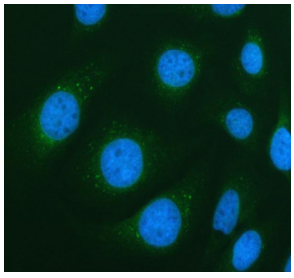
PIK3C2A Antibody / Phosphoinositide 3-kinase-C2-alpha (FY12818)

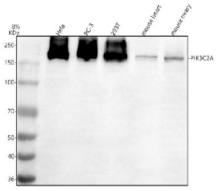
Catalog No.	Formulation	Size
FY12818	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

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	O00443
Localization	Cytoplasm, Nucleus, Cell membrane
Applications	Western Blot: 0.25-0.5ug/ml Immunocytochemistry/Immunofluorescence: 5ug/ml ELISA: 0.1-0.5ug/ml
Limitations	This PIK3C2A antibody is available for research use only.



Immunofluorescent staining of PIK3C2A using anti-PIK3C2A antibody (green). PIK3C2A was detected in an immunocytochemical section of Hela cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 ug/ml rabbit anti-PIK3C2A antibody overnight at 4oC. DyLight 488 Conjugated Goat Anti-Rabbit IgG was used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37oC. Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Western blot analysis of PIK3C2A using anti-PIK3C2A antibody. Electrophoresis was performed on a 8% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human Hela whole cell lysates, Lane 2: human PC-3 whole cell lysates, Lane 3: human 293T whole cell lysates, Lane 4: mouse heart tissue lysates, Lane 5: mouse ovary 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-PIK3C2A 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. A specific band was detected for PIK3C2A at approximately 191 kDa. The expected molecular weight of PIK3C2A is ~191 kDa.

Description

PIK3C2A antibody detects Phosphatidylinositol-4-phosphate 3-kinase C2 domain-containing alpha polypeptide, a lipid kinase that regulates membrane trafficking, signal transduction, and cytoskeletal organization. Encoded by the PIK3C2A gene on chromosome 11p15.5, this enzyme belongs to the class II phosphoinositide 3-kinase (PI3K) family and phosphorylates phosphatidylinositol and phosphatidylinositol 4-phosphate to generate phosphatidylinositol 3-phosphate (PI3P) and phosphatidylinositol 3,4-bisphosphate (PI(3,4)P2). Through these lipid intermediates, PIK3C2A coordinates endocytosis, vesicle trafficking, and cell polarity regulation.

PIK3C2A contains a catalytic kinase domain, a C2 lipid-binding domain, and clathrin-binding regions that localize it to the plasma membrane and endosomes. Its enzymatic activity is essential for clathrin-mediated endocytosis and autophagosome formation. PIK3C2A also modulates signaling pathways downstream of receptor tyrosine kinases and integrins by influencing AKT activation and cytoskeletal reorganization.

The PIK3C2A antibody is widely used in cell signaling, membrane biology, and cancer research to study phosphoinositide metabolism, vesicle formation, and kinase regulation. Western blot analysis identifies a 180-190 kilodalton band corresponding to PIK3C2A, while immunofluorescence reveals punctate staining in endosomal and plasma membrane compartments. This antibody enables the analysis of lipid signaling networks that control intracellular transport and cellular morphology.

Loss or mutation of PIK3C2A has been linked to congenital cataracts, vascular defects, and impaired cilia formation due to disrupted membrane trafficking. Conversely, overexpression contributes to tumorigenesis through altered PI3K signaling and enhanced migration. The PIK3C2A antibody provides a robust tool for investigating lipid kinase function in physiology and disease. NSJ Bioreagents validates this antibody for western blotting and immunofluorescence, ensuring accuracy for research into phosphoinositide and trafficking pathways.

Application Notes

Optimal dilution of the PIK3C2A antibody should be determined by the researcher.

Immunogen

E.coli-derived human PIK3C2A recombinant protein (Position: R22-E1523) was used as the immunogen for the PIK3C2A antibody.

Storage

After reconstitution, the PIK3C2A 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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