Recombinant PKD2 protein (His tag)

Catalog Number	544933
Synonyms	PC2; Autosomal dominant polycystic kidney disease type II protein; Polycystic kidney disease 2 protein; Polycystwin; R48321; Transient receptor potential cation channel subfamily P member 2
Species	Human
Expression System	E. coli
Accession	Q13563
Molecular Weight	Predictes a molecular mass of 27.77 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 28 kDa band.

Product Information

Sequence Region	242-468
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>90%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 242-468 aa (Q13563) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	Recombinant Human Polycystin-2 (PC2) Fragment (aa 242-468) is a high-quality, stable protein product designed for structural and functional studies. This 227-amino acid fragment, derived from the PKD2 gene, represents a soluble and well-folded region ideal for investigating the molecular mechanisms of this critical cation channel involved in renal function and cellular signaling. Polycystin-2 (PC2), encoded by the PKD2 gene, functions as a nonselective cation channel that can operate as either a homotetramer or heteromer with PKD1. This multifunctional protein displays distinct channel properties depending on its subcellular localization, with roles in primary cilia as a mechanosensitive cation channel (preferentially permeable to K+, Na+, and Ca2+), in the endoplasmic reticulum as a potassium channel facilitating calcium release, and in plasma membranes where it regulates various other channels including TRPV4, TRPC1, IP3R, and RYR2. PC2 is critically involved in fluid-flow mechanosensation in renal epithelium, left-right axis patterning, cilium length regulation, and systemic blood pressure control through vasoconstriction. The protein localizes to multiple cellular compartments including ciliary membranes, endoplasmic reticulum, plasma membranes, and basolateral membranes, with its trafficking and membrane localization dependent on interactions with partners such as PKD1 and GANAB. Mutations in PC2 are associated with autosomal dominant polycystic kidney disease type II, highlighting its essential role in renal physiology and disease pathogenesis.