SANTA CRUZ BIOTECHNOLOGY, INC.

plakophilin 3 (h2): 293T Lysate: sc-173281

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 3 plays a role in both desmosome-dependent adhesion and signaling pathways. Plakophilin 4 is a component of desmosomal adhesion plaques that regulates junctional plaque organization and cadherin function.

REFERENCES

1. Mertens, C., et al. 1999. Desmosomal plakophilin 2 as a differentiation marker in normal and malignant tissues. Differentiation 64: 277-290.
2. 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.
3. Hatzfeld, M., et al. 2000. The function of plakophilin 1 in desmosome assembly and Actin filament organization. J. Cell Biol. 149: 209-222.
4. 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.
5. 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.
6. Chen, X., et al. 2002. Protein binding and functional characterization of plakophilin 2. Evidence for its diverse roles in desmosomes and β-catenin signaling. J. Biol. Chem. 277: 10512-10522.
7. Bonne, S., et al. 2003. Defining desmosomal plakophilin 3 interactions. J. Cell Biol. 161: 403-416.
8. South, A.P., et al. 2003. Lack of plakophilin 1 increases keratinocyte migration and reduces desmosome stability. J. Cell Sci. 116: 3303-3314.
9. South, A.P. 2004. Plakophilin 1: an important stabilizer of desmosomes. Clin. Exp. Dermatol. 29: 161-167.

CHROMOSOMAL LOCATION

Genetic locus: PKP3 (human) mapping to 11p15.5.

PRODUCT

plakophilin 3 (h2): 293T Lysate represents a lysate of human plakophilin 3 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

plakophilin 3 (h2): 293T Lysate is suitable as a Western Blotting positive control for human reactive plakophilin 3 antibodies. Recommended use: 10-20 µl per lane.

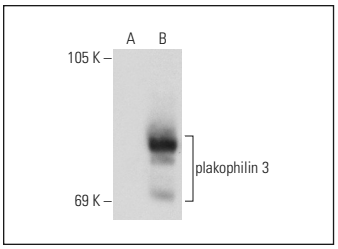
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

plakophilin 3 (E-10): sc-166655 is recommended as a positive control antibody for Western Blot analysis of enhanced human plakophilin 3 expression in plakophilin 3 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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.

DATA



plakophilin 3 (E-10): sc-166655. Western blot analysis of plakophilin 3 expression in non-transfected: sc-117752 (**A**) and human plakophilin 3 transfected: sc-173281 (**B**) 293T 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.