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CaMKIIβ/γ/δ (Phospho Thr287) Monoclonal Antibody(4H2)

Catalog # AP63645

Product Information

Application	IHC-P
Primary Accession	Q13554, Q13555, Q13557
Reactivity	Human, Rat, Mouse
Host	Mouse
Clonality	Monoclonal
Calculated MW	72678

Additional Information

Gene ID	816
Other Names	CAMK2B; CAM2; CAMK2; CAMKB; Calcium/calmodulin-dependent protein kinase type II subunit beta; CaM kinase II subunit beta; CaMK-II subunit beta; CAMK2G; CAMK; CAMK-II; CAMKG; Calcium/calmodulin-dependent protein kinase type II subunit gamma;
Dilution	IHC-P~~IHC 1:100-200
Format	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.
Storage Conditions	-20℃

Protein Information

Name	CAMK2B
Synonyms	CAM2, CAMK2, CAMKB
Function	Calcium/calmodulin-dependent protein kinase that functions autonomously after Ca(2+)/calmodulin-binding and autophosphorylation, and is involved in dendritic spine and synapse formation, neuronal plasticity and regulation of sarcoplasmic reticulum Ca(2+) transport in skeletal muscle (PubMed:16690701). 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. Also regulates the migration of developing neurons (PubMed:29100089). Participates in the modulation of skeletal muscle function in response to exercise (PubMed:16690701). In slow-twitch muscles, is involved in regulation of sarcoplasmic reticulum (SR) Ca(2+) transport and in fast-twitch muscle participates in the control of Ca(2+) release from the SR through phosphorylation of triadin, a ryanodine receptor-coupling factor, and phospholamban (PLN/PLB), an endogenous inhibitor of SERCA2A/ATP2A2. In response to interferon-gamma (IFN-gamma) stimulation, catalyzes phosphorylation of STAT1, stimulating the JAK-STAT signaling pathway (By similarity). Phosphorylates reticulophagy regulator RETREG1 at 'Ser-151' under endoplasmic reticulum stress conditions which enhances RETREG1 oligomerization and its membrane scission and reticulophagy activity (PubMed:31930741).

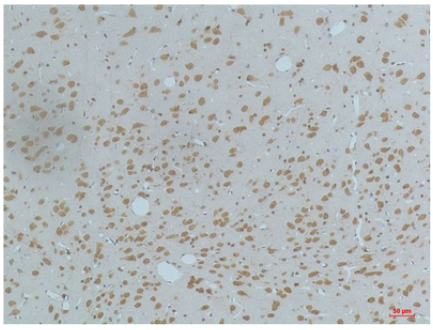
Cellular Location

Cytoplasm, cytoskeleton. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Sarcoplasmic reticulum membrane; Peripheral membrane protein; Cytoplasmic side. Synapse {ECO:0000250|UniProtKB:P08413} Note=In slow-twitch muscle, evenly distributed between longitudinal SR and junctional SR

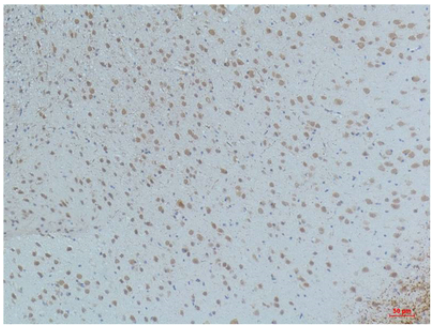
Tissue Location

Widely expressed. Expressed in adult and fetal brain. Expression is slightly lower in fetal brain. Expressed in skeletal muscle.

Images



Immunohistochemical analysis of paraffin-embedded Rat Brain Tissue using CaMKIIβ/ γ /δ (Phospho Thr287) (mAb diluted at 1:200.



Immunohistochemical analysis of paraffin-embedded Mouse Brain Tissue using CaMKIIβ/ γ /δ (Phospho Thr287) Mouse mAb diluted at 1:200.