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CAMK2 beta Antibody (C-term)

Purified Mouse Monoclonal Antibody (Mab)
Catalog # AM8610b

Specification

CAMK2 beta Antibody (C-term) - Product Information

Application	**WB, IHC-P,E**
Primary Accession	Q13554
Reactivity	**Human, Mouse, Rat**
Host	**Mouse**
Clonality	**monoclonal**
Isotype	**IgG1**
Calculated MW	**72678**

CAMK2 beta Antibody (C-term) - 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, 2.7.11.17, CAMK2B, CAM2, CAMK2, CAMKB

Target/Specificity
This CAMK2 beta antibody is generated from a mouse immunized with a recombinant protein between 1-503 amino acids from human CAMK2 beta.

Dilution
WB~~1:2000
IHC-P~~1:25

Format
Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, followed by dialysis against PBS.

Storage
Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
CAMK2 beta Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

CAMK2 beta Antibody (C-term) - 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.

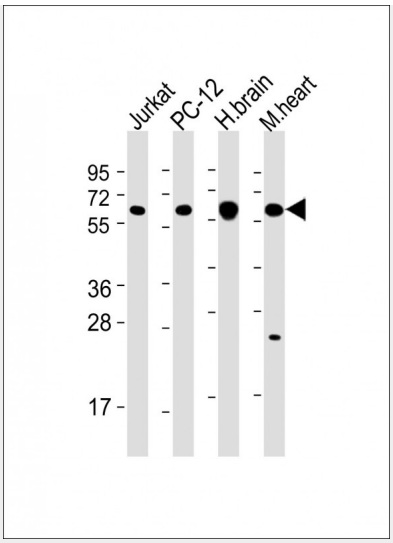
CAMK2 beta Antibody (C-term) - Protocols

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

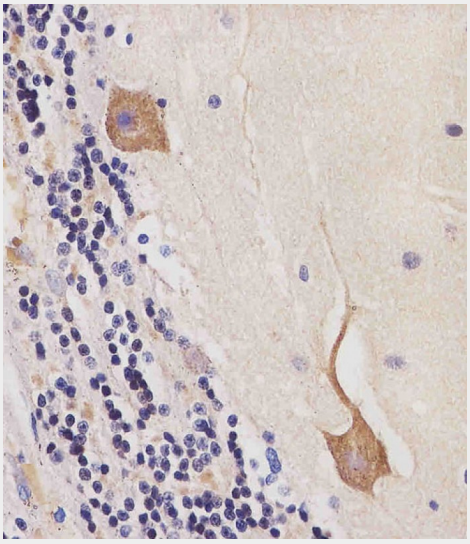
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

CAMK2 beta Antibody (C-term) - Images

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All lanes : Anti-CAMK2 beta Antibody (C-term) at 1:2000 dilution Lane 1: Jurkat whole cell lysate Lane 2: PC-12 whole cell lysate Lane 3: human brain lysate Lane 4: mouse heart lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-mouse IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 60 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



AM8610b staining CAMK2 in human cerebellum tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with formaldehyde and blocked with 3% BSA for 0. 5 hour at room temperature; antigen retrieval was by heat mediation with a citrate buffer (pH6). Samples were incubated with primary antibody (1/25) for 1 hours at 37°C. A undiluted biotinylated goat polyvalent antibody was used as the secondary antibody.

CAMK2 beta Antibody (C-term) - Background

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CAMK2 beta Antibody (C-term) - References

Wang P.,et al.FEBS Lett. 475:107-110(2000).
Leddy J.J.,et al.Submitted (MAR-1995) to the EMBL/GenBank/DDBJ databases.
Li G.Y.,et al.Submitted (DEC-1998) to the EMBL/GenBank/DDBJ databases.
Rochlitz H.,et al.Diabetologia 43:465-473(2000).
Ota T.,et al.Nat. Genet. 36:40-45(2004).