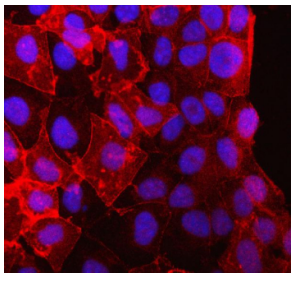
PKP2 Antibody / Plakophilin 2 (RQ7820)

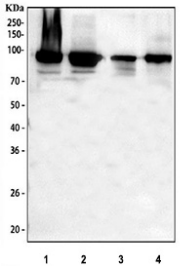
Catalog No.	Formulation	Size
RQ7820	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

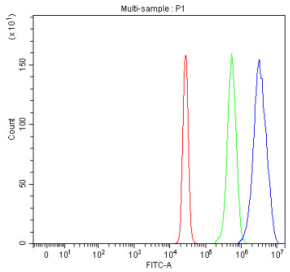
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q99959
Localization	Nuclear, cytoplasm, cell junctions
Applications	Western blot: 0.5-1ug/ml Direct ELISA: 0.1-0.5ug/ml Immunofluorescence: 5ug/ml Flow cytometry: 1-3ug/million cells
Limitations	This PKP2 antibody is available for research use only.



Immunofluorescent staining of FFPE human Caco-2 cells with PKP2 antibody (red) and DAPI nuclear stain (blue). HIER: steam section in pH6 citrate buffer for 20 min.



Western blot testing of 1) human HaCaT, 2) human Caco-2, 3) rat heart and 4) mouse heart tissue lysate with PKP2 antibody. Predicted molecular weight: 93-97 kDa.



Flow cytometry analysis of fixed and permeabilized human HepG2 cells with PKP2 antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= PKP2 antibody.

Description

PKP2 antibody targets Plakophilin 2, encoded by the PKP2 gene. Plakophilin 2 is a member of the armadillo repeat protein family and functions as a key structural component of desmosomes, specialized cell-cell adhesion junctions that provide mechanical strength to tissues. PKP2 is predominantly localized at desmosomal plaques along the plasma membrane, where it interacts with desmosomal cadherins, desmoplakin, and intermediate filaments to stabilize intercellular adhesion, particularly in tissues subjected to mechanical stress.

Functionally, Plakophilin 2 plays an essential role in maintaining tissue integrity and coordinating cell-cell junction assembly. By linking desmosomal cadherins to the cytoskeletal network, PKP2 contributes to the resistance of epithelial and cardiac tissues to mechanical strain. In addition to its structural role, PKP2 has been reported to participate in signaling pathways that influence cell proliferation, differentiation, and junctional remodeling. A PKP2 antibody supports studies focused on cell adhesion biology and junctional complex organization.

PKP2 expression is especially prominent in cardiac tissue and stratified epithelia. In the heart, Plakophilin 2 is a critical component of the intercalated discs that connect cardiomyocytes, enabling coordinated contraction and electrical coupling. Its presence at these junctions highlights the close relationship between mechanical adhesion and functional synchronization in cardiac muscle. PKP2 expression is also observed in epithelial tissues, where desmosomes contribute to barrier integrity and tissue architecture.

From a disease-relevance perspective, mutations or altered expression of PKP2 are strongly associated with cardiac disorders, most notably arrhythmogenic right ventricular cardiomyopathy. Disruption of PKP2-mediated desmosomal integrity can weaken cell-cell adhesion in the heart, leading to cardiomyocyte detachment, fibrofatty replacement, and increased susceptibility to arrhythmias. Beyond cardiology, changes in Plakophilin 2 expression have been explored in cancer biology, where altered cell adhesion and junctional stability can influence tumor progression and invasiveness.

At the molecular level, Plakophilin 2 contains multiple armadillo repeat domains that mediate protein-protein interactions within desmosomal complexes. Isoform diversity and post-translational modifications can influence its localization and interaction partners, and these factors may contribute to variable electrophoretic behavior on SDS-PAGE. A PKP2 antibody supports research applications focused on desmosome biology, cardiac tissue integrity, and disease-associated changes in cell adhesion, with NSJ Bioreagents providing reagents intended for research use.

Application Notes

Optimal dilution of the PKP2 antibody should be determined by the researcher.

Immunogen

E. coli-derived recombinant mouse protein (amino acids E9-D866) was used as the immunogen for the PKP2 antibody.

Storage

After reconstitution, the PKP2 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Ordering: Phone: 858.663.9055 | Fax: 1.267.821.0800 | Email: info@nsjbio.com
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