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CAMK2B Antibody (C-term D406) Blocking Peptide

Synthetic peptide
Catalog # BP7417b

Specification

CAMK2B Antibody (C-term D406) Blocking Peptide - Product Information

Primary Accession Q13554

CAMK2B Antibody (C-term D406) Blocking Peptide - Additional Information

Gene ID 816

Other Names
Calcium/calmodulin-dependent protein kinase type II subunit beta, CaM kinase II subunit beta, CaMK-II subunit beta, CAMK2B, CAM2, CAMK2, CAMKB

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP7417b was selected from the C-term region of human CAMK2B. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

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.

CAMK2B Antibody (C-term D406) Blocking Peptide - Protein Information

Name CAMK2B

CAMK2B Antibody (C-term D406) Blocking Peptide - Background

CAMK2B belongs to the serine/threonine protein kinase family and to the Ca(2+)/calmodulin-dependent protein kinase subfamily. Calcium signaling is crucial for several aspects of plasticity at glutamatergic synapses. In mammalian cells, the enzyme is composed of four different chains: alpha, beta, gamma, and delta. This protein is a beta chain. It is possible that distinct isoforms of this chain have different cellular localizations and interact differently with calmodulin.

CAMK2B Antibody (C-term D406) Blocking Peptide - References

Hoogenraad,C.C., Dev. Cell 12 (4), 587-602 (2007)Novak,G., Synapse 59 (1), 61-68 (2006)

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. 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.

Cellular Location
Cytoplasm, cytoskeleton. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome. Sarcoplasmic reticulum membrane; Peripheral membrane protein; Cytoplasmic side. Cell junction, 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.

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CAMK2B Antibody (C-term D406) Blocking Peptide - Protocols

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

- Blocking Peptides