

Rabbit Anti-CaMK2 alpha antibody

SL0771R

Product Name CaMK2 alpha

Chinese Name 钙/钙调素依赖蛋白激酶 2 α 抗体

alpha CaMKII; CaMKII alpha; Calcium / Calmodulin Dependent Protein Kinase II G; Calcium calmodulin dependent protein kinase CaM kinase II alpha; Calcium calmodulin dependent protein kinase II alpha-B subunit; Calcium calmodulin dependent protein kinase II; Calcium/calmodulin dependent protein kinase II alpha;

Alias

Calcium/calmodulin-dependent protein kinase (CaM kinase) II alpha; Calcium/calmodulin-dependent protein kinase II alpha; Calcium/calmodulin-dependent protein kinase type II subunit alpha; Calcium/calmodulin-dependent protein kinase type IIA; CaM kinase II alpha chain; CaM kinase II alpha subunit; CaM kinase II beta chain; CaM kinase II beta subunit; CaM kinase II delta chain; CaM kinase II delta subunit; CaM kinase II subunit alpha; CAM2; CaMK II alpha subunit; CaMK II beta subunit; CaMK II delta subunit; CaMK-II subunit alpha; CAMK2A; CAMK2B; CAMK2D; CAMKA; CAMKB; CaMKII; CaMK 2a; CaMK2a; KCC2A_HUMAN.

Research Area

Tumour Cardiovascular Cell biology Neurobiology Signal transduction Kinases and Phosphatases The new supersedes the old

Immunogen Species

Rabbit

Clonality

Polyclonal

React Species

Human, Mouse, Rat,

Applications

WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500
(Paraffin sections need antigen repair)
not yet tested in other applications.
optimal dilutions/concentrations should be determined by the end user.

Theoretical molecular weight

54kDa

Cellular localization

cytoplasmic The cell membrane

Form

Liquid

Concentration 1mg/ml

immunogen

KLH conjugated synthetic peptide derived from human CaMK2 alpha: 101-200/478



Lsotype	IgG
Purification	affinity purified by Protein A
Buffer Solution	1M TBS(pH7.4) with 1% BSA, 3% Proclin300 and 50% Glycerol.
Storage	Shipped at 4°C. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles.
Attention	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
PubMed	PubMed Ca ²⁺ /CalmodulinDependent Protein Kinase II (CaM Kinase II) is a multifunctional calcium and calmodulindependent protein kinase that mediates cellular responses to a wide variety of intercellular signals. CaM Kinase II has been shown to regulate diverse cellular functions including synaptic plasticity, neurotransmitter synthesis and release, gene expression, ion channel function, carbohydrate metabolism, cytoskeletal function, and Ca ²⁺ homeostasis. Phosphorylation of Thr286 on the kinase produces an autonomously active form of CaM Kinase II. Autophosphorylation of Thr305 inhibits the activity CaM Kinase II. Phosphorylation at this site appears to reduce the association of CaM Kinase II with the PSD and reduce LTP and learning.
Product Detail	Function: CaM-kinase II (CAMK2) is a prominent kinase in the central nervous system that may function in long-term potentiation and neurotransmitter release. Member of the NMDAR signaling complex in excitatory synapses it may regulate NMDAR-dependent potentiation of the AMPAR and synaptic plasticity.
	Subunit: CAMK2 is composed of four different chains: alpha, beta, gamma, and delta. The different isoforms assemble into homo- or heteromultimeric holoenzymes composed of 8 to 12 subunits. Interacts with BAALC, MPDZ, SYN1, CAMK2N2 and SYNGAP1
	Subcellular Location: Cell junction, synapse, presynaptic cell membrane. Cell junction, synapse. Note=Postsynaptic lipid rafts.
	Similarity: Belongs to the protein kinase superfamily. CAMK Ser/Thr protein kinase family. CaMK subfamily. Contains 1 protein kinase domain.
	SWISS: Q9UQM7
Gene ID: 815	

Database links:

