CaMK2α/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	CaMK2α/β/δ (Phospho-Thr305) Antibody
Host Species	Rabbit
Clonality	Polyclonal
Purification	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
Applications	WB IHC IF
Species Reactivity	Human Mouse Rat
Specificity	The antibody detects endogenous levels of CaMKII only when phosphorylated at threonine 305.
Immunogen Type	Peptide-KLH
Immunogen Description	The antiserum was produced against synthesized peptide derived from human CaMK2 alpha/beta/delta around the phosphorylation site of Thr305.
Target Name	CaMK2α/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.
Uniprot	Q9UQM7
GeneID	815;
SDS-PAGE MW	54kd
Concentration	1.0mg/ml
Formulation	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Storage	Store at -20°C/1 year

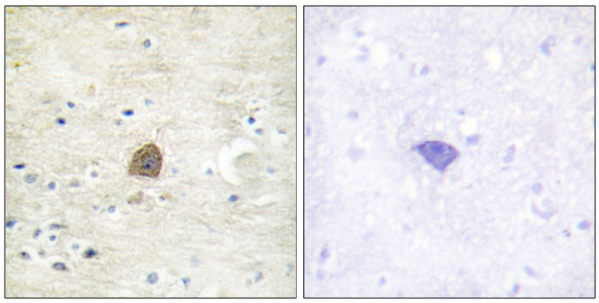
Application Details

WB 1:500-1:2000

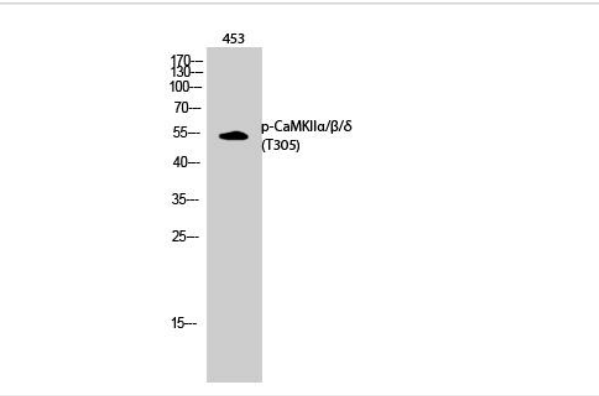
IHC 1:100-1:300

IF 1:50-200

Images



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



Western Blot analysis of 453 cells using Phospho-CaMKIIα/β/δ (T305) Polyclonal Antibody diluted at 1:1000

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