

Pals1 (G-5): sc-365411

BACKGROUND

Two highly conserved complexes are responsible for the assembly of tight junctions, the Crumbs-Pals1-Patj complex and the Cdc42-Par6-Par3-aPKC complex. Tight junctions assist in the formation of polarity in the epithelia by establishing a barrier to separate apical and basolateral membranes. Pals1, importantly, mediates interaction between the two complexes via interaction with Par6. Loss of Pals1 function results in delayed polarization, decreased transepithelial electrical resistance and an inability to form luminal cysts. Because tumors exhibit perturbations in epithelial polarity, Pals1 presents a new potential target in the study of carcinogenesis.

CHROMOSOMAL LOCATION

Genetic locus: MPP5 (human) mapping to 14q23.3; Mpp5 (mouse) mapping to 12 C3.

SOURCE

Pals1 (G-5) is a mouse monoclonal antibody raised against amino acids 1-250 mapping at the N-terminus of MAGUK p55 subfamily member 5 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Pals1 (G-5) is available conjugated to agarose (sc-365411 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365411 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365411 PE), fluorescein (sc-365411 FITC), Alexa Fluor® 488 (sc-365411 AF488), Alexa Fluor® 546 (sc-365411 AF546), Alexa Fluor® 594 (sc-365411 AF594) or Alexa Fluor® 647 (sc-365411 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365411 AF680) or Alexa Fluor® 790 (sc-365411 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

Pals1 (G-5) is recommended for detection of Pals1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (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 Pals1 siRNA (h): sc-43991, Pals1 siRNA (m): sc-44938, Pals1 shRNA Plasmid (h): sc-43991-SH, Pals1 shRNA Plasmid (m): sc-44938-SH, Pals1 shRNA (h) Lentiviral Particles: sc-43991-V and Pals1 shRNA (m) Lentiviral Particles: sc-44938-V.

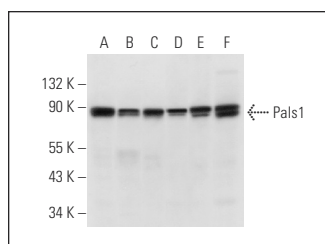
Molecular Weight of Pals1: 77 kDa.

Positive Controls: Y79 cell lysate: sc-2240, A-431 whole cell lysate: sc-2201 or ARPE-19 whole cell lysate: sc-364357.

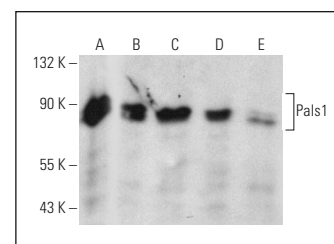
RECOMMENDED SUPPORT REAGENTS

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



Pals1 (G-5): sc-365411. Western blot analysis of Pals1 expression in PC-12 (A), ARPE-19 (B), RPE-J (C), IMR-32 (D), Y79 (E) and A-431 (F) whole cell lysates.



Pals1 (G-5): sc-365411. Western blot analysis of Pals1 expression in ARPE-19 (A), SK-N-MC (B), Neuro-2A (C), NRK (D) and C6 (E) whole cell lysates.

SELECT PRODUCT CITATIONS

- Monastyrskaya, K., et al. 2013. miR-199a-5p regulates urothelial permeability and may play a role in bladder pain syndrome. *Am. J. Pathol.* 182: 431-448.
- Whiteman, E.L., et al. 2014. Crumbs3 is essential for proper epithelial development and viability. *Mol. Cell. Biol.* 34: 43-56.
- Choi, J., et al. 2019. Scribble, Erbin, and Lano redundantly regulate epithelial polarity and apical adhesion complex. *J. Cell Biol.* 218: 2277-2293.
- Tan, B., et al. 2020. The mammalian Crumbs complex defines a distinct polarity domain apical of epithelial tight junctions. *Curr. Biol.* 30: 2791-2804.e6.
- Indra, I., et al. 2021. Plakophilin 3 and Par3 facilitate desmosomes' association with the apical junctional complex. *Mol. Biol. Cell* 32: 1824-1837.
- Kulbacka, J., et al. 2022. Nanoelectropulse delivery for cell membrane perturbation and oxidation in human colon adenocarcinoma cells with drug resistance. *Bioelectrochemistry* 150: 108356.
- Harms, J., et al. 2022. Pals1 functions in redundancy with SMAP1 to inhibit Arf6 in order to prevent Rac1-dependent colorectal cancer cell migration and invasion. *Cancer Gene Ther.* E-published.

RESEARCH USE

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

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