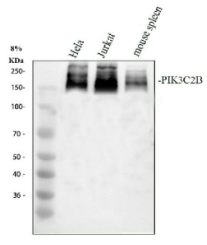
# PIK3C2B Antibody / Phosphoinositide 3-kinase-C2-beta (FY12329)

| Catalog No. | Formulation | Size |
|---|---|---|
| FY12329 | 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, Mouse |
| **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** | O00750 |
| **Applications** | Western Blot: 0.25-0.5ug/ml<br>ELISA: 0.1-0.5ug/ml |
| **Limitations** | This PIK3C2B antibody is available for research use only. |




Western blot analysis of PIK3C2B using anti-PIK3C2B antibody. Electrophoresis was performed on a 8% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human placenta tissue lysates, Lane 2: mouse thymus tissue 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-PIK3C2B 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 an ECL Plus Western Blotting Substrate. The dominant banding around ~160â€“180 kDa likely corresponds to fullâ€•length PIK3C2B with variable post-translational modification and possibly partial degradation or isoform heterogeneity.

## Description

PIK3C2B antibody is used to study Phosphatidylinositol 4-phosphate 3-kinase C2 domain-containing subunit beta, a class II phosphoinositide 3-kinase that generates phosphatidylinositol 3-phosphate and phosphatidylinositol 3,4-bisphosphate

to orchestrate membrane trafficking and growth signaling. As a lipid kinase enriched at endosomal and clathrin-coated structures, this enzyme influences receptor internalization, endocytic recycling, and cargo sorting, shaping the amplitude and duration of pathways such as AKT and MAPK. By coupling local phosphoinositide synthesis to vesicle dynamics, Phosphatidylinositol 4-phosphate 3-kinase C2 domain-containing subunit beta helps maintain compartment identity and directional transport across the endo-lysosomal system.

Structurally, the protein contains an N-terminal C2 domain for membrane engagement, a catalytic PI3K core, and regulatory regions that tune localization and activity. Its lipid products act as docking cues for PX and FYVE domain proteins, recruiting effectors that drive membrane curvature, scission, and maturation. In epithelial models, altered activity perturbs clathrin-mediated endocytosis and primary cilium function, whereas in endothelial contexts it modulates barrier properties, trafficking of adhesion molecules, and response to shear stress. These functions collectively position Phosphatidylinositol 4-phosphate 3-kinase C2 domain-containing subunit beta as a coordinator of vesicle flux and signal timing.

In disease research, shifts in expression or copy number of the PIK3C2B gene have been reported in several cancer types, motivating studies that examine how endocytic control intersects with proliferation and invasion. Because endosomal signaling platforms determine downstream transcriptional outcomes, profiling this kinase can clarify resistance mechanisms to receptor tyrosine kinase inhibitors and reveal vulnerabilities linked to trafficking bottlenecks. Neurobiology and metabolism studies also leverage the pathway, given the importance of phosphoinositides in synaptic vesicle cycles and insulin-responsive trafficking.

Researchers use PIK3C2B antibody for western blotting to quantify endogenous protein across cell states, for immunofluorescence to map subcellular pools at clathrin lattices and early endosomes, and for immunoprecipitation to define complexes with adaptors and coat proteins. In fractionation workflows, the antibody helps relate lipid kinase distribution to functional readouts such as cargo recycling rates, phosphoinositide mass assays, and live-cell trafficking reporters. When combined with pharmacologic PI3K perturbation or CRISPR knockdown, PIK3C2B antibody supports cause-and-effect tests linking local lipid synthesis to receptor fate and signaling persistence.

The PIK3C2B antibody from NSJ Bioreagents integrates cleanly into multi-modal pipelines that couple imaging, proteomics, and lipid analytics, giving teams a reliable anchor for studies of endocytosis, receptor resensitization, and compartmentalized PI signaling. With careful experimental design, investigators can trace how spatially resolved phosphoinositide production by this class II kinase controls membrane identity and information flow from the plasma membrane to the nucleus.

## Application Notes

Optimal dilution of the PIK3C2B antibody should be determined by the researcher.

## Immunogen

E.coli-derived human PIK3C2B recombinant protein (Position: R21-E1009) was used as the immunogen for the PIK3C2B antibody.

## Storage

After reconstitution, the PIK3C2B antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

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