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Mouse Prkcg Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP14698a

Product Information

Application	WB, E
Primary Accession	P63318
Other Accession	P63319, P10829, Q4R4U2, P05129, P05128, NP_035232.1
Reactivity	Mouse
Predicted	Bovine, Human, Monkey, Rabbit, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB34688
Calculated MW	78358
Antigen Region	74-102

Additional Information

Gene ID	18752
Other Names	Protein kinase C gamma type, PKC-gamma, Prkcg, Pkcc, Pkcg, Prkcc
Target/Specificity	This Mouse Prkcg antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 74-102 amino acids from the N-terminal region of mouse Prkcg.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
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	Mouse Prkcg Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	Prkcg
Synonyms	Pkcc, Pkcg, Prkcc
Function	Calcium-activated, phospholipid- and diacylglycerol (DAG)- dependent

	serine/threonine-protein kinase that plays diverse roles in neuronal cells and eye tissues, such as regulation of the neuronal receptors GRIA4/GLUR4 and GRIN1/NMDAR1, modulation of receptors and neuronal functions related to sensitivity to opiates, pain and alcohol, mediation of synaptic function and cell survival after ischemia, and inhibition of gap junction activity after oxidative stress. Binds and phosphorylates GRIA4/GLUR4 glutamate receptor and regulates its function by increasing plasma membrane-associated GRIA4 expression. In primary cerebellar neurons treated with the agonist 3,5-dihyidroxyphenylglycine, functions downstream of the metabotropic glutamate receptor GRM5/MGLUR5 and phosphorylates GRIN1/NMDAR1 receptor which plays a key role in synaptic plasticity, synaptogenesis, excitotoxicity, memory acquisition and learning. May be involved in the regulation of hippocampal long-term potentiation (LTP), but may be not necessary for the process of synaptic plasticity. May be involved in desensitization of mu-type opioid receptor-mediated G-protein activation in the spinal cord, and may be critical for the development and/or maintenance of morphine-induced reinforcing effects in the limbic forebrain. May modulate the functionality of mu-type-opioid receptors by participating in a signaling pathway which leads to the phosphorylation and degradation of opioid receptors. May also contribute to chronic morphine-induced changes in nociceptive processing. Plays a role in neuropathic pain mechanisms and contributes to the maintenance of the allodynia pain produced by peripheral inflammation. Plays an important role in initial sensitivity and tolerance to ethanol, by mediating the behavioral effects of ethanol as well as the effects of this drug on the GABA(A) receptors. During and after cerebral ischemia modulate neurotransmission and cell survival in synaptic membranes, and is involved in insulin-induced inhibition of necrosis, an important mechanism for minimizing ischemic injury. Required for the elimination of multiple climbing fibers during innervation of Purkinje cells in developing cerebellum. Is activated in lens epithelial cells upon hydrogen peroxide treatment, and phosphorylates connexin-43 (GJA1/CX43), resulting in disassembly of GJA1 gap junction plaques and inhibition of gap junction activity which could provide a protective effect against oxidative stress. Phosphorylates p53/TP53 and promotes p53/TP53-dependent apoptosis in response to DNA damage. Involved in the phase resetting of the cerebral cortex circadian clock during temporally restricted feeding. Stabilizes the core clock component BMAL1 by interfering with its ubiquitination, thus suppressing its degradation, resulting in phase resetting of the cerebral cortex clock (PubMed:23185022). Phosphorylates and activates LRRK1, which phosphorylates RAB proteins involved in intracellular trafficking (By similarity).
Cellular Location	Cytoplasm. Cytoplasm, perinuclear region. Cell membrane; Peripheral membrane protein. Synapse, synaptosome Cell projection, dendrite {ECO:0000250|UniProtKB:P63319} Note=Translocates to synaptic membranes on stimulation
Tissue Location	Expressed in the cerebellum, cerebral cortex and hippocampus (at protein level). Highly expressed in Purkinje cells

Background

This is a calcium-activated, phospholipid-dependent, serine-and threonine-specific enzyme. PKC is activated by diacylglycerol which in turn phosphorylates a range of cellular proteins. PKC also serves as the receptor for phorbol esters, a class of tumor promoters.

References

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Ross, S.E., et al. Neuron 65(6):886-898(2010)
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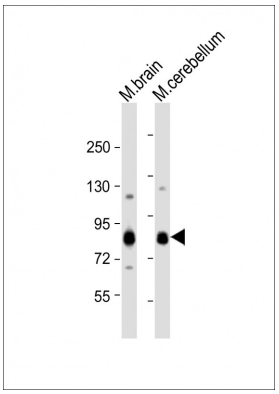
Tao, H., et al. Proc. Natl. Acad. Sci. U.S.A. 106(34):14426-14431(2009)

Images



All lanes : Anti-Prkcg Antibody (N-term) at 1:1000 dilution Lane 1: mouse brain lysate Lane 2: mouse cerebellum lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 78 kDa Blocking/Dilution buffer: 5% NFDM/TBST.