SANTA CRUZ BIOTECHNOLOGY, INC.

plakophilin 1 (10B2): sc-33636

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

Genetic locus: PKP1 (human) mapping to 1q32.1; Pkp1 (mouse) mapping to 1 E4.

SOURCE

plakophilin 1 (10B2) is a mouse monoclonal antibody raised against the N-terminus of plakophilin 1 of human origin, eptiope mapping to amino acids 1-27 of human plakophilin 1.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

plakophilin 1 (10B2) is available conjugated to agarose (sc-33636 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-33636 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-33636 PE), fluorescein (sc-33636 FITC), Alexa Fluor® 488 (sc-33636 AF488), Alexa Fluor® 546 (sc-33636 AF546), Alexa Fluor® 594 (sc-33636 AF594) or Alexa Fluor® 647 (sc-33636 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-33636 AF680) or Alexa Fluor® 790 (sc-33636 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

plakophilin 1 (10B2) is recommended for detection of plakophilin 1 of mouse rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500); non cross-reactive with plakophilin 2 or 3.

Suitable for use as control antibody for plakophilin 1 siRNA (h): sc-43180, plakophilin 1 siRNA (m): sc-43181, plakophilin 1 shRNA Plasmid (h): sc-43180-SH, plakophilin 1 shRNA Plasmid (m): sc-43181-SH, plakophilin 1 shRNA (h) Lentiviral Particles: sc-43180-V and plakophilin 1 shRNA (m) Lentiviral Particles: sc-43181-V.

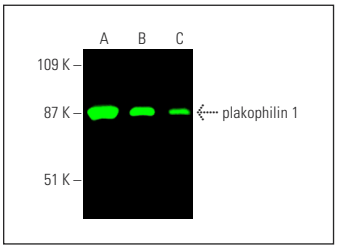
Molecular Weight of plakophilin 1: 75 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, A-673 cell lysate: sc-2414 or RAW 264.7 whole cell lysate: sc-2211.

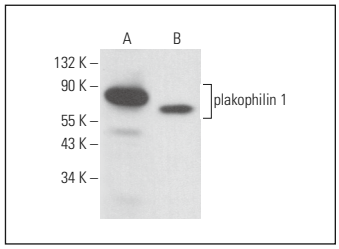
RECOMMENDED SUPPORT REAGENTS

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 1 (10B2): sc-33636. Near-infrared western blot analysis of plakophilin 1 expression in A-431 (**A**), ME-180 (**B**) and A-673 (**C**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.



plakophilin 1 (10B2): sc-33636. Western blot analysis of plakophilin 1 expression in A-431 (**A**) and RAW 264.7 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Hadiji-Abbes, N., et al. 2014. Negative control glucose dependent mediated by the PreS2 region on the translation efficiency of the reporter Sh-bleomycin gene in *Saccharomyces cerevisiae.* FEMS Yeast Res. 14: 357-363.
2. Price, A.J., et al. 2018. Mechanical loading of desmosomes depends on the magnitude and orientation of external stress. Nat. Commun. 9: 5284.
3. Hiermaier, M., et al. 2021. The Actin binding protein α-Adducin modulates desmosomal turnover and plasticity. J. Invest. Dermatol. 141: 1219-1229.e11.
4. Wanuske, M.T., et al. 2021. Clustering of desmosomal cadherins by desmoplakin is essential for cell-cell adhesion. Acta Physiol. 231: e13609.
5. Li, Z., et al. 2022. Hotspot ESR1 mutations are multimodal and contextual modulators of breast cancer metastasis. Cancer Res. 82: 1321-1339.
6. Polo-Generelo, S., et al. 2022. TGF-β-upregulated Lnc-Nr6a1 acts as a reservoir of miR-181 and mediates assembly of a glycolytic complex. Noncoding RNA 8: 62.

STORAGE

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