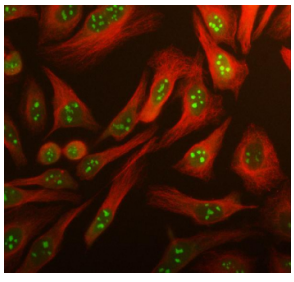
ARL3 Antibody / ADP-ribosylation factor-like protein 3 (FY12429)

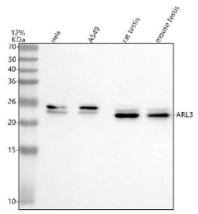
Catalog No.	Formulation	Size
FY12429	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

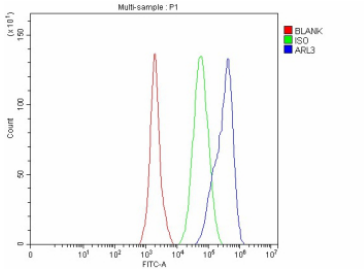
Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	P36405
Localization	Nuclear, cytoplasmic
Applications	Western Blot: 0.25-0.5ug/ml Immunocytochemistry: 5ug/ml Immunofluorescence: 5ug/ml Flow cytometry: 1-3ug/million cells
Limitations	This ARL3 antibody is available for research use only.



Immunofluorescent staining of using anti-ARL3 antibody (green) and anti-Beta Tubulin antibody (red). ARL3 was detected in an immunocytochemical section of human 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-ARL3 antibody and mouse anti-Beta Tubulin antibody overnight at 4oC. DyLight 488 Conjugated Goat Anti-Rabbit IgG and Cy3 Conjugated Goat Anti-Mouse IgG were 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 using anti-ARL3 antibody. Lane 1: human Hela whole cell lysates, Lane 2: human whole cell lysates, Lane 3: rat testis tissue lysates, Lane 4: mouse testis 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-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-ARL3 rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using enhanced chemiluminescent. ARL3 (~20 kDa predicted) was detected as a doublet at ~20-23 kDa, consistent with the coexistence of non-myristoylated and myristoylated species described in previous studies.



Flow Cytometry analysis of human SH-SY5Y cells using anti-ARL3 antibody. Overlay histogram showing SH-SY5Y 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-ARL3 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

The ARL3 antibody targets ADP-ribosylation factor-like protein 3, a small GTP-binding protein encoded by the ARL3 gene. ADP-ribosylation factor-like protein 3 is a member of the Arf family of GTPases that regulates trafficking of lipid-modified proteins to primary cilia and photoreceptor outer segments. Through its role in ciliary cargo transport, ARL3 ensures the correct localization of proteins essential for sensory signaling and phototransduction. The ARL3 antibody provides a reliable reagent for studying ciliary trafficking, GTPase signaling, and inherited retinal disorders.

ADP-ribosylation factor-like protein 3 cycles between GTP- and GDP-bound states, regulating the release of lipidated cargo from carrier proteins such as PDE6D and UNC119. The ARL3 antibody supports studies that monitor these molecular interactions and visualize ARL3 localization within cilia, photoreceptor cells, and centrosomes. Its activation is mediated by the guanine nucleotide exchange factor ARL13B, while GTP hydrolysis is stimulated by the GTPase-activating protein RP2. Together, these interactions ensure precise spatiotemporal control of cargo delivery.

Mutations in the ARL3 gene cause Joubert syndrome and cone-rod dystrophy, disorders associated with ciliary dysfunction and photoreceptor degeneration. The ARL3 antibody is critical for studying these ciliopathies, enabling detection of expression changes and subcellular mislocalization of mutant proteins. Disruption of ARL3-mediated trafficking leads to accumulation of mislocalized proteins and progressive loss of photoreceptor function.

Beyond the retina, ADP-ribosylation factor-like protein 3 regulates microtubule organization and vesicle transport in other ciliated and non-ciliated cells. The ARL3 antibody supports investigations into these broader cellular functions, including roles in signal transduction and organelle positioning. ARL3 also contributes to lipid modification cycles that control the targeting of myristoylated and prenylated proteins.

The ARL3 antibody performs effectively in western blotting, immunofluorescence, and immunohistochemistry, displaying distinct ciliary and pericentrosomal staining consistent with its trafficking role. NSJ Bioreagents provides this antibody as a validated reagent for molecular, cellular, and vision research. By enabling precise detection of ADP-ribosylation factor-like protein 3, the ARL3 antibody advances understanding of ciliary transport mechanisms, photoreceptor maintenance, and GTPase-mediated signaling pathways.

Application Notes

Optimal dilution of the ARL3 antibody should be determined by the researcher.

Immunogen

A synthetic peptide corresponding to a sequence at the C-terminus of human ARL3 was used as the immunogen for the ARL3 antibody.

Storage

After reconstitution, the ARL3 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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