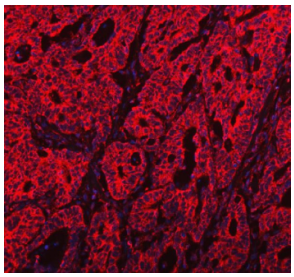
PKP3 Antibody / Plakophilin 3 (FY13429)

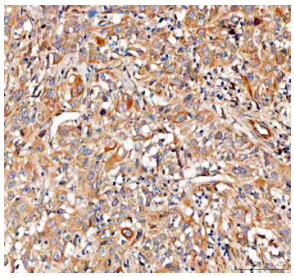
Catalog No.	Formulation	Size
FY13429	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

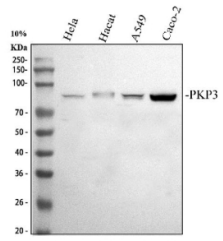
Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na2HPO4
UniProt	Q9Y446
Localization	Nuclear, cytoplasmic, cell junction
Applications	Western Blot : 0.5-1ug/ml Immunohistochemistry : 2-5ug/ml Immunofluorescence : 5ug/ml
Limitations	This PKP3 antibody is available for research use only.



Immunofluorescent staining of FFPE human colorectal cancer tissue with PKP3 antibody (red) and DAPI nuclear stain (blue). HIER: steam section in pH8 EDTA buffer for 20 min.



Immunohistochemical staining of FFPE human invasive urothelial carcinoma tissue with PKP3 antibody, HRP-secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Western blot analysis using PKP3 antibody. Lane 1: human HeLa whole cell lysates; Lane 2: human HaCaT whole cell lysates; Lane 3: human A549 whole cell lysates; Lane 4: human Caco-2 whole cell lysates. The predicted molecular weight of Plakophilin 3 is ~87 kDa, and a band is observed at the expected size.

Description

PKP3 antibody targets Plakophilin 3, encoded by the PKP3 gene. Plakophilin 3 is a member of the armadillo repeat protein family and functions as a structural component of desmosomes, specialized cell-cell junctions that provide strong intercellular adhesion in epithelial tissues. PKP3 localizes predominantly to desmosomal plaques at the plasma membrane, where it interacts with desmosomal cadherins, desmoplakin, and intermediate filaments to reinforce tissue cohesion and mechanical stability. In addition to its junctional localization, PKP3 can also be detected in the cytoplasm, reflecting dynamic regulation of desmosome assembly and turnover.

Functionally, Plakophilin 3 contributes to the formation, stabilization, and regulation of desmosomes, supporting epithelial integrity and resistance to mechanical stress. By linking cadherin-based adhesion complexes to the intermediate filament network, PKP3 helps maintain tissue architecture and barrier function. Beyond its structural role, PKP3 has been implicated in signaling processes that influence cell proliferation, migration, and differentiation, suggesting that desmosomal components can also participate in broader cellular regulatory networks. A PKP3 antibody supports studies focused on cell adhesion mechanisms and epithelial junction biology.

PKP3 expression is most prominent in stratified and simple epithelial tissues, including skin, gastrointestinal epithelium, and other mucosal surfaces. Its expression pattern overlaps with other plakophilins but shows tissue-specific differences that reflect specialized roles in distinct epithelial contexts. PKP3 expression is regulated during development and epithelial differentiation, highlighting its importance in maintaining mature epithelial structure and function. Changes in PKP3 localization or abundance can accompany epithelial remodeling and stress responses.

From a disease-relevance perspective, altered PKP3 expression has been investigated in cancer biology, particularly in epithelial-derived tumors. Dysregulation of desmosomal components, including Plakophilin 3, can contribute to reduced cell-cell adhesion, increased cellular motility, and invasive behavior during tumor progression. PKP3 has also been studied in inflammatory and skin-related disorders, where compromised desmosomal integrity can impair barrier function and tissue resilience. These associations make PKP3 a relevant marker in studies of epithelial pathology and junctional dysregulation.

At the molecular level, Plakophilin 3 contains multiple armadillo repeat domains that facilitate protein-protein interactions within desmosomal complexes. Isoform diversity and post-translational modifications can influence its interaction partners, subcellular distribution, and electrophoretic behavior on SDS-PAGE without necessarily indicating changes in primary protein structure. A PKP3 antibody supports research applications focused on desmosome organization, epithelial biology, and disease-associated alterations in cell adhesion, with NSJ Bioreagents providing reagents intended for research use.

Application Notes

Optimal dilution of the PKP3 antibody should be determined by the researcher.

Immunogen

E.coli-derived human Plakophilin 3 recombinant protein (amino acids S172-L397) was used as the immunogen for the PKP3 antibody.

Storage

After reconstitution, the PKP3 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.