10320 Camino Santa Fe, Suite G
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# KD-Validated Anti-Phospho-PKC gamma (Thr514) Rabbit Monoclonal Antibody

**Rabbit monoclonal antibody**
**Catalog # AGI1824**

## Specification

### KD-Validated Anti-Phospho-PKC gamma (Thr514) Rabbit Monoclonal Antibody - Product Information

| | |
|---|---|
| Application | **WB, FC** |
| Primary Accession | P05129 |
| Reactivity | **Rat, Human, Mouse** |
| Clonality | **Monoclonal** |
| Isotype | **Rabbit IgG** |
| Calculated MW | **Predicted, 78 kDa, observed, 75 kDa KDa** |
| Gene Name | **PRKCG** |
| Aliases | **PRKCG; Protein Kinase C Gamma; PKC-Gamma; PKCC; PKCG; Protein Kinase C Gamma Type; EC 2.7.11.13; MGC57564;SCA14; Protein Kinase C, Gamma; EC 2.7.11; PKCgamma; PKCI(3); PKCγ** |
| Immunogen | **A synthesized peptide derived from human Phospho-PKC gamma (Thr514)** |

### KD-Validated Anti-Phospho-PKC gamma (Thr514) Rabbit Monoclonal Antibody - Additional Information

Gene ID **5582**

**Other Names**
Protein kinase C gamma type, PKC-gamma, 2.7.11.13, PRKCG, PKCG

### KD-Validated Anti-Phospho-PKC gamma (Thr514) Rabbit Monoclonal 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- 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 contributes 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). Phosphorylates and activates LRRK1, which phosphorylates RAB proteins involved in intracellular trafficking (PubMed:<a href="http://www.uniprot.org/citations/36040231" target="_blank">36040231</a>).

**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.

## KD-Validated Anti-Phospho-PKC gamma (Thr514) Rabbit Monoclonal 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 Cytomety
- Cell Culture

## KD-Validated Anti-Phospho-PKC gamma (Thr514) Rabbit Monoclonal Antibody - Images

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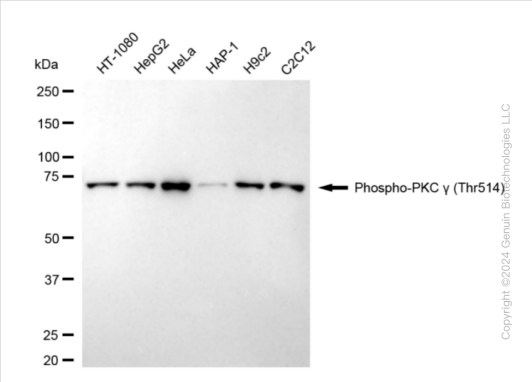
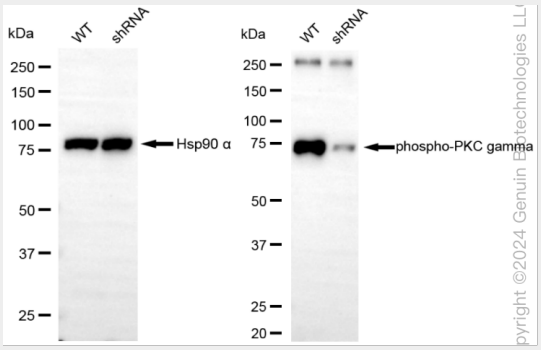
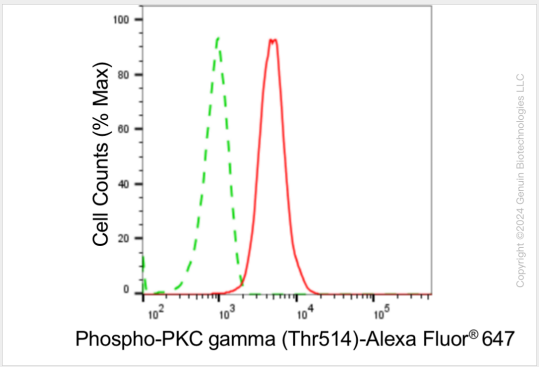



Western blotting analysis using anti-phospho-PKC gamma (Thr514) antibody (Cat#AGI1824). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-phospho-PKC gamma (Thr514) antibody (Cat#AGI1824, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.




Western blotting analysis using anti-phospho-PKC gamma (Thr514) antibody (Cat#AGI1824). Phospho-PKC gamma (Thr514) expression in wild type (WT) and PRKCG shRNA knockdown (KD) HT-1080 cells with 20 µg of total cell lysates. Hsp90 α serves as a loading control. The blot was incubated with anti-phospho-PKC gamma (Thr514) antibody (Cat#AGI1824, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.




Flow cytometric analysis of Phospho-PKC gamma (Thr514) expression in C2C12 cells using anti-Phospho-PKC gamma (Thr514) antibody (Cat#AGI1824, 1:2,000). Green, isotype control; red, Phospho-PKC gamma (Thr514).