

CaMK2 α / β / δ (Phospho-Thr305) Antibody

Catalog No: #11644



Package Size: #11644-1 50ul #11644-2 100ul

Orders: order@signalwayantibody.com

Support: tech@signalwayantibody.com

Description

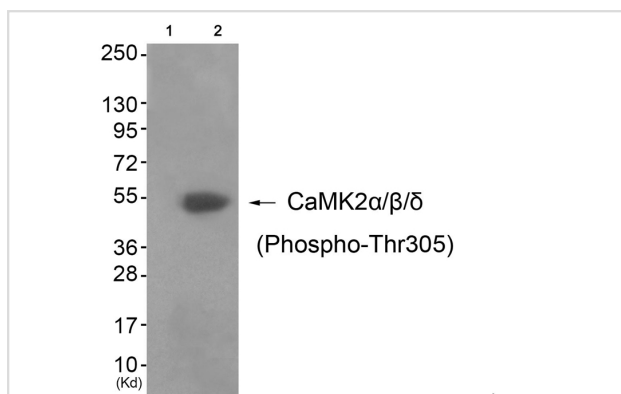
Product Name	CaMK2 α / β / δ (Phospho-Thr305) Antibody
Host Species	Rabbit
Clonality	Polyclonal
Purification	Antibodies were produced by immunizing rabbits with synthetic phosphopeptide and KLH conjugates. Antibodies were purified by affinity-chromatography using epitope-specific phosphopeptide. Non-phospho specific antibodies were removed by chromatography using non-phosphopeptide.
Applications	WB IHC
Species Reactivity	Hu Ms
Specificity	The antibody detects endogenous levels of CaMKII only when phosphorylated at threonine 305.
Immunogen Type	Peptide-KLH
Immunogen Description	Peptide sequence around phosphorylation site of threonine 305 (I-L-T(p)-T-M) derived from Human CaMK2 α / β / δ .
Target Name	CaMK2 α / β / δ
Modification	Phospho
Other Names	CAMK2A; KCC2A; kinase CaMK2-alpha; CaMKII-alpha;
Accession No.	Swiss-Prot#: Q9UQM7; NCBI Gene#: 816/817; NCBI Protein#: NP_741960.1.
SDS-PAGE MW	54kd
Concentration	1.0mg/ml
Formulation	Rabbit IgG in phosphate buffered saline (without Mg ²⁺ and Ca ²⁺), pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Storage	Store at -20°C/1 year

Application Details

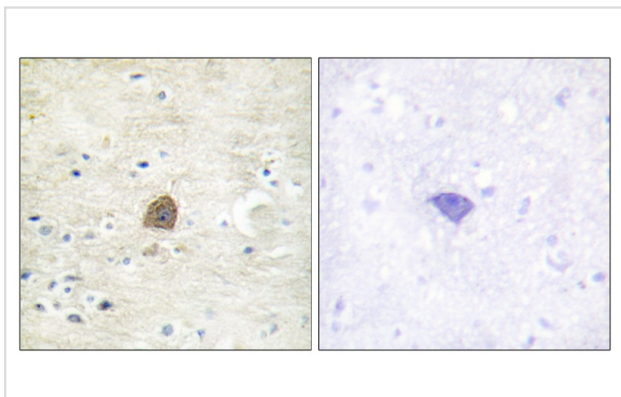
Western blotting: 1:500~1:1000

Immunohistochemistry: 1:50~1:100

Images



Western blot analysis of extracts from 3T3 cells (Lane 2), using CaMK2 α / β / δ (Phospho-Thr305) Antibody #11644. The lane on the left is treated with antigen-specific peptide.



Immunohistochemical analysis of paraffin-embedded human brain tissue using CaMKII (Phospho-Thr305) antibody #11644 (left) or the same antibody preincubated with blocking peptide (right).

Background

Calcium/calmodulin-dependent protein kinase that functions autonomously after Ca²⁺/calmodulin-binding and autophosphorylation, and is involved in dendritic spine and synapse formation, neuronal plasticity and regulation of sarcoplasmic reticulum Ca²⁺ transport in skeletal muscle. In neurons, plays an essential structural role in the reorganization of the actin cytoskeleton during plasticity by binding and bundling actin filaments in a kinase-independent manner. This structural function is required for correct targeting of CaMK2A, which acts downstream of NMDAR to promote dendritic spine and synapse formation and maintain synaptic plasticity which enables long-term potentiation (LTP) and hippocampus-dependent learning. In developing hippocampal neurons, promotes arborization of the dendritic tree and in mature neurons, promotes dendritic remodeling. Participates in the modulation of skeletal muscle function in response to exercise. In slow-twitch muscles, is involved in regulation of sarcoplasmic reticulum (SR) Ca²⁺ transport and in fast-twitch muscle participates in the control of Ca²⁺ release from the SR through phosphorylation of triadin, a ryanodine receptor-coupling factor, and phospholamban (PLN/PLB), an endogenous inhibitor of SERCA2A/ATP2A2.

Carl W. Tong, J. Physiol., Aug 2004; 558: 927 - 941.

Pierre R, J. Biol. Chem., Sep 1997; 272: 24133.

Daliang Wang, PNAS, Jun 1998; 95: 7133.

Note: This product is for in vitro research use only and is not intended for use in humans or animals.