Product Specification Sheet

Podocalyxin Antibodies

□ Cat. PODX12-A **Goat** Anti-Human Podocalyxin IgG # 2 (aff pure) **SIZE**: 100 ul

Nephrin is encoded by NPHS1 gene (chromosome 19q13.1), the core protein of the interpodocytes slit diaphragm of kidney glomerulus, these podocytes are highly differentiated with characteristic interdigitating foot processes covering the outer glomerular basement membrane, the space between these foot processes is spanned by a tight junction to provide the large surface area for filtration.

The mutated NPHS1 gene in congenital nephrotic syndrome of Finnish type, a human disease that leads to massive proteinuria in utero and nephrosis at birth. Nephrin is a transmembrane protein of immunoglobulin super family with 8 Ig like domains, identified in human (1241 aa), rat (1252 aa), and mouse (1256 aa). Nephrin is found to be specifically expressed in kidney-slit diaphragm, brain and pancreas, the protein plays a crucial role in development and function of kidney filtration barrier, this barrier is crucial for maintaining the water and electrolyte balance without losing circulating proteins into the urine.

Nephrin interacts with podocin and with CD2AP C-terminal domain, It tends to be a signaling molecule that activates canonical protein kinase cascades, which is initiated by three closely related proteins called NEPH proteins (**NEPH1, NEPH2, & NEPH3**), The NEPH proteins share a common domain architecture consisting of 5 extracellular Ig domain followed by transmembrane domain, These proteins bind to C-terminal domain of podocin, which interacts with C-terminal of nephrin and greatly enhances nephrin-induced signaling.

Podocalyxin, a 485 aa protein in rat and 528 aa in human (chr 7q32-q33). Functions as an antiadhesin that maintains an open filtration pathway between neighboring foot processes in the podocytes by charge repulsion. Mainly expressed in Glomerular epithelium cells.

Source of Antigen and Antibodies

Antigen	Recombinant purified human Podocalyxin EC domain 1-425 aa
Location	~EC domain
Ab Host/type	Goat, Polyclonal
Ab Format	Aff pure IgG (**cat # PODX12-A**)

Recommended Usage

Western Blotting (1-2 ug/ml for affinity pure antibody using ECL technique).

ELISA: Control peptide can be used to coat ELISA plates at 1 ug/ml and detected with antibodies (0.5-1 ug/ml for affinity pure).

Histochemistry & Immunofluorescence: not tested. We recommend the use of aff pure IgG at 10-20 ug/ml.

Flow Cytometry: Recommended starting concn are 1-5 ug antibody in 1-2 million cells in a total volume of 0.25 ml.

Form & Storage of Antibodies/Peptide Control

Affinity pure IgG

□ 100 ug/100ul □ 50 ug/100 ul

□ solution □ lyophilized powder

Buffer: PBS mM Tris, pH 7.5

Reconstitute powder in the original vol. of water

Control/blocking peptide

Storage

Short-term: unopened, undiluted vials for less than a week at 4oC.

Long-term: at –20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at –20oC or below.

Shipping: 4oC for solutions and room temp for powder.

Specificity & Cross-reactivity

This antibody reacts with human podocalyxin. Antibody cross-reactivity in various species has not been studied. Anti-mouse podocalyxin is also available (cat # PODX15-A) for mouse studies.

General References: David B. Kershaw et al (1997) JBC.272 (25) 15708-15714; Li, J et al (2001) DNA seq. 12 (5-6), 407-412; Boute N et al (2000) Nat. Genet, 25, 125-125, and Nat Genet. 24 (4) 349-354; Huber, T. B et al (2001) JBC. 276 (45) 41543-41546.

**This product is for In vitro research use only.*

Related material available from ADI

Antibodies & Peptides: Nephrin related proteins (NEPH 1-3, Filtrin, Podocin, Podocalyxin).