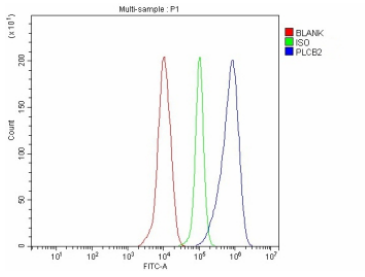
PLCB2 Antibody / Phospholipase C-beta-2 (FY12434)

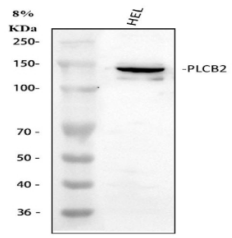
Catalog No.	Formulation	Size
FY12434	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q00722
Applications	Western Blot : 0.25-0.5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This PLCB2 antibody is available for research use only.



Flow Cytometry analysis of THP-1 cells using anti-PLCB2 antibody. Overlay histogram showing THP-1 cells stained with (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-PLCB2 antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.



Western blot analysis of PLCB2 using anti-PLCB2 antibody. Lane 1: human HEL whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-PLCB2 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using enhanced chemiluminescent. PLCB2 (~134 kDa predicted) was detected as a doublet at ~135-145 kDa, consistent with phosphorylation-dependent mobility shifts and isoform variation reported for this enzyme.

Description

The PLCB2 antibody targets 1-phosphatidylinositol 4,5-bisphosphate phosphodiesterase beta-2 (Phospholipase C-beta-2), an enzyme encoded by the PLCB2 gene. This beta isoform of phospholipase C hydrolyzes phosphatidylinositol 4,5-bisphosphate (PIP2) into the second messengers inositol 1,4,5-trisphosphate (IP3) and diacylglycerol (DAG). These products regulate calcium signaling and protein kinase C activation, forming a critical pathway downstream of G-protein-coupled receptors (GPCRs) and immune receptors. The PLCB2 antibody provides a specific tool for exploring phosphoinositide signaling, calcium homeostasis, and receptor-mediated cellular activation.

1-phosphatidylinositol 4,5-bisphosphate phosphodiesterase beta-2 is widely expressed in hematopoietic and epithelial cells. It interacts with G alpha q and G beta gamma subunits of heterotrimeric G-proteins, linking receptor activation to intracellular calcium mobilization. The PLCB2 antibody enables detection of this enzyme in tissues where rapid signal transduction is required, such as immune cells and neurons. Its enzymatic activity is central to processes like secretion, chemotaxis, and proliferation.

PLCB2 plays a pivotal role in innate and adaptive immunity by coupling receptor engagement to downstream effector responses. The PLCB2 antibody supports investigations into Fc receptor signaling, platelet activation, and leukocyte migration. Dysregulation of phospholipase C beta-2 can lead to aberrant immune signaling, inflammation, and altered calcium dynamics that contribute to autoimmune or cardiovascular disorders.

In addition to its immune functions, 1-phosphatidylinositol 4,5-bisphosphate phosphodiesterase beta-2 contributes to sensory transduction in olfactory and gustatory pathways. The PLCB2 antibody is therefore valuable for neuroscience and sensory-biology research. Knockout models reveal its necessity in taste signaling and mucosal immune defense.

The PLCB2 antibody performs effectively in western blotting, immunofluorescence, and immunohistochemistry, typically revealing cytoplasmic and membrane-associated staining. NSJ Bioreagents provides this antibody as a validated, high-specificity reagent for cell signaling, immunology, and biochemistry research. By enabling accurate detection of 1-phosphatidylinositol 4,5-bisphosphate phosphodiesterase beta-2, the PLCB2 antibody advances understanding of G-protein-coupled signaling networks and calcium-dependent cellular processes.

Application Notes

Optimal dilution of the PLCB2 antibody should be determined by the researcher.

Immunogen

E.coli-derived human PLCB2 recombinant protein (Position: D27-L1185) was used as the immunogen for the PLCB2 antibody.

Storage

After reconstitution, the PLCB2 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.