

plakophilin 3 (12B11F8): sc-59977

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 β -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

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- Borrmann, C.M., et al. 2000. Molecular diversity of plaques of epithelial-adhering junctions. *Annu. N.Y. Acad. Sci.* 915: 144-150.
- Bonné, S., et al. 2003. Defining desmosomal plakophilin-3 interactions. *J. Cell Biol.* 161: 403-416.
- Furukawa, C., et al. 2005. Plakophilin 3 oncogene as prognostic marker and therapeutic target for lung cancer. *Cancer Res.* 65: 7102-7110.
- Hofmann, I., et al. 2006. Identification of the junctional plaque protein plakophilin 3 in cytoplasmic particles containing RNA-binding proteins and the recruitment of plakophilins 1 and 3 to stress granules. *Mol. Biol. Cell* 17: 1388-1398.
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CHROMOSOMAL LOCATION

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

SOURCE

plakophilin 3 (12B11F8) is a mouse monoclonal antibody raised against amino acids 779-793 of plakophilin 3 of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

plakophilin 3 (12B11F8) is recommended for detection of plakophilin 3 of mouse, rat, human, *Xenopus* and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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.

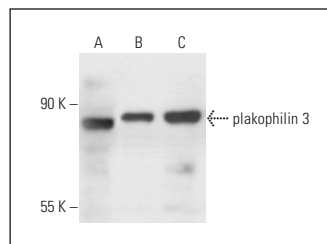
Molecular Weight of plakophilin 3: 87 kDa.

Positive Controls: plakophilin 3 (h): 293T Lysate: sc-173022, A549 cell lysate: sc-2413 or Caco-2 cell lysate: sc-2262.

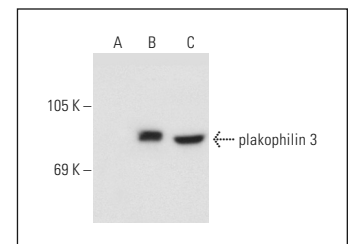
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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 κ BP-FITC: sc-516140 or m-IgG κ 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 (12B11F8): sc-59977. Western blot analysis of plakophilin 3 expression in HeLa (A), A549 (B) and Caco-2 (C) whole cell lysates.



plakophilin 3 (12B11F8): sc-59977. 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.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.