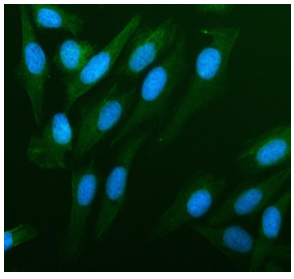
PDLIM4 Antibody / PDZ and LIM domain protein 4 (FY12627)

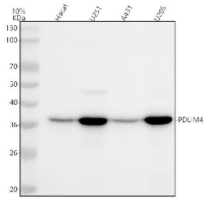
Catalog No.	Formulation	Size
FY12627	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

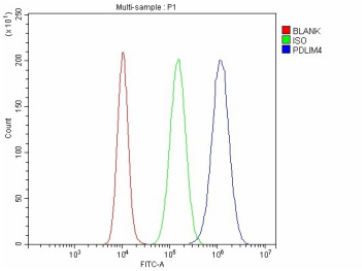
Availability	1-2 days
Species Reactivity	Human
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	P50479
Applications	Western Blot: 0.25-0.5ug/ml Immunocytochemistry: 5ug/ml Immunofluorescence: 5ug/ml Immunoprecipitation: 2-4ug/500ug of lysate Flow cytometry: 1-3ug/million cells ELISA: 0.1-0.5ug/ml
Limitations	This PDLIM4 antibody is available for research use only.



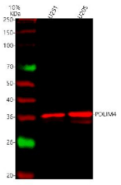
Immunofluorescent staining of PDLIM4 using anti-PDLIM4 antibody (green). PDLIM4 was detected in an immunocytochemical section of U2OS cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 ug/ml rabbit anti-PDLIM4 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.



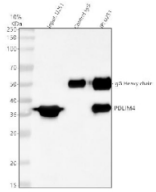
Western blot analysis of PDLIM4 using anti-PDLIM4 antibody. Lane 1: human Hacat whole cell lysates, Lane 2: human U251 whole cell lysates, Lane 3: human whole cell lysates, Lane 4: human U20S whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 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-PDLIM4 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. The expected molecular weight of PDLIM4 is at 35 kDa.



Flow Cytometry analysis of cells using anti-PDLIM4 antibody. Overlay histogram showing 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-PDLIM4 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 PDLIM4 using anti-PDLIM4 antibody. Lane 1: human U251 whole cell lysates, Lane 2: human U20S 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-PDLIM4 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-DyLight 647 Conjugated secondary antibody at a dilution of 1:2000 for 1.5 hour at RT. The expected molecular weight of PDLIM4 is at 35 kDa.



Immunoprecipitating (IP) PDLIM4 in U251 whole cell lysate. Western blot analysis of PDLIM4 using anti-PDLIM4 antibody; Lane 1: U251 whole cell lysates (30ug); Lane 2: Rabbit control IgG instead of anti-PDLIM4 antibody in U251 whole cell lysate; Lane 3: anti-PDLIM4 antibody (2ug) + U251 whole cell lysate (500ug). After electrophoresis, proteins were transferred to a membrane. Then the membrane was incubated with rabbit anti-PDLIM4 antibody at a dilution of 0.5 ug/ml and probed with a goat anti-rabbit IgG-HRP secondary antibody. The signal is developed using ECL Plus Western Blotting Substrate. The expected molecular weight of PDLIM4 is at 35 kDa.

Description

PDLIM4 antibody detects PDZ and LIM domain protein 4, a cytoskeletal adaptor protein that links actin filaments to signaling complexes and transcriptional regulators. PDLIM4 is a member of the PDZ and LIM domain protein family, characterized by modular domains that mediate interactions between cytoskeletal components and signaling molecules. The PDLIM4 antibody is widely used in cell biology, oncology, and musculoskeletal research to study actin dynamics, cell differentiation, and tumor suppression.

PDLIM4 is encoded by the PDLIM4 gene located on human chromosome 5q31.1. The protein is approximately 330 amino acids long and contains a PDZ domain that binds actin-associated proteins and a LIM domain that mediates interactions with kinases and transcriptional regulators. PDLIM4 localizes primarily to actin stress fibers and focal adhesions, where it contributes to cytoskeletal organization and mechanotransduction.

The PDLIM4 antibody detects a 36 kilodalton band by western blot and shows filamentous cytoplasmic staining under

immunofluorescence microscopy. Functionally, PDLIM4 serves as a scaffold linking cytoskeletal tension to gene expression pathways involved in differentiation and proliferation. It interacts with alpha-actinin, integrins, and protein kinase C, coordinating mechanical and biochemical signals during cell adhesion and migration.

PDLIM4 also acts as a tumor suppressor and has been reported to be downregulated or epigenetically silenced in several cancers, including prostate and breast carcinoma. Restoration of PDLIM4 expression suppresses cell growth and induces apoptosis, suggesting its role in controlling oncogenic transformation. Beyond cancer, PDLIM4 contributes to osteoblast differentiation and bone remodeling by regulating cytoskeletal integrity and mechanical signaling.

Because of its dual role in cytoskeletal architecture and transcriptional regulation, PDLIM4 serves as a critical link between cellular mechanics and gene expression. NSJ Bioreagents provides a validated PDLIM4 antibody optimized for its application, supporting studies of actin organization, tumor suppression, and cellular differentiation.

Application Notes

Optimal dilution of the PDLIM4 antibody should be determined by the researcher.

Immunogen

E.coli-derived human PDLIM4 recombinant protein (Position: Y137-D271) was used as the immunogen for the PDLIM4 antibody.

Storage

After reconstitution, the PDLIM4 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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