

# Polycystin-L (N-15): sc-160679

## BACKGROUND

Polycystin-L, also known as PKD2L1 (polycystic kidney disease 2-like 1), PCL, PKDL or PKD2L, is an 805 amino acid multi-pass membrane protein that belongs to the Polycystin family of transmembrane proteins. Expressed in brain, heart, testis, spleen, liver and skeletal muscle, as well as in fetal kidney and liver, Polycystin-L functions as a calcium-regulated cation channel that is permeable to sodium, potassium and calcium and is involved in cell-cell and cell-matrix interactions. Polycystin-L shares 50% amino acid identity with a related family member, Polycystin-2, suggesting that Polycystin-L may be involved in the pathogenesis of polycystic kidney disease. Multiple alternatively spliced isoforms of Polycystin-L exist, all of which are encoded by a gene that maps to human chromosome 10.

## REFERENCES

1. Wu, G., Hayashi, T., Park, J.H., Dixit, M., Reynolds, D.M., Li, L., Maeda, Y., Cai, Y., Coca-Prados, M. and Somlo, S. 1998. Identification of PKD2L, a human PKD2-related gene: tissue-specific expression and mapping to chromosome 10q25. *Genomics* 54: 564-568.
2. Nomura, H., Turco, A.E., Pei, Y., Kalaydjieva, L., Schiavello, T., Weremowicz, S., Ji, W., Morton, C.C., Meisler, M., Reeders, S.T. and Zhou, J. 1998. Identification of PKDL, a novel polycystic kidney disease 2-like gene whose murine homologue is deleted in mice with kidney and retinal defects. *J. Biol. Chem.* 273: 25967-25973.
3. Guo, L., Chen, M., Basora, N. and Zhou, J. 2000. The human polycystic kidney disease 2-like (PKDL) gene: exon/intron structure and evidence for a novel splicing mechanism. *Mamm. Genome* 11: 46-50.
4. Stayner, C. and Zhou, J. 2001. Polycystin channels and kidney disease. *Trends Pharmacol. Sci.* 22: 543-546.
5. Li, Q., Liu, Y., Zhao, W. and Chen, X.Z. 2002. The calcium-binding EF-hand in Polycystin-L is not a domain for channel activation and ensuing inactivation. *FEBS Lett.* 516: 270-278.
6. Basora, N., Nomura, H., Berger, U.V., Stayner, C., Guo, L., Shen, X. and Zhou, J. 2002. Tissue and cellular localization of a novel polycystic kidney disease-like gene product, Polycystin-L. *J. Am. Soc. Nephrol.* 13: 293-301.
7. Li, Q., Liu, Y., Shen, P.Y., Dai, X.Q., Wang, S., Smillie, L.B., Sandford, R. and Chen, X.Z. 2003. Troponin I binds Polycystin-L and inhibits its calcium-induced channel activation. *Biochemistry* 42: 7618-7625.
8. Geng, L., Okuhara, D., Yu, Z., Tian, X., Cai, Y., Shibasaki, S. and Somlo, S. 2006. Polycystin-2 traffics to cilia independently of Polycystin-1 by using an N-terminal RVxP motif. *J. Cell Sci.* 119: 1383-1395.
9. Li, Q., Dai, X.Q., Shen, P.Y., Wu, Y., Long, W., Chen, C.X., Hussain, Z., Wang, S. and Chen, X.Z. 2007. Direct binding of  $\alpha$ -actinin enhances TRPP3 channel activity. *J. Neurochem.* 103: 2391-2400.

## CHROMOSOMAL LOCATION

Genetic locus: PKD2L1 (human) mapping to 10q24.31; Pkd2l1 (mouse) mapping to 19 C3.

## SOURCE

Polycystin-L (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal cytoplasmic domain of Polycystin-L of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-160679 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Polycystin-L (N-15) is recommended for detection of Polycystin-L of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with Polycystin-L2.

Polycystin-L (N-15) is also recommended for detection of Polycystin-L in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Polycystin-L siRNA (h): sc-90835, Polycystin-L siRNA (m): sc-152386, Polycystin-L shRNA Plasmid (h): sc-90835-SH, Polycystin-L shRNA Plasmid (m): sc-152386-SH, Polycystin-L shRNA (h) Lentiviral Particles: sc-90835-V and Polycystin-L shRNA (m) Lentiviral Particles: sc-152386-V.

Molecular Weight of Polycystin-L: 92 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz<sup>™</sup> Mounting Medium: sc-24941.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.