SANTA CRUZ BIOTECHNOLOGY, INC.

PDZK1 (F-36): sc-100337

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The Power to Question

BACKGROUND

Proteins containing PDZ domains play a role in a wide array of biological functions including protein scaffolding, organization of ion channels, and signal transduction. The PDZ domain containing protein PDZK1 interacts with multiple targets, including MAP17 and cMOAT and also NaPi-IIa, which implicates PDZK1 in ion channel formation. PDZK1 localizes to the plasma membrane of epithelial cells, where it is able to interact simultaneously with more than one type of channel, by utilizing its four PDZ domains, and thus acts as an adaptor between different cell surface receptors. Furthermore, PDZK1 is markedly upregulated in human carcinomas of epithelial origin, and the cluster formed by its association with cMOAT and MAP17 may potentially play role in multidrug resistance. Therefore, PDZK1 may be a new target for cancers cells resistance to chemotherapeutic agents.

REFERENCES

1. Kocher, O., et al. 1999. PDZK1, a novel PDZ domain-containing protein upregulated in carcinomas and mapped to chromosome 1q21, interacts with cMOAT (MRP2), the multidrug resistance-associated protein. Lab Invest. 79: 1161-1170.
2. Kocher, O., et al. 2003. Targeted disruption of the PDZK1 gene by homologous recombination. Mol. Cell. Biol. 23: 1175-1180.
3. Gisler, S.M., et al. 2003. PDZK1: I. a major scaffolder in brush borders of proximal tubular cells. Kidney Int. 64: 1733-1745.

CHROMOSOMAL LOCATION

Genetic locus: PDZK1 (human) mapping to 1q21.1.

SOURCE

PDZK1 (F-36) is a mouse monoclonal antibody raised against recombinant PDZK1 of human origin.

PRODUCT

Each vial contains 50 µg IgG_1 kappa light chain in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

PDZK1 (F-36) is recommended for detection of PDZK1 of 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 PDZK1 siRNA (h): sc-106840, PDZK1 shRNA Plasmid (h): sc-106840-SH and PDZK1 shRNA (h) Lentiviral Particles: sc-106840-V.

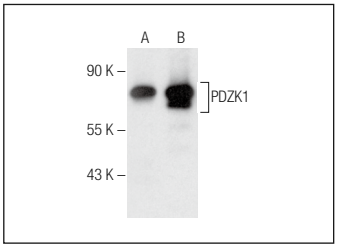
Molecular Weight of PDZK1: 63/70 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206 or human liver extract: sc-363766.

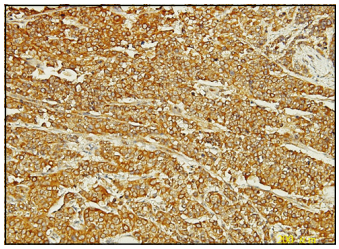
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



PDZK1 (F-36): sc-100337. Western blot analysis of PDZK1 expression in MCF7 whole cell lysate (**A**) and human liver tissue extract (**B**).



PDZK1 (F-36): sc-100337. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human transitional cell carcinoma tissue showing membrane and cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Turner, E.C., et al. 2011. Interaction of the human prostacyclin receptor with the PDZ adapter protein PDZK1: role in endothelial cell migration and angiogenesis. Mol. Biol. Cell 22: 2664-2679.
2. Fung, K.Y., et al. 2017. SR-BI mediated transcytosis of HDL in brain microvascular endothelial cells is independent of caveolin, Clathrin, and PDZK1. Front. Physiol. 8: 841.
3. Lu, X., et al. 2019. IL-1β functionally attenuates ABCG2 and PDZK1 expression in HK-2 cells partially through NFκB activation. Cell Biol. Int. 43: 279-289.
4. Gogl, G., et al. 2022. Quantitative fragmentomics allow affinity mapping of interactomes. Nat. Commun. 13: 5472.

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 for detailed protocols and support products.