

Polycystin-2 (YCE2): sc-47734

BACKGROUND

Autosomal dominant polycystic kidney disease (ADPKD) is characterized by the formation of cysts in kidney tubules as well as in liver and pancreas tissues. Cells within these cysts display abnormalities in proliferation and polarity. Polycystin-2 (PKD2), an integral membrane glycoprotein, is mutated in approximately 15% of patients with ADPKD. Polycystin-2 is expressed in medullary collecting ducts, cortical collecting ducts and distal convoluted tubules of kidney. It associates with Hax-1 and may be involved in cell-matrix interactions. Polycystin-1 and Polycystin-2 display significant homology within their transmembrane region and are thought to interact in order to enhance AP-1 expression, which regulates cell proliferation, differentiation and apoptosis. These findings suggest that mutations in Polycystin-2 may facilitate the development of renal tubular cysts.

CHROMOSOMAL LOCATION

Genetic locus: PKD2 (human) mapping to 4q22.1; Pkd2 (mouse) mapping to 5 E5.

SOURCE

Polycystin-2 (YCE2) is a mouse monoclonal antibody raised against amino acids 687-754 of Polycystin-2 of human origin.

PRODUCT

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

Polycystin-2 (YCE2) is available conjugated to agarose (sc-47734 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-47734 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-47734 PE), fluorescein (sc-47734 FITC), Alexa Fluor® 488 (sc-47734 AF488), Alexa Fluor® 546 (sc-47734 AF546), Alexa Fluor® 594 (sc-47734 AF594) or Alexa Fluor® 647 (sc-47734 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-47734 AF680) or Alexa Fluor® 790 (sc-47734 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Polycystin-2 (YCE2) is recommended for detection of Polycystin-2 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Polycystin-2 siRNA (h): sc-40863, Polycystin-2 siRNA (m): sc-40864, Polycystin-2 shRNA Plasmid (h): sc-40863-SH, Polycystin-2 shRNA Plasmid (m): sc-40864-SH, Polycystin-2 shRNA (h) Lentiviral Particles: sc-40863-V and Polycystin-2 shRNA (m) Lentiviral Particles: sc-40864-V.

Molecular Weight (predicted) of Polycystin-2: 110 kDa.

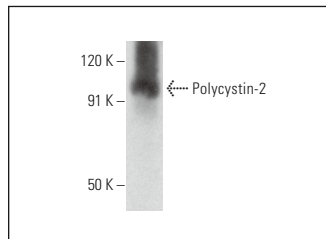
Molecular Weight (observed) of Polycystin-2: 130 kDa.

Positive Controls: human breast extract: sc-363753, Caki-1 cell lysate: sc-2224 or KNRK whole cell lysate: sc-2214.

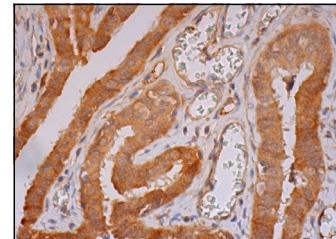
STORAGE

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

DATA



Polycystin-2 (YCE2): sc-47734. Western blot analysis of Polycystin-2 expression in human breast tissue extract.



Polycystin-2 (YCE2): sc-47734. Immunoperoxidase staining of formalin fixed, paraffin-embedded human fallopian tube tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Kamura, K., et al. 2011. Pkd11 complexes with Pkd2 on motile cilia and functions to establish the left-right axis. *Development* 138: 1121-1129.
2. Porath, B., et al. 2016. Mutations in GANAB, encoding the glucosidase II α subunit, cause autosomal-dominant polycystic kidney and liver disease. *Am. J. Hum. Genet.* 98: 1193-1207.
3. Xu, X., et al. 2017. ITRAQ-based proteomics analysis of acute lung injury induced by oleic acid in mice. *Cell. Physiol. Biochem.* 44: 1949-1964.
4. Xiao, Z., et al. 2018. Polycystin-1 interacts with TAZ to stimulate osteoblastogenesis and inhibit adipogenesis. *J. Clin. Invest.* 128: 157-174.
5. Wang, Z., et al. 2019. The ion channel function of Polycystin-1 in the Polycystin-1/Polycystin-2 complex. *EMBO Rep.* 20: e48336.
6. Brill, A.L., et al. 2020. Polycystin-2 is increased in disease to protect against stress-induced cell death. *Sci. Rep.* 10: 386.
7. Lea, W.A., et al. 2020. Analysis of the polycystin complex (PCC) in human urinary exosome-like vesicles (ELVs). *Sci. Rep.* 10: 1500.
8. MacKay, C.E., et al. 2020. Correction: intravascular flow stimulates PKD2 (Polycystin-2) channels in endothelial cells to reduce blood pressure. *Elife* 9: e60401.
9. Bulley, S., et al. 2020. Correction: arterial smooth muscle cell PKD2 (TRPP1) channels regulate systemic blood pressure. *Elife* 9: e60403.
10. DiNello, E., et al. 2020. Deletion of cardiac Polycystin-2/PC2 results in increased SR calcium release and blunted adrenergic reserve. *Am. J. Physiol. Heart Circ. Physiol.* 319: H1021-H1035.

RESEARCH USE

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

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA