

Product datasheet for **AP55687PU-N**

CAMK2A pThr305 Rabbit Polyclonal Antibody

Product data:

Product Type:	Primary Antibodies
Applications:	IHC, WB
Recommended Dilution:	Western blot: 1:500~1:1000. Immunohistochemistry on paraffin sections: 1:50~1:100.
Reactivity:	Human, Mouse
Host:	Rabbit
Clonality:	Polyclonal
Immunogen:	Peptide sequence around phosphorylation site of threonine 305 (I-L-T(p)-T-M) derived from Human CaMK2 α / β / δ (KLH-conjugated)
Specificity:	The antibody detects endogenous levels of CaMKII only when phosphorylated at threonine 305.
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 State: Aff - Purified State: Liquid Ig fraction
Concentration:	lot specific
Purification:	Affinity chromatography using epitope-specific peptide
Conjugation:	Unconjugated
Storage:	Upon receipt, store undiluted (in aliquots) at -20°C. Avoid repeated freezing and thawing.
Stability:	Shelf life: one year from despatch.
Predicted Protein Size:	54 kDa
Gene Name:	calcium/calmodulin dependent protein kinase II alpha
Database Link:	Entrez Gene 815 Human Q9UQM7



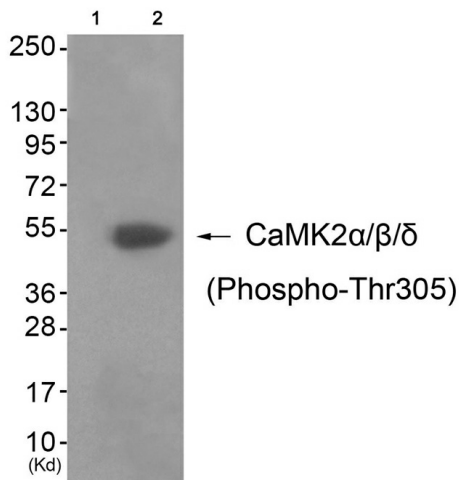
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Background:

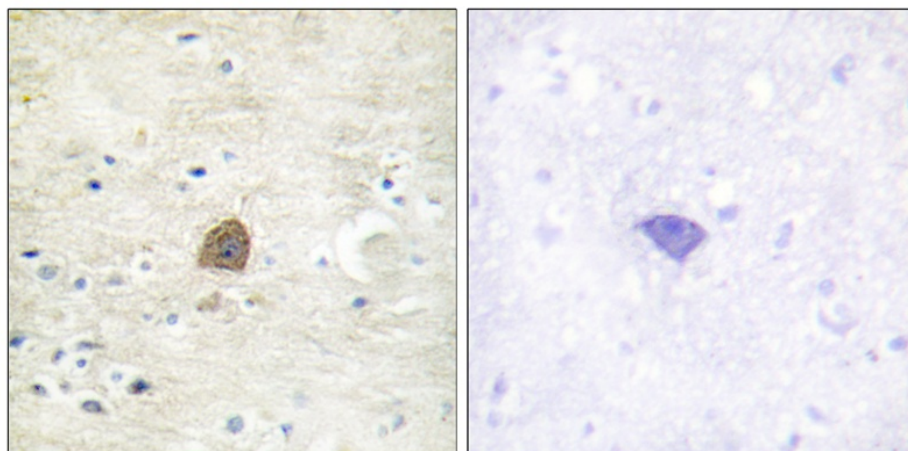
Calcium/calmodulin-dependent protein kinase that functions autonomously after Ca²⁺/calmodulin-binding and autophosphorylation, and is involved in dendritic spine and synapse formation, neuronal plasticity and regulation of sarcoplasmic reticulum Ca²⁺ transport in skeletal muscle. In neurons, plays an 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.

Synonyms:

CAMKA, CAMKB, CAMKD, KIAA0968, CaM-kinase II alpha chain, CaM-kinase II beta chain, CaM-kinase II delta chain, CaM kinase II subunit alpha, CaMK-II subunit alpha

Product images:

Western blot analysis of extracts from 3T3 cells (Lane 2), using CaMK2α/β/γ' (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).