

# plakophilin 1 (C-13): sc-18973

## BACKGROUND

Plakophilins 1, 2, 3 and 4 (PKP1-4) influence development and participate in linking cadherins to cytoskeletal intermediate filaments. Plakophilins 1-4 contain arm-repeat (armadillo) domains, and localize to nuclei and cell desmosomes (cell-cell junctions found in suprabasal layers of stratifying epithelia that undergo mechanical stress). Plakophilin 1 mediates increases in desmosomal protein content, desmosome assembly, and regulation of cell migration. Plakophilin 2 is important for desmosome assembly and is an essential morphogenic factor and architectural component of the heart. Plakophilin 4 is a component of desmosomal adhesion plaques that regulates junctional plaque organization and cadherin function.

## REFERENCES

- Mertens, C., et al. 1999. Desmosomal plakophilin 2 as a differentiation marker in normal and malignant tissues. *Differentiation* 64: 277-290.
- Bonne, S., et al. 1999. Plakophilin 3, a novel armadillo-like protein present in nuclei and desmosomes of epithelial cells. *J. Cell. Sci.* 112: 2265-2276.
- Hatzfeld, M., et al. 2000. The function of plakophilin 1 in desmosome assembly and Actin filament organization. *J. Cell Biol.* 149: 209-222.
- Bornslaeger, E.A., et al. 2001. Plakophilin 1 interferes with plakoglobin binding to desmoplakin, yet together with plakoglobin promotes clustering of desmosomal plaque complexes at cell-cell borders. *J. Cell. Sci.* 114: 727-738.
- Mertens, C., et al. 2001. Nuclear particles containing RNA polymerase III complexes associated with the junctional plaque protein plakophilin 2. *Proc. Natl. Acad. Sci. USA* 98: 7795-7800.
- Chen, X., et al. 2002. Protein binding and functional characterization of plakophilin 2. Evidence for its diverse roles in desmosomes and  $\beta$ -catenin signaling. *J Biol Chem* 277: 10512-10522.

## CHROMOSOMAL LOCATION

Genetic locus: PKP1 (human) mapping to 1q32.1.

## SOURCE

plakophilin 1 (C-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of plakophilin 1 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-18973 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## APPLICATIONS

plakophilin 1 (C-13) is recommended for detection of plakophilin 1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

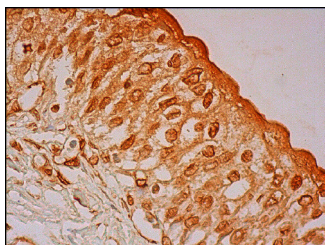
Suitable for use as control antibody for plakophilin 1 siRNA (h): sc-43180, plakophilin 1 shRNA Plasmid (h): sc-43180-SH and plakophilin 1 shRNA (h) Lentiviral Particles: sc-43180-V.

Molecular Weight of plakophilin 1: 75 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

## DATA



plakophilin 1 (C-13): sc-18973. Immunoperoxidase staining of formalin fixed, paraffin-embedded human urinary bladder tissue showing nuclear and cytoplasmic staining of urothelial cells.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.