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Mouse Camk2b Antibody (Center) Blocking Peptide

Synthetic peptide
Catalog # BP14185c

Specification

Mouse Camk2b Antibody (Center) Blocking Peptide - Product Information

Primary Accession P28652

Mouse Camk2b Antibody (Center) Blocking Peptide - Additional Information

Gene ID 12323

Other Names
Calcium/calmodulin-dependent protein kinase type II subunit beta, CaM kinase II subunit beta, CaMK-II subunit beta, Camk2b, Camk2d

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

Mouse Camk2b Antibody (Center) Blocking Peptide - Protein Information

Name Camk2b

Synonyms Camk2d

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. 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. 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 (PubMed:21752990). 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 'Thr-134' under endoplasmic reticulum stress conditions which enhances RETREG1 oligomerization and its membrane scission and reticulophagy activity (By similarity).

Cellular Location
Cytoplasm, cytoskeleton. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Sarcoplasmic reticulum membrane; Peripheral membrane protein; Cytoplasmic side. Synapse {ECO:0000250|UniProtKB:P08413}

Mouse Camk2b Antibody (Center) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

Mouse Camk2b Antibody (Center) Blocking Peptide - Images

Mouse Camk2b Antibody (Center) Blocking Peptide - Background

CaM-kinase II (CAMK2) is a prominent kinase in the central nervous system that may function in long-term potentiation and neurotransmitter release. Member of the NMDAR signaling complex in excitatory synapses it may regulate NMDAR-dependent potentiation of the AMPAR and synaptic plasticity (By similarity).

Mouse Camk2b Antibody (Center) Blocking Peptide - References

Martinez-Pena y Valenzuela, I., et al. J. Neurosci. 30(37):12455-12465(2010)Jin, X.L., et al. Biol. Reprod. 82(2):459-468(2010)van Woerden, G.M., et al. Nat. Neurosci. 12(7):823-825(2009)Butcher, A.J., et al. J. Biol. Chem. 284(25):17147-17156(2009)Cheng, T.W., et al. Eur. J. Neurosci. 29(6):1083-1095(2009)