10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

PKD2 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7934a

Product Information

Application	IHC-P, WB, E
Primary Accession	Q13563
Reactivity	Human
Predicted	Mouse, Bovine, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB1351
Calculated MW	109691
Antigen Region	937-968

Additional Information

Gene ID	5311
Other Names	Polycystin-2, Autosomal dominant polycystic kidney disease type II protein, Polycystic kidney disease 2 protein, Polycystwin, R48321, PKD2
Target/Specificity	This PKD2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 937-968 amino acids from the C-terminal region of human PKD2.
Dilution	IHC-P~~1:100~500 WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	PKD2 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	PKD2 (HGNC:9009)
Function	Forms a nonselective cation channel (PubMed: 11854751, PubMed:11991947, PubMed:15692563, PubMed:26269590, PubMed:27071085, PubMed:31441214, PubMed:39009345). Can function as a

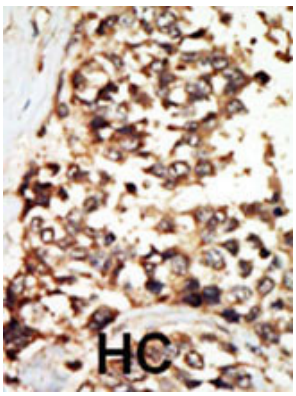
	homotetrameric ion channel or can form heteromer with PKD1 (PubMed:31441214, PubMed:33164752). Displays distinct function depending on its subcellular localization and regulation by its binding partners (PubMed:11854751, PubMed:11991947, PubMed:27214281, PubMed:29899465). In primary cilium functions as a cation channel, with a preference for monovalent cations over divalent cations that allows K(+), Na(+) and Ca(2+) influx, with low selectivity for Ca(2+) (PubMed:27071085). Involved in fluid-flow mechanosensation by the primary cilium in renal epithelium (By similarity). In the endoplasmic reticulum, likely functions as a K(+) channel to facilitate Ca(2+) release (By similarity). The heterotetrameric PKD1/PKD2 channel has higher Ca(2+) permeability than homomeric PKD2 channel and acts as a primarily Ca(2+)-permeable channel (PubMed:31441214). Interacts with and acts as a regulator of a number of other channels, such as TRPV4, TRPC1, IP3R, RYR2, ultimately further affecting intracellular signaling, to modulate intracellular Ca(2+) signaling (PubMed:11854751, PubMed:11991947, PubMed:27214281, PubMed:29899465). Together with TRPV4, forms mechano- and thermosensitive channels in cilium (PubMed:18695040). In cardiomyocytes, PKD2 modulates Ca(2+) release from stimulated RYR2 receptors through direct association (By similarity). Also involved in left-right axis specification via its role in sensing nodal flow; forms a complex with PKD1L1 in cilia to facilitate flow detection in left- right patterning (By similarity). Acts as a regulator of cilium length together with PKD1 (By similarity). Mediates systemic blood pressure and contributes to the myogenic response in cerebral arteries though vasoconstriction (By similarity).
Cellular Location	Cell projection, cilium membrane; Multi-pass membrane protein. Endoplasmic reticulum membrane; Multi-pass membrane protein. Cell membrane; Multi-pass membrane protein. Basolateral cell membrane. Cytoplasmic vesicle membrane. Golgi apparatus {ECO:0000250|UniProtKB:O35245}. Vesicle Secreted, extracellular exosome Note=PKD2 localization to the plasma and ciliary membranes requires PKD1. PKD1:PKD2 interaction is required to reach the Golgi apparatus form endoplasmic reticulum and then traffic to the cilia (By similarity). Retained in the endoplasmic reticulum by interaction with PACS1 and PACS2 (PubMed:15692563). Detected on kidney tubule basolateral membranes and basal cytoplasmic vesicles (PubMed:10770959) Cell surface and cilium localization requires GANAB (PubMed:27259053) Detected on migrasomes and on extracellular exosomes in urine (PubMed:21406692). Preferentially localized to the dorsal side of immotile cilia (By similarity). {ECO:0000250|UniProtKB:O35245, ECO:0000269|PubMed:15692563, ECO:0000269|PubMed:21406692, ECO:0000269|PubMed:27259053}
Tissue Location	Detected in fetal and adult kidney (PubMed:10770959). Detected at the thick ascending limb of the loop of Henle, at distal tubules, including the distal convoluted tubule and cortical collecting tubules, with weak staining of the collecting duct (PubMed:10770959). Detected on placenta syncytiotrophoblasts (at protein level) (PubMed:26269590). Strongly expressed in ovary, fetal and adult kidney, testis, and small intestine. Not detected in peripheral leukocytes.

Background

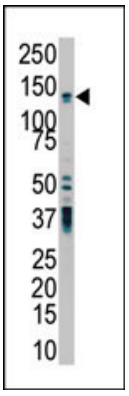
Involved in fluid-flow mechanosensation by the primary cilium in renal epithelium. PKD1 and PKD2 may function through a common signaling pathway that is necessary for normal tubulogenesis. Acts as a regulator of cilium length, together with PKD1. The dynamic control of cilium length is essential in the regulation of mechanotransductive signaling. The cilium length response creates a negative feedback loop whereby fluid shear-mediated deflection of the primary cilium, which decreases intracellular cAMP, leads to cilium shortening and thus decreases flow-induced signaling. Functions as a calcium permeable cation

channel.

Images



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.



The anti-PKD2 Pab (Cat. #AP7934a) is used in Western blot to detect PKD2 in HL-60 cell lysate.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.