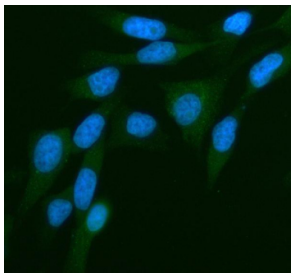
PKN3 Antibody / Protein kinase N3 (FY12860)

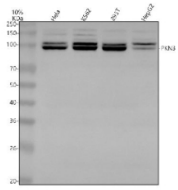
Catalog No.	Formulation	Size
FY12860	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

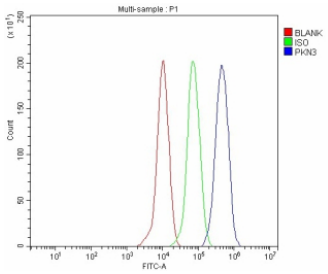
Availability	1-2 days
Species Reactivity	Human
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q6P5Z2
Localization	Cytoplasmic, Nuclear
Applications	Western Blot : 0.25-0.5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This PKN3 antibody is available for research use only.



Immunofluorescent staining of PKN3 using anti-PKN3 antibody (green). PKN3 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-PKN3 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. The section was counterstained with DAPI nuclear stain (blue). Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Western blot analysis of PKN3 using anti-PKN3 antibody. Lane 1: human Hela whole cell lysates, Lane 2: human K562 whole cell lysates, Lane 3: human 293T whole cell lysates, Lane 4: human HepG2 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-PKN3 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. PKN3 western blot across human cell lines shows a characteristic doublet near ~100 kDa, corresponding to differently phosphorylated forms of PKN3. The upper band represents the activated, phosphorylated species.



Flow Cytometry analysis of THP-1 cells using anti-PKN3 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-PKN3 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.

Description

PKN3 antibody detects Protein kinase N3, a serine/threonine kinase involved in cytoskeletal organization, cell adhesion, and tumorigenesis. Encoded by the PKN3 gene on chromosome 9q31.2, this enzyme is a member of the protein kinase N (PKN) family, which are effectors of the Rho family of small GTPases. PKN3 links Rho signaling to downstream pathways that regulate actin dynamics, cell migration, and proliferation, making it a key mediator of cytoskeletal remodeling and oncogenic transformation.

Structurally, PKN3 contains an N-terminal regulatory region with HR1 (homology region 1) motifs that bind Rho GTPases, followed by a C-terminal catalytic domain similar to protein kinase C (PKC). PKN3 phosphorylates substrates involved in actin filament stabilization and cell junction assembly, coordinating mechanical and adhesive cues. It is localized to the cytoplasm and plasma membrane, where it interacts with focal adhesion proteins and scaffolds to transmit signals influencing motility and growth.

The PKN3 antibody is widely used in cancer biology, cell signaling, and cytoskeletal research to investigate Rho-dependent kinase pathways and cell morphology control. Western blot analysis detects a 110 kilodalton band corresponding to PKN3, while immunofluorescence shows diffuse cytoplasmic and membrane-associated staining in epithelial and tumor cells. This antibody supports research into the molecular basis of migration, invasion, and metastatic progression.

PKN3 is overexpressed in several cancers, including breast, prostate, and pancreatic carcinomas, where it promotes invasive behavior through activation of the PI3K/AKT and RhoA pathways. Genetic or pharmacologic inhibition of PKN3 suppresses tumor growth and metastasis, making it a promising therapeutic target. Beyond oncology, PKN3 also contributes to endothelial cell barrier function and angiogenesis. The PKN3 antibody provides a valuable reagent for dissecting the cellular functions and therapeutic potential of this kinase. NSJ Bioreagents validates this antibody for its applications, ensuring consistent and reliable results for signal transduction research.

Application Notes

Optimal dilution of the PKN3 antibody should be determined by the researcher.

Immunogen

E.coli-derived human PKN3 recombinant protein (Position: E2-P889) was used as the immunogen for the PKN3 antibody.

Storage

After reconstitution, the PKN3 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.