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Polycystin 2 / PKD2 Antibody (internal region)

Peptide-affinity purified goat antibody
Catalog # AF2993a

Specification

Polycystin 2 / PKD2 Antibody (internal region) - Product Information

Application	**WB**
Primary Accession	Q13563
Other Accession	NP_000288.1, 5311, 18764 (mouse), 498328 (rat)
Reactivity	**Human**
Predicted	**Mouse, Rat, Cow**
Host	**Goat**
Clonality	**Polyclonal**
Concentration	**0.5 mg/ml**
Isotype	**IgG**
Calculated MW	**109691**

Polycystin 2 / PKD2 Antibody (internal region) - 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

Format
0.5 mg/ml in Tris saline, 0.02% sodium azide, pH7.3 with 0.5% bovine serum albumin

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
Polycystin 2 / PKD2 Antibody (internal region) is for research use only and not for use in diagnostic or therapeutic procedures.

Polycystin 2 / PKD2 Antibody (internal region) - Protein Information

Name PKD2 (HGNC:9009)

Function
Component of a heteromeric calcium-permeable ion channel formed by PKD1 and PKD2 that is activated by interaction between PKD1 and a Wnt family member, such as WNT3A and WNT9B (PubMed:27214281). Can also form a functional, homotetrameric ion channel (PubMed:29899465). Functions as

a cation channel involved in fluid-flow mechanosensation by the primary cilium in renal epithelium (PubMed:18695040). Functions as outward-rectifying K(+) channel, but is also permeable to Ca(2+), and to a much lesser degree also to Na(+) (PubMed:11854751, PubMed:15692563, PubMed:27071085, PubMed:27991905). May contribute to the release of Ca(2+) stores from the endoplasmic reticulum (PubMed:11854751, PubMed:20881056). Together with TRPV4, forms mechano- and thermosensitive channels in cilium (PubMed:18695040). PKD1 and PKD2 may function through a common signaling pathway that is necessary to maintain the normal, differentiated state of renal tubule cells. 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. 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. Detection of asymmetric nodal flow gives rise to a Ca(2+) signal that is required for normal, asymmetric expression of genes involved in the specification of body left-right laterality (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). {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.

Polycystin 2 / PKD2 Antibody (internal region) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety

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- Cell Culture

Polycystin 2 / PKD2 Antibody (internal region) - Images

AF2993a (1 µg/ml) staining of HeLa lysate (35 µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.

Polycystin 2 / PKD2 Antibody (internal region) - References

Genotype-phenotype correlation in children with autosomal dominant polycystic kidney disease. Fencl F, Janda J, Bláhová K, Hríbal Z, Stekrová J, Puchmajerová A, Seeman T. Pediatr Nephrol. 2009 May;24(5):983-9. PMID: 19194729