Recombinant Human Podocin/NPHS2 Protein (His Tag)

Catalog Number: PDEH100819

Note: *Centrifuge before opening to ensure complete recovery of vial contents.*

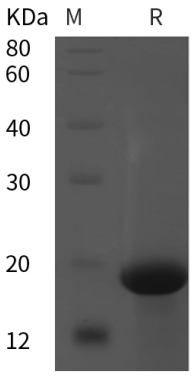
Description

Species	Human
Source	E.coli-derived Human Podocin protein Met222-Pro372, with an N-terminal His
Calculated MW	16.5 kDa
Observed MW	20 kDa
Accession	Q9NP85
Bio-activity	Not validated for activity

Properties

Purity	> 95% as determined by reducing SDS-PAGE.
Endotoxin	< 10 EU/mg of the protein as determined by the LAL method
Storage	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.
Shipping	This product is provided as lyophilized powder which is shipped with ice packs.
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with 5% Trehalose and 5% Mannitol.
Reconstitution	It is recommended that sterile water be added to the vial to prepare a stock solution of 0.5 mg/mL. Concentration is measured by UV-Vis.

Data



SDS-PAGE analysis of Human Podocin/NPHS2 proteins, 2 μg/lane of Recombinant Human Podocin/NPHS2 proteins was resolved with SDS-PAGE under reducing conditions, showing bands at 20 kDa.

Background

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Podocin, encoded by the NPHS2 gene, is an approximately 50 kDa membrane protein that plays an important role in podocyte function in the kidney. Loss of Podocin function results in albuminuria, hypercholesterolemia, hypertension, and renal failure. Human Podocin consists of a 102 amino acid (aa) cytoplasmic domain, a 21 aa intramembrane segment, and a second 262 aa cytoplasmic domain. Alternative splicing generates a short isoform with a 68 aa deletion in the second cytoplasmic domain. Within aa 259-383 (the region common to both isoforms), human Podocin shares 90% aa sequence identity with mouse and rat Podocin. Podicin localizes to areas of cell-cell contact between podocytes in the renal glomerulus. It associates into oligomers and forms complexes with Nephrin, CAR, Z O-1, and the cation ion channel TRPC6. It contributes to podocyte function by regulating the activation of TRPC6 and Nephrin mediated signaling. Multiple polymorphisms in NPHS2 are associated with steroid-resistant nephrotic syndrome.

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