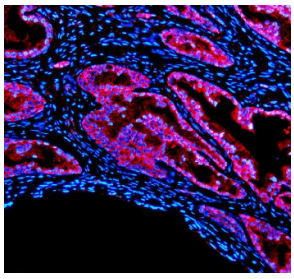
PDLIM5 Antibody / PDZ and LIM domain protein 5 (FY13447)

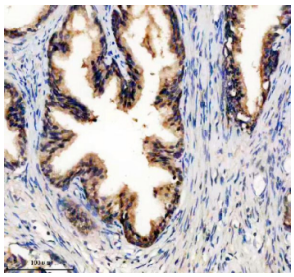
Catalog No.	Formulation	Size
FY13447	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

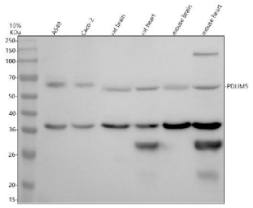
Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na2HPO4.
UniProt	Q96HC4
Localization	Cytoplasm
Applications	Western blot: 0.25-0.5ug/ml Immunohistochemistry: 2-5ug/ml Immunofluorescence: 5ug/ml ELISA: 0.1-0.5ug/ml
Limitations	This PDLIM5 antibody is available for research use only.



Immunofluorescence analysis of PDLIM5 using anti-PDLIM5 antibody. PDLIM5 expression was evaluated in a paraffin-embedded section of human prostate cancer tissue. After heat-mediated antigen retrieval in EDTA buffer (pH 8.0) and blocking with 10% goat serum, the tissue was incubated with rabbit anti-PDLIM5 antibody overnight at 4Â°C. Fluorescent detection was performed using a Cy3-conjugated secondary antibody (red), with nuclei counterstained using DAPI (blue), demonstrating prominent cytoplasmic localization of PDLIM5.



Immunohistochemistry analysis of PDLIM5 using anti-PDLIM5 antibody. PDLIM5 expression was examined in a paraffin-embedded section of human prostate cancer tissue. Heat-mediated antigen retrieval was performed in EDTA buffer (pH 8.0), followed by blocking with 10% goat serum. The tissue was incubated with rabbit anti-PDLIM5 antibody overnight at 4Â°C, then detected using an HRP-conjugated secondary antibody and DAB chromogen, revealing cytoplasmic staining in tumor cells.



Western blot analysis of PDLIM5 using anti-PDLIM5 antibody. PDLIM5 antibody detects a prominent band at approximately 64 kDa, consistent with the predicted molecular weight of full-length PDZ and LIM domain protein 5. Additional lower-molecular-weight bands at approximately 37 kDa and around 30 kDa are observed, particularly in heart tissue, which are consistent with reported PDLIM5 isoforms and tissue-specific processing described for this protein. Samples were resolved by 10% SDS-PAGE under reducing conditions and transferred to a nitrocellulose membrane. Lane 1: human A549 whole cell lysates; Lane 2: human Caco-2 whole cell lysates; Lane 3: rat brain tissue lysates; Lane 4: rat heart tissue lysates; Lane 5: mouse brain tissue lysates; Lane 6: mouse heart tissue lysates. Detection was performed using HRP-based chemiluminescence.

Description

PDLIM5 antibody targets PDZ and LIM domain protein 5, encoded by the PDLIM5 gene. PDLIM5 is a cytoplasmic and cytoskeletal-associated protein that belongs to the PDZ-LIM family, characterized by an N-terminal PDZ domain and multiple C-terminal LIM domains. These modular interaction motifs enable PDLIM5 to function as a scaffold protein that links signaling molecules to the actin cytoskeleton, supporting spatial organization of signaling complexes within the cell.

PDZ and LIM domain protein 5 is widely expressed, with notable roles in muscle cells, neurons, and other mechanically active tissues. Through its PDZ domain, PDLIM5 associates with actin-binding proteins and cytoskeletal elements, while its LIM domains mediate interactions with kinases and signaling adaptors. This positioning allows PDLIM5 to coordinate structural integrity with intracellular signaling pathways, particularly those involved in stress responses and cellular remodeling.

Functionally, PDLIM5 participates in pathways regulating cell shape, adhesion, and signal transduction. It has been linked to modulation of protein kinase signaling cascades, including pathways that influence cell survival and differentiation. In excitable tissues such as cardiac and neural systems, PDLIM5 contributes to organization of signaling hubs that respond to mechanical and biochemical cues. A PDLIM5 antibody is therefore useful for examining how cytoskeletal scaffolds integrate signaling events at specific subcellular locations.

PDLIM5 has attracted research interest due to its reported involvement in neurological and cardiovascular biology. Altered expression or regulation of PDLIM5 has been explored in the context of psychiatric disorders, cardiomyopathy, and stress-related cellular responses. While mechanistic details continue to be refined, these associations highlight the importance of PDZ-LIM scaffold proteins in maintaining normal cellular function and signaling balance.

At the molecular level, PDZ and LIM domain protein 5 exists in multiple isoforms generated through alternative splicing, which may differ in interaction capacity and subcellular distribution. Post-translational modifications and binding-partner availability can influence its apparent behavior in biochemical assays without altering the underlying amino acid sequence. PDLIM5 antibody reagents support research applications focused on cytoskeletal signaling, scaffold protein biology, and disease-associated alterations in intracellular organization, with NSJ Bioreagents providing antibodies intended for research use.

Application Notes

Optimal dilution of the PDLIM5 antibody should be determined by the researcher.

Immunogen

A synthetic peptide corresponding to a sequence in the middle region of human PDZ and LIM domain protein 5 protein was used as the immunogen for the PDLIM5 antibody.

Storage

After reconstitution, the PDLIM5 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Copyright © NSJ Bioreagents. All rights reserved.