

PRKCG / PKC-Gamma Antibody
Rabbit Polyclonal Antibody
Catalog # ALS14855**Specification**

PRKCG / PKC-Gamma Antibody - Product Information

Application	WB, IHC
Primary Accession	P05129
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	78kDa KDa

PRKCG / PKC-Gamma Antibody - Additional Information**Gene ID** 5582**Other Names**

Protein kinase C gamma type, PKC-gamma, 2.7.11.13, PRKCG, PKCG

Reconstitution & Storage

Short term 4°C, long term aliquot and store at -20°C, avoid freeze thaw cycles.

Precautions

PRKCG / PKC-Gamma Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

PRKCG / PKC-Gamma Antibody - Protein Information**Name** PRKCG**Synonyms** PKCG**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- dihydroxyphenylglycine, 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 (By similarity). 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 (By similarity).

Cellular Location

Cytoplasm {ECO:0000250|UniProtKB:P63318}. Cytoplasm, perinuclear region. Cell membrane; Peripheral membrane protein. Synapse, synaptosome {ECO:0000250|UniProtKB:P63318} Cell projection, dendrite {ECO:0000250|UniProtKB:P63319} Note=Translocates to synaptic membranes on stimulation {ECO:0000250|UniProtKB:P63318}

Tissue Location

Expressed in Purkinje cells of the cerebellar cortex.

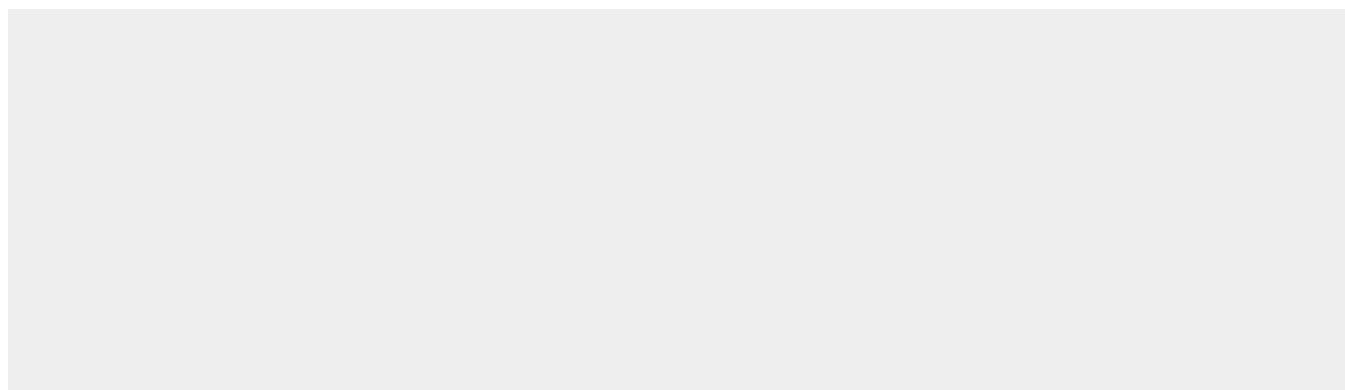
Volume

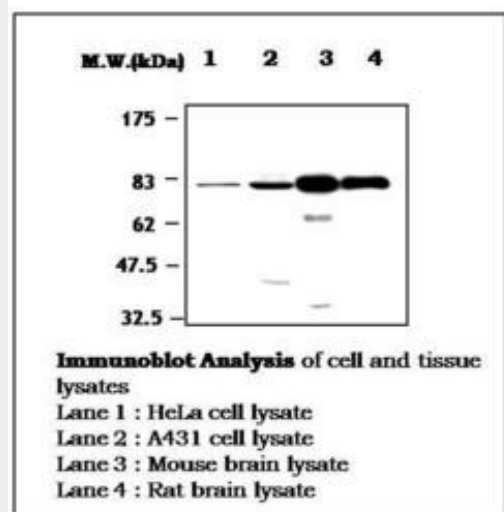
50 µl

PRKCG / PKC-Gamma Antibody - Protocols

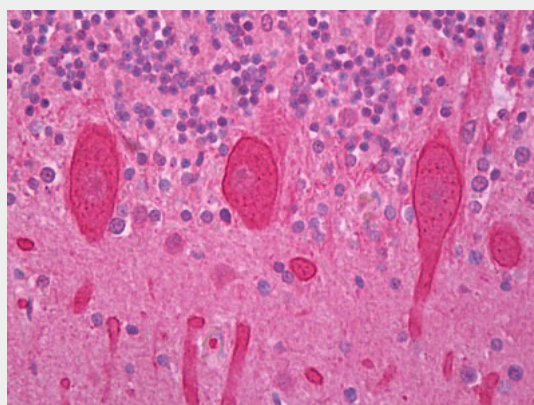
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

PRKCG / PKC-Gamma Antibody - Images



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Anti-PRKCG / PKC-Gamma antibody IHC of human brain, cerebellum, Purkinje cells.

PRKCG / PKC-Gamma Antibody - Background

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PRKCG / PKC-Gamma Antibody - References

Cui W.C.,et al.Submitted (FEB-2001) to the EMBL/GenBank/DDBJ databases.
Ota T.,et al.Nat. Genet. 36:40-45(2004).
Grimwood J.,et al.Nature 428:529-535(2004).
Coussens L.,et al.Science 233:859-866(1986).
Kochs G.,et al.Eur. J. Biochem. 216:597-606(1993).