10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

phospho-CaMK2 alpha (T286) Recombinant Rabbit mAb

Catalog # AP99152

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	P11798
Other Accession	P11798
Reactivity	Rat, Mouse
Host	Rabbit
Clonality	Recombinant
Calculated MW	54115
Physical State	Liquid
Immunogen	A synthesized peptide derived from mouse CaMKII alpha around the phosphorylation site of T286
Epitope Specificity	RQE-pT-VDS
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	10mM phosphate buffered saline(pH 7.4) with 150mM sodium chloride, 0.05% BSA, 0.02% Proclin300 and 50% glycerol.
SIMILARITY	Belongs to the protein kinase superfamily. CAMK Ser/Thr protein kinase family. CaMK subfamily.Contains 1 protein kinase domain.
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.
Post-translational modifications	Autophosphorylation of Thr-287 following activation by Ca(2+)/calmodulin. Phosphorylation of Thr-287 locks the kinase into an activated state.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Calcium/calmodulin-dependent protein kinase that functions autonomously after Ca2+/calmodulin-binding and autophosphorylation, and is involved in various processes, such as synaptic plasticity, neurotransmitter release and long-term potentiation.

Additional Information

Gene ID	12322
Other Names	CAMKA; CaMKIINalpha; CaMKIIalpha; MRD53; MRT63; CAM2; CAMK2; CAMKB; CaMKIIbeta; MRD54; CAMKD; CAMK; CAMK-II; CAMKG; MRD59; 2810011D23Rik; 8030469K03Rik; CaMK II; [d]-CaMKII; CaMKII; mKIAA0968; Ck2b; CAMK1; Camki; RATCAMKI; PK2CDD; PKCCD; KCC2D_BOVIN; CAMK2D; CaM kinase II subunit delta; CaMK-II subunit delta; 2.7.11.17; KCC2B_BOVIN; CAMK2B; CaM kinase II subunit beta; CaMK-II subunit beta; KCC2B_HUMAN; KCC2G_HUMAN; CAMK2G; CaM kinase II subunit gamma; CaMK-II subunit gamma; KCC2D_HUMAN; KCC2A_HUMAN; CAMK2A; CaM kinase II subunit alpha; CaMK-II subunit alpha; KIAA0968; KCC2A_MOUSE; KCC2B_MOUSE;

	KCC2D_MOUSE; Kiaa4163; KCC2G_MOUSE; KCC2B_RAT; KCC2A_RAT; KCC2G_RAT; KCC2D_RAT; calcium/calmodulin dependent protein kinase II alpha; calcium/calmodulin-dependent protein kinase (CaM kinase) II alpha; CaM-kinase II alpha chain; calcium/calmodulin-dependent protein kinase II alpha-B subunit; CaM kinase II alpha subunit; CaMK-II alpha subunit; calcium/calmodulin-dependent protein kinase type II alpha chain; CaMK2a (phospho-T286); p-CaMK2a; phospho-CaMK2a; CaMK2a (phospho-Thr286)
Dilution	IHC-P=1:50-200,IHC-F=1:50-200,IF=1:50-200
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. 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.

Protein Information

Name	Camk2a
Function	Calcium/calmodulin-dependent protein kinase that functions autonomously after Ca(2+)/calmodulin-binding and autophosphorylation, and is involved in various processes, such as synaptic plasticity, neurotransmitter release and long-term potentiation (By similarity). Member of the NMDAR signaling complex in excitatory synapses, it regulates NMDAR-dependent potentiation of the AMPAR and therefore excitatory synaptic transmission (By similarity). Regulates dendritic spine development (By similarity). Also regulates the migration of developing neurons (By similarity). Phosphorylates the transcription factor FOXO3 to activate its transcriptional activity (PubMed:23805378). Phosphorylates the transcription factor ETS1 in response to calcium signaling, thereby decreasing ETS1 affinity for DNA (PubMed:15994560). In response to interferon-gamma (IFN-gamma) stimulation, catalyzes phosphorylation of STAT1, stimulating the JAK- STAT signaling pathway (By similarity). In response to interferon-beta (IFN-beta) stimulation, stimulates the JAK-STAT signaling pathway (By similarity). In response to interferon-gamma (IFN-gamma) stimulation, catalyzes phosphorylation of PSAT1, inhibiting ferroptosis by promoting GPX4 hydroxylation and stability (By similarity). Acts as a negative regulator of 2-arachidonoylglycerol (2-AG)-mediated synaptic signaling via modulation of DAGLA activity (PubMed:23502535).
Cellular Location	[Isoform Alpha KAP]: Cytoplasm
Tissue Location	[Isoform Alpha CaMKII]: Expressed in brain.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.