Human Nephrin Alexa Fluor® 750-conjugated Antibody

Monoclonal Rabbit IgG Clone # 2795E
Catalog Number: FAB42693S
100 µg

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Nephrin in direct ELISAs.
Source	Monoclonal Rabbit IgG Clone # 2795E
Purification	Protein A or G purified from cell culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived human Nephrin protein Gln23-Thr1029 Accession # O60500
Conjugate	Alexa Fluor 750 Excitation Wavelength: 749 nm Emission Wavelength: 775 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

Immunohistochemistry	Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

BACKGROUND

Nephrin is a 180 kDa type I transmembrane glycoprotein that belongs to the immunoglobulin superfamily (1). Mature human Nephrin consists of a 1033 amino acid (aa) extracellular domain (ECD) with eight Ig-like C2-set domains and one fibronectin type III domain, a 21 aa transmembrane segment, and a 165 aa cytoplasmic tail (2, 16). Within the ECD, human Nephrin shares 83% aa sequence identity with both mouse and rat Nephrin (3). Usage of the alternate exon 1B results in a distinct N-terminal sequence that lacks a clearly defined signal peptide cleavage site (4). Nephrin is expressed primarily on podocytes in the renal glomerulus and to a lesser extent in the brain and pancreas (3, 5). The 1B isoform is not expressed in the kidney (4). Nephrin localizes to intercellular junctions between podocyte foot processes where it functions as a homophilic adhesion molecule (2, 6). Nephrin is required for formation and maintenance of the slit diaphragm between these processes (7). It associates with Neph1, podicin, P-cadherin, and multiple scaffolding proteins which couple it to the actin cytoskeleton (8-12). Nephrin expression is required for the anti-apoptotic effect of VEGF on podocytes as well as for the ability of podocytes to up-regulate Glut1 and Glut4 glucose transporters in response to insulin (13, 14). Nephrin down-regulation contributes to diabetic nephropathy, and nephrin mutations underlie the lethal congenital nephritic syndrome NPHS1 (5, 15).

PRODUCT SPECIFIC NOTICES

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