

CaMK2 $\alpha/\beta/\delta$  (Phospho-Thr305) Antibody

Catalog No: #11644

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

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## Description

|                       |   |
|-----------------------|---|
| Product Name          | CaMK2 $\alpha/\beta/\delta$ (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           | CaMK2 $\alpha/\beta/\delta$   |
| 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   |

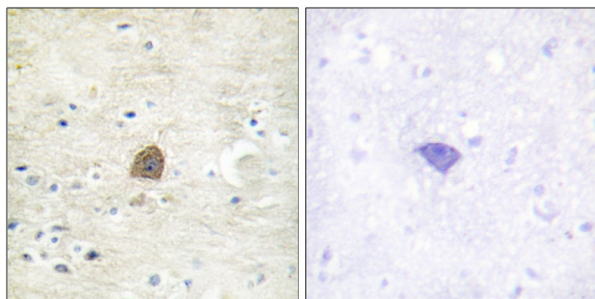
## Application Details

WB 1:500-1:2000

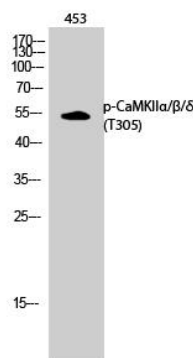
IHC 1:100-1:300

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 Ca<sup>2+</sup>/calmodulin-binding and autophosphorylation, and is involved in dendritic spine and synapse formation, neuronal plasticity and regulation of sarcoplasmic reticulum Ca<sup>2+</sup> 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) Ca<sup>2+</sup> transport and in fast-twitch muscle participates in the control of Ca<sup>2+</sup> 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