[Entrez Gene: 282162](#) Cow
[Entrez Gene: 525416](#) Cow
[Entrez Gene: 530719](#) Cow
[Entrez Gene: 532713](#) Cow
[Entrez Gene: 815](#) Human
[Entrez Gene: 816](#) Human
[Entrez Gene: 817](#) Human
[Entrez Gene: 818](#) Human
[Entrez Gene: 108058](#) Mouse
[Entrez Gene: 12322](#) Mouse
[Entrez Gene: 12323](#) Mouse
[Entrez Gene: 12325](#) Mouse
[Entrez Gene: 171140](#) Rat
[Entrez Gene: 24245](#) Rat
[Entrez Gene: 24246](#) Rat
[Entrez Gene: 25400](#) Rat
[Omim: 114078](#) Human
[SwissProt: Q2HJF7](#) Cow
[SwissProt: Q3MHJ9](#) Cow
[SwissProt: Q13554](#) Human
[SwissProt: Q13555](#) Human
[SwissProt: Q13557](#) Human
[SwissProt: Q9UQM7](#) Human
[SwissProt: P11798](#) Mouse
[SwissProt: P28652](#) Mouse
[SwissProt: Q6PHZ2](#) Mouse
[SwissProt: Q923T9](#) Mouse

[SwissProt: P08413](#) Rat

[SwissProt: P11275](#) Rat

[SwissProt: P11730](#) Rat

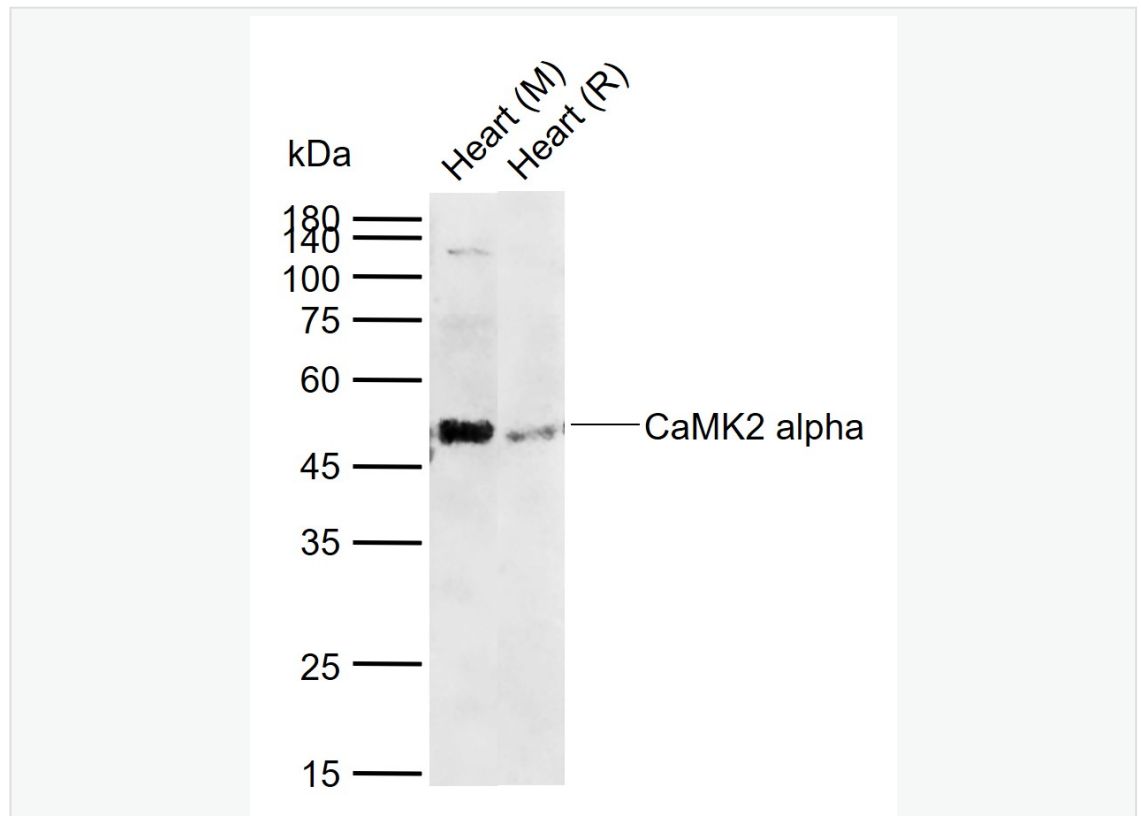
[SwissProt: P15791](#) Rat

[Unigene: 725992](#) Human

[Unigene: 131530](#) Mouse

[Unigene: 107499](#) Rat

**Product
Picture**



Sample:

