Data Sheet (Cat.No.TMAC-00538)

Anti-Phospho-CAMKII alpha/beta/gamma (Thr305) Polyclonal Antibody 2

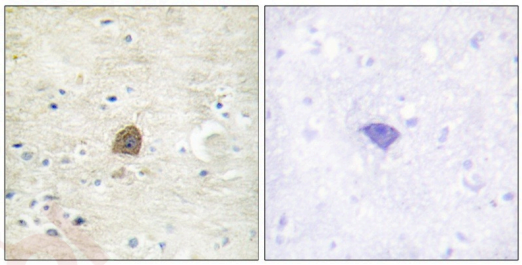
Product Details

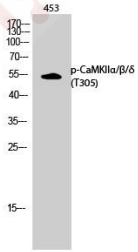
Ig Type:	IgG
Reactivity:	Human,Mouse,Rat
Conjugation:	Unconjugated
Molecular Weight:	Actual: 54 kDa.
Purification:	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.

Applications

Verified Activity:

1. Immunohistochemical analysis of paraffin-embedded human brain tissue using CaMKII (Phospho-Thr305) antibody TMAC-00538 (left) or the same antibody preincubated with blocking peptide (right).
2. Western Blot analysis of 453 cells using Phospho-CaMKIIα/β/δ (T305) Polyclonal Antibody diluted at 1:1000.





Application:	IF,IHC,WB
Recommended	WB: 1:500-2000; IHC: 1:100-300; IF: 1:50-200

Properties

Stability & Storage:	Store at -20°C or -80°C for 12 months. Avoid repeated freeze-thaw cycles.
Shipping:	Shipping with blue ice.

Antigen Details

Immunogen:	A synthesized phosphopeptide: human CaMK2 alpha/beta/delta around the phosphorylation site of Thr305
Antigen Species:	human
Uniprot ID:	Q9UQM7 & Q13554 & Q13555
Synonyms:	p-CAMKII alpha/beta/gamma (T305);p-CAMKII alpha/beta/gamma (Thr305);CAMKII alpha/beta/gamma (p-T305);CAMKII alpha/beta/gamma (p-Thr305)

Research 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.

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