasmic reticulum (SR), SR Ca²⁺ 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 Ca²⁺ release via direct phosphorylation of RYR2 Ca²⁺ 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 Ca²⁺ influx to myocytes by binding and phosphorylating the L-type Ca²⁺ channel subunit beta-2 CACNB2. In addition to Ca²⁺ 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 Ca²⁺ 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 Ca²⁺ transport through phosphorylation of PLN/PLB and triadin, a ryanodine receptor-coupling factor.

Subunit:

CAMK2 is composed of 4 different chains: alpha (CAMK2A), beta (CAMK2B), gamma (CAMK2G), and delta (CAMK2D). The different isoforms assemble into homo- or heteromultimeric holoenzymes composed of 12 subunits with two hexameric rings stacked one on top of the other. Interacts with RRAD and CACNB2 (By similarity).

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.

Post-translational modifications:

Autophosphorylation of Thr-287 following activation by Ca²⁺/calmodulin. Phosphorylation of Thr-287 locks the kinase into an activated state.

Similarity:

Belongs to the protein kinase superfamily. CAMK Ser/Thr protein kinase family. CaMK subfamily.

Contains 1 protein kinase domain.

SWISS:

Q13557

Gene ID:

817

Important Note:

This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

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