

Product datasheet for **TA328750**

Polycystin 2 (PKD2) Rabbit Polyclonal Antibody

Product data:

Product Type:	Primary Antibodies
Applications:	IF, IHC, WB
Recommended Dilution:	WB: 1:200-1:2000; FC: 1:50-1:600
Reactivity:	Human, Mouse, Rat
Host:	Rabbit
Clonality:	Polyclonal
Immunogen:	Peptide (C)ERWESDDAASQISH, corresponding to amino acid residues 914-927 of human TRPP1. Intracellular, C-terminus.
Formulation:	Lyophilized. Concentration before lyophilization ~0.8mg/ml (lot dependent, please refer to CoA along with shipment for actual concentration). Buffer before lyophilization: Phosphate buffered saline (PBS), pH 7.4, 1% BSA, 0.05% NaN ₃ .
Reconstitution Method:	Add 50 ul double distilled water (DDW) to the lyophilized powder.
Purification:	Affinity purified on immobilized antigen.
Conjugation:	Unconjugated
Storage:	Store at -20°C as received.
Stability:	Stable for 12 months from date of receipt.
Gene Name:	polycystin 2, transient receptor potential cation channel
Database Link:	NP_000288 Entrez Gene 18764 Mouse Entrez Gene 498328 Rat Entrez Gene 5311 Human Q13563



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Background:

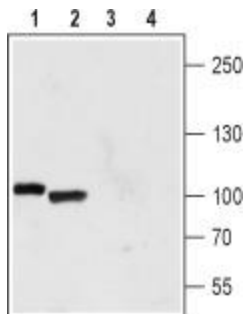
Transient receptor potential (TRP) channels are relatively non-selective ion channels enabling the exchange of cations down their electrochemical gradient. This exchange enables the intracellular rise in Na⁺ and Ca²⁺ concentration and ultimately in the cell membrane depolarization, important for action potential propagation and muscle contraction. They are activated by an extremely broad range of stimuli namely, temperature, voltage, pH, endocrine factors as well as signaling molecules. The TRP channel family is composed of 28 members divided in 7 subgroups: TRPV, TRPC, TRPM, TRPA, TRPN, TRPP and TRPML. All members of the TRP family have 6 transmembrane (TM) domains, and a pore domain between the fifth (S5) and sixth (S6) transmembrane domains. In general, TRP channels enable the passage of either Na⁺ or Ca²⁺ ions with little or no preference. However, some channels do exhibit some selectivity. Also, TRP channels do not display the positive charges in the S4 voltage-sensing domain like most voltage sensitive channels, although they do display voltage dependency. In addition, TRP channels have in the C-terminal intracellular region to the S6 domain a TRP domain comprising 25 amino acids that is more or less conserved among most TRP channels. Within the TRP domain, there is a TRP box composed of six amino acids, and TRP box 2 – a proline rich domain. The TRP domain seems to be responsible for the binding of PIP₂, a phospholipid important for the regulation of channel activity. TRPP1 (polycystin-2, PC2, PKD2) belongs to the TRPP subfamily of TRP channels along with TRPP3 and TRPP5 proteins, and forms non-selective cation channels with different permeability to various divalent cations. The cellular localization of TRPP1 has been and still is the subject of a lasting debate. In many cell-types, TRPP1 is retained in the endoplasmic reticulum (ER) where it most likely functions as Ca²⁺ release channel, and with the help of cofactors, TRPP2 reaches the plasma membrane and the cilia. TRPP1 expression is widespread and is best characterized for its expression in the kidney where it is developmentally regulated. In the kidney, it associates with PKD1 (TRPP2) an eleven transmembrane-spanning protein (which does not belong to the TRP superfamily) to form functional channels. In addition, TRPP1 is identified as one of the genes responsible for autosomal dominant polycystic kidney disease (ADPKD).

Synonyms:

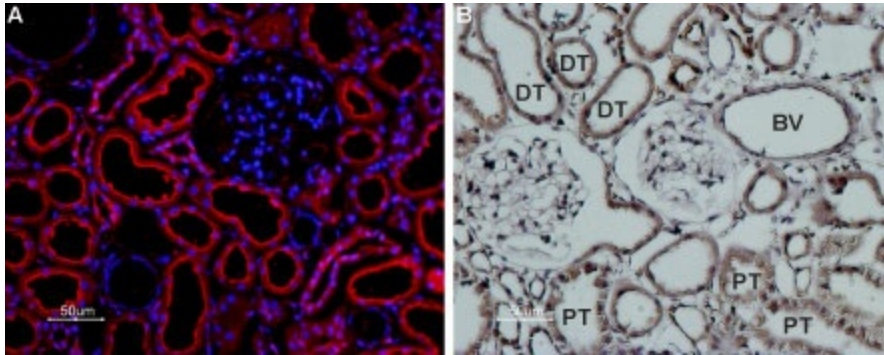
APKD2; Pc-2; PC2; PKD4; TRPP2

Protein Families:

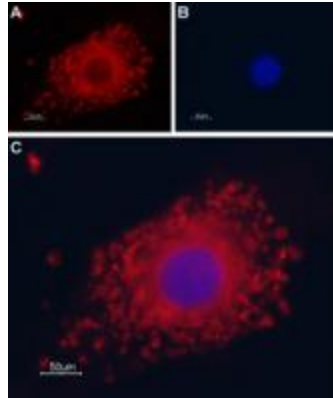
Druggable Genome, Ion Channels: Transient receptor potential, Transmembrane

Product images:

Western blot analysis of rat kidney membrane proteins (lanes 1 and 3) and mouse kidney lysate (lanes 2 and 4): 1, 2. Anti-TRPP1 (PKD2) antibody, (1:200). 3, 4. Anti-TRPP1 (PKD2) antibody, preincubated with the control peptide antigen.



IHC staining of rat kidney paraffin embedded sections using Anti-TRPP1 (PKD2) antibody, (1:100), followed by goat anti-rabbit-Alexa-Fluor-594 secondary antibody. A. TRPP1 staining followed by goat anti-rabbit-Alexa-Fluor-594 secondary antibody (red) appears in the renal cortex, mainly in the distal tubules. B. DAB staining of TRPP1 (brown) also shows that the renal corpuscle and the blood vessels are not stained at all. (PT=proximal tubule, DT = distal tubule).



Expression of TRPP1 (PKD2) in C2C12 cell line. Immunocytochemical staining of TRPP1 (PKD2) in mouse paraformaldehyde-fixed and permeabilized muscle myoblasts (C2C12) cell line. A. Cells were stained with Anti-TRPP1 (PKD2) antibody, (1:50-1:100) followed by goat anti-rabbit-AlexaFluor-594 secondary antibody (red). B. Nuclear staining using DAPI as the counterstain (blue). C. Merged images of panels A and B.