

# plakophilin 3 (23E3/4): sc-59976

## 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 3 (PKP3) is a 797 amino acid protein that contains 8 arm-repeats and belongs to the  $\beta$ -catenin family. Encoded by a gene that maps to human chromosome 11p15.5, plakophilin 3 localizes to desmosomes of most simple and nearly all stratified epithelia, as well as cell lines derived therefrom, with the exception of hepatocytes and hepatocellular carcinoma cells. plakophilin 3 plays a role in both desmosome-dependent adhesion and signaling pathways, and may play a role in junctional plaques. Up-regulation of plakophilin 3 is a frequent and important feature of lung carcinogenesis, implicating plakophilin 3 as a candidate prognostic marker and therapeutic target for lung cancer.

## REFERENCES

- Schmidt, A., et al. 1999. Plakophilin 3—a novel cell-type-specific desmosomal plaque protein. *Differentiation* 64: 291-306.
- Bonné, 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.

## CHROMOSOMAL LOCATION

Genetic locus: PKP3 (human) mapping to 11p15.5; Pkp3 (mouse) mapping to 7 F5.

## SOURCE

plakophilin 3 (23E3/4) is a mouse monoclonal antibody raised against amino acids 570-589 of plakophilin 3 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

plakophilin 3 (23E3/4) is recommended for detection of plakophilin 3 of mouse, rat, human and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500); non cross-reactive with any other plakophilin or armadillo protein.

Suitable for use as control antibody for plakophilin 3 siRNA (h): sc-62826, plakophilin 3 siRNA (m): sc-62827, plakophilin 3 shRNA Plasmid (h): sc-62826-SH, plakophilin 3 shRNA Plasmid (m): sc-62827-SH, plakophilin 3 shRNA (h) Lentiviral Particles: sc-62826-V and plakophilin 3 shRNA (m) Lentiviral Particles: sc-62827-V.

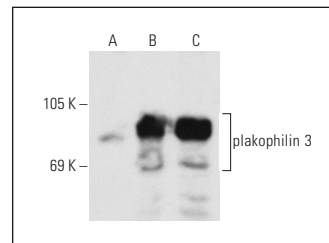
Molecular Weight of plakophilin 3: 87 kDa.

Positive Controls: plakophilin 3 (h): 293T Lysate: sc-173022, A549 cell lysate: sc-2413 or K-562 whole cell lysate: sc-2203.

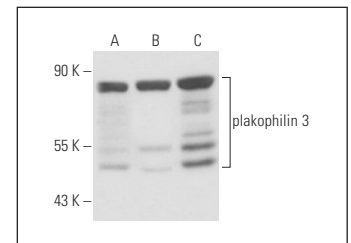
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



plakophilin 3 (23E3/4): sc-59976. Western blot analysis of plakophilin 3 expression in non-transfected 293T: sc-117752 (A), human plakophilin 3 transfected 293T: sc-173022 (B) and K-562 (C) whole cell lysates.



plakophilin 3 (23E3/4): sc-59976. Western blot analysis of plakophilin 3 expression in HeLa (A), A549 (B) and Caco-2 (C) whole cell lysates.

## 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.

## PROTOCOLS

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