Lane 1: Mouse Heart tissue lysates

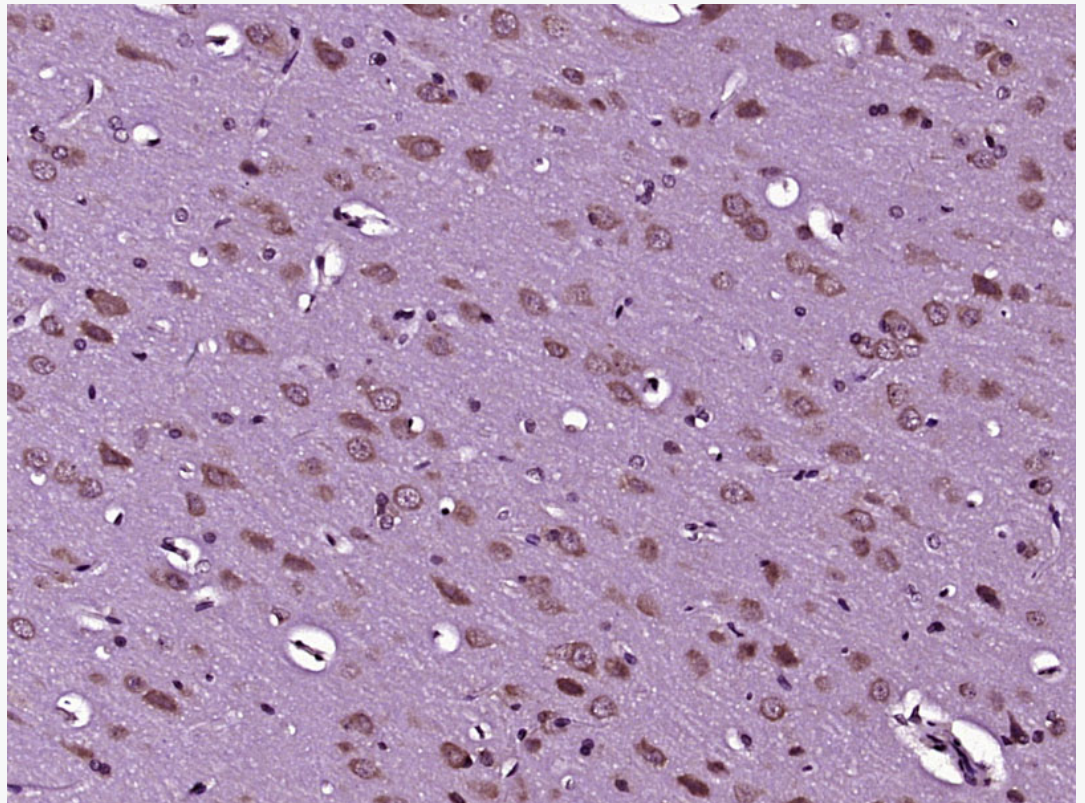
Lane 2: Rat Heart tissue lysates

Primary: Anti-CaMK2 alpha (SL0771R) at 1/1000 dilution

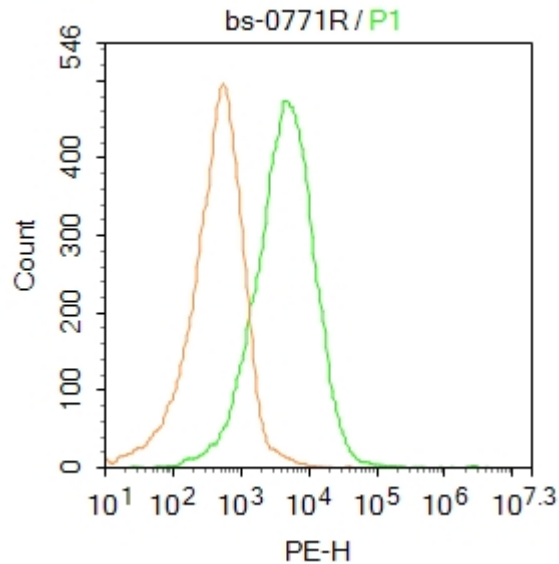
Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 54 kDa

Observed band size: 50 kDa



Paraformaldehyde-fixed, paraffin embedded (Rat brain); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (CaMK2 alpha) Polyclonal Antibody, Unconjugated (SL0771R) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructions and DAB staining.



Blank control:MCF7.

Primary Antibody (green line): Rabbit Anti-CaMK2 alpha antibody (SL0771R)

Dilution: 1 μ g /10⁶ cells;

Isotype Control Antibody (orange line): Rabbit IgG .

Secondary Antibody : Goat anti-rabbit IgG-PE

Dilution: 2 μ g /test.

Protocol

The cells were incubated in 5% BSA to block non-specific protein-protein interactions for 30 min at room temperature .Cells stained with Primary Antibody for 30 min at room temperature. The secondary antibody used for 40 min at room temperature. Acquisition of 20,000 events was performed.