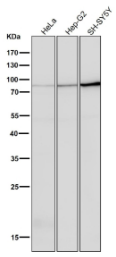
# PRKCA/B/G Antibody / Protein kinase C [clone 32P77] (FY12173)

| Catalog No. | Formulation | Size |
|---|---|---|
| FY12173 | Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA | 100 ul |

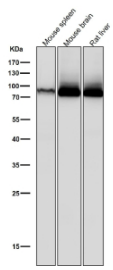
Recombinant RABBIT MONOCLONAL

**Bulk quote request**

| | |
|---|---|
| **Availability** | 2-3 weeks |
| **Species Reactivity** | Human, Mouse, Rat |
| **Format** | Liquid |
| **Clonality** | Recombinant Rabbit Monoclonal |
| **Isotype** | Rabbit IgG |
| **Clone Name** | 32P77 |
| **Purity** | Affinity-chromatography |
| **Buffer** | Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA. |
| **UniProt** | P05771, P05129, P17252 |
| **Applications** | Western Blot : 1:500-1:2000<br>Immunohistochemistry : 1:50-1:200<br>Immunocytochemistry/Immunofluorescence : 1:50-1:200<br>Immunoprecipitation : 1:50 |
| **Limitations** | This PRKCA/B/G antibody is available for research use only. |




All lanes use the PRKCA/B/G antibody at 1:5K dilution for 1 hour at room temperature.

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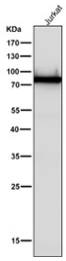


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## Description

PRKCA/B/G antibody detects protein kinase C isoforms alpha, beta, and gamma, members of the serine/threonine protein kinase C (PKC) family. These isoforms belong to the conventional PKC subclass, which requires both diacylglycerol (DAG) and calcium for activation. PRKCA, PRKCB, and PRKCG are widely expressed across tissues, with overlapping but distinct roles in regulating cellular growth, differentiation, survival, and signal transduction.

Research using PRKCA/B/G antibody has highlighted their central role in cell signaling. PRKCA (PKC alpha) contributes to proliferation and differentiation in epithelial cells, while PRKCB (PKC beta) is particularly important in B-cell receptor signaling and immune function. PRKCG (PKC gamma) is expressed mainly in the central nervous system, where it regulates synaptic plasticity and neuronal signaling. Together, these isoforms integrate extracellular signals into phosphorylation cascades that control numerous biological processes.

Dysregulation of conventional PKCs has been implicated in multiple disease contexts. In cancer, PKC alpha and beta have complex, context-dependent roles. Overexpression of PKC alpha promotes tumor progression in breast, prostate, and liver cancers, while in some settings it exerts tumor-suppressive effects. PKC beta contributes to angiogenesis and leukemia pathogenesis, making it a therapeutic target. PKC gamma has been associated with neurological disorders, including spinocerebellar ataxia, where mutations disrupt kinase activity.

Cardiovascular research has identified PRKCA and PRKCB as important regulators of contractility, hypertrophy, and ischemic injury responses. Inhibiting specific PKC isoforms can reduce cardiac damage during ischemia-reperfusion and improve vascular function. In diabetes, altered PKC signaling contributes to endothelial dysfunction and complications such as diabetic retinopathy and nephropathy.

In neuroscience, PRKCG is highly enriched in cerebellar Purkinje cells and plays a role in learning, memory, and motor coordination. PKC signaling also affects long-term potentiation and depression, linking it to cognitive and behavioral outcomes. Alterations in PKC gamma activity have been connected to neurodegenerative processes and synaptic dysfunction.

Immune system studies further emphasize the importance of PRKCA/B/G. PKC beta regulates B-cell activation and survival, while PKC alpha contributes to T-cell receptor signaling. Dysregulation of these kinases impacts immune tolerance, autoimmunity, and susceptibility to infection. Selective inhibitors of PKC beta have been tested in clinical trials for diabetic microvascular complications and lymphoid malignancies, demonstrating therapeutic relevance.

Antibodies against PRKCA/B/G are validated for western blot, immunohistochemistry, and immunofluorescence. These

reagents allow simultaneous detection of the three major conventional PKC isoforms, supporting comparative studies across tissues. Clone-based antibodies ensure specificity and reproducibility in complex experimental systems. Researchers employ these tools to monitor PKC activation states, subcellular localization, and disease-related expression changes.

NSJ Bioreagents provides this PRKCA/B/G antibody to support studies in cancer biology, immunology, cardiology, and neuroscience.

## Application Notes

Optimal dilution of the PRKCA/B/G antibody should be determined by the researcher.

## Immunogen

A synthesized peptide derived from human PKC was used as the immunogen for the PRKCA/B/G antibody.

## Storage

Store the PRKCA/B/G antibody at -20oC.