

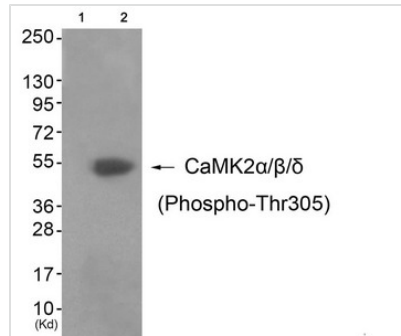


# Phospho-CAMK2A (Thr305) Antibody

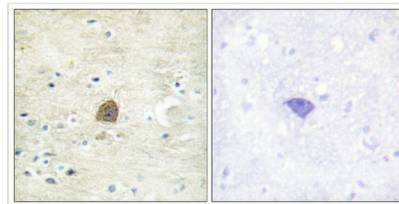
<b>Product Code</b>	CSB-PA086251
<b>Storage</b>	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
<b>Uniprot No.</b>	Q9UQM7
<b>Immunogen</b>	Peptide sequence around phosphorylation site of threonine 305 (I-L-T(p)-T-M) derived from Human CaMK2 $\alpha/\beta/\delta$ .
<b>Raised In</b>	Rabbit
<b>Species Reactivity</b>	Human, Mouse, Rat
<b>Specificity</b>	The antibody detects endogenous levels of CaMKII only when phosphorylated at threonine 305.
<b>Tested Applications</b>	ELISA, WB, IHC; WB: 1:500-1:1000, IHC: 1:50-1:100
<b>Relevance</b>	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.
<b>Form</b>	Rabbit IgG in phosphate buffered saline (without Mg <sup>2+</sup> and Ca <sup>2+</sup> ), pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
<b>Purification Method</b>	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
<b>Clonality</b>	Polyclonal
<b>Alias</b>	CAMK2A; KCC2A; kinase CaMK2-alpha; CaMKII-alpha;
<b>Product Type</b>	Polyclonal Antibody
<b>Species</b>	Homo sapiens (Human)

**Target Names**

CAMK2A

**Image**

Western blot analysis of extracts from 3T3 cells (Lane 2), using CaMK2 $\alpha/\beta/\delta$  (Phospho-Thr305) Antibody. The lane on the left is treated with antigen-specific peptide.



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

**Product Modify**

Phospho-Thr305