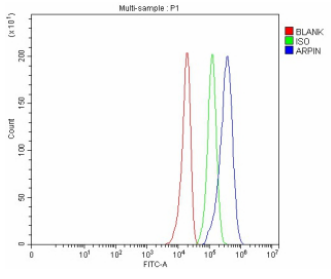
ARPIN Antibody / Actin-related protein complex inhibitor (FY13238)

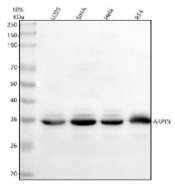
Catalog No.	Formulation	Size
FY13238	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human
Format	Lyophilized
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	Q7Z6K5
Applications	Western Blot : 0.25-0.5ug/ml Flow Cytometry : 1-3ug/million cells
Limitations	This ARPIN antibody is available for research use only.



Flow Cytometry analysis of human U251 cells using anti-ARPIN antibody. Overlay histogram showing U251 cells stained with (Blue line). The cells were fixed with 4% paraformaldehyde and blocked with 10% normal goat serum. And then incubated with rabbit anti-ARPIN 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 ARPIN using anti-ARPIN antibody. Lane 1: human U20S whole cell lysates, Lane 2: human SiHa whole cell lysates, Lane 3: human Hela whole cell lysates, Lane 4: human RT4 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-ARPIN 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. Western blot detection of ARPIN shows a single band at ~35 kDa across tested lysates. Although the predicted mass is ~25 kDa, ARPIN frequently migrates higher on SDS-PAGE, consistent with its acidic/disordered regions and post-translational modificationâ€“dependent mobility.

Description

ARPIN antibody detects Actin-related protein complex inhibitor (Arpin), a negative regulator of actin filament branching that modulates cell motility and migration. The UniProt recommended name is Actin-related protein complex inhibitor (ARPIN). This cytoplasmic protein inhibits the Arp2/3 complex, controlling actin polymerization dynamics essential for lamellipodia formation, directional movement, and membrane protrusion regulation.

Functionally, ARPIN antibody identifies a 220-amino-acid protein that binds directly to the Arp2/3 complex through its C-terminal acidic motif, competing with activating factors such as WASP and WAVE. By inhibiting Arp2/3-dependent actin nucleation, ARPIN reduces protrusive force at the cell leading edge, promoting turning behavior and directional persistence. The protein is involved in establishing cell polarity, controlling migration speed, and maintaining cytoskeletal balance between extension and contraction.

The ARPIN gene (also known as C15orf38) is located on chromosome 15q24.1 and is expressed in multiple tissues, particularly in epithelial cells, fibroblasts, and neurons. Its activity is tightly regulated by upstream signaling through Rac1 and PI3K pathways that coordinate motility and cell shape remodeling.

Pathologically, altered ARPIN expression affects wound healing, cancer cell migration, and metastasis. Downregulation enhances cell motility and invasion by releasing inhibition of Arp2/3, while overexpression restricts lamellipodia formation and limits tumor spread. ARPIN thus acts as a molecular brake on cytoskeletal dynamics and metastatic progression. Research using ARPIN antibody supports studies in cytoskeletal biology, cancer metastasis, and motility regulation.

ARPIN antibody is validated for western blotting, immunofluorescence, and immunohistochemistry to detect actin regulatory proteins. NSJ Bioreagents provides ARPIN antibody reagents optimized for studies in actin network modulation, cell migration, and intracellular signaling control.

Structurally, Actin-related protein complex inhibitor consists of an N-terminal acidic region, a coiled-coil central domain, and a conserved C-terminal WCA-like motif that mediates interaction with Arp2/3. This domain organization allows ARPIN to act as a direct inhibitor without requiring scaffolding cofactors. This antibody facilitates investigation of ARPIN's role in cytoskeletal remodeling and directional motility across diverse biological systems.

Application Notes

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

Immunogen

A synthetic peptide corresponding to a sequence in the middle region of human ARPIN was used as the immunogen for the ARPIN antibody.

Storage

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