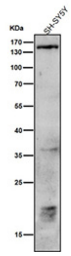
Phospho-PLCB3 (Ser537) Antibody / Phospholipase C beta 3 [clone 32P57] (FY12250)

Catalog No.	Formulation	Size
FY12250	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
Format	Liquid
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	32P57
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	Q01970
Applications	Western Blot : 1:500-1:2000
Limitations	This Phospho-PLCB3 (Ser537) antibody is available for research use only.



All lanes use the Phospho-PLCB3 (Ser537) antibody at 1:1K dilution for 1 hour at room temperature.

Description

Phospho-PLCB3 (Ser537) antibody detects phospholipase C beta 3 (PLCB3) phosphorylated at serine 537, a modification that regulates enzyme activity and signaling. PLCB3 is a member of the phospholipase C family of enzymes, which hydrolyze phosphatidylinositol 4,5-bisphosphate (PIP2) to generate second messengers inositol trisphosphate (IP3) and diacylglycerol (DAG). These messengers mobilize intracellular calcium and activate protein kinase C, driving

pathways involved in cell growth, differentiation, and immune responses.

Research using Phospho-PLCB3 (Ser537) antibody has shown that phosphorylation at this site enhances or modulates enzyme activity depending on cellular context. Kinases including PKC and CaMKII target Ser537, linking feedback regulation to receptor-mediated signaling. This modification influences G protein-coupled receptor (GPCR) and receptor tyrosine kinase pathways, where PLCB3 acts as a critical mediator of calcium signaling.

In immune cells, PLCB3 phosphorylation at Ser537 regulates lymphocyte activation, cytokine production, and inflammatory responses. Dysregulated PLCB3 activity contributes to autoimmune disease, chronic inflammation, and impaired host defense. In cardiovascular research, PLCB3 is implicated in vascular smooth muscle contraction, hypertension, and cardiac hypertrophy. Aberrant PLCB3 signaling has also been linked to tumorigenesis, where altered calcium signaling drives proliferation and survival.

Neurobiology studies show that PLCB3 contributes to synaptic plasticity and neurotransmitter release, with Ser537 phosphorylation fine-tuning neuronal calcium dynamics. This role connects PLCB3 to learning, memory, and neurological disorders. In endocrine systems, PLCB3 signaling regulates hormone secretion and metabolic processes.

Antibodies against phospho-PLCB3 (Ser537) are validated for western blot, immunohistochemistry, and immunofluorescence. These reagents allow detection of phosphorylation-dependent activation, supporting studies in signaling pathways and disease models.

NSJ Bioreagents supplies this Phospho-PLCB3 (Ser537) antibody for research into calcium signaling, immunity, and cancer biology.

Application Notes

Optimal dilution of the Phospho-PLCB3 (Ser537) antibody should be determined by the researcher.

Immunogen

A synthesized peptide derived from human Phospho-PLCB3 (S537) was used as the immunogen for the Phospho-PLCB3 (Ser537) antibody.

Storage

Store the Phospho-PLCB3 (Ser537) antibody at -20oC.