

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse Nephrin in direct ELISAs and Western blots. In direct ELISAs, less than 5% cross-reactivity with recombinant human Nephrin is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse Nephrin Gln37-Thr1049 Accession # NP_062332
Conjugate	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 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 185 kDa type I transmembrane glycoprotein that belongs to the immunoglobulin superfamily (1). Mature mouse Nephrin consists of a 1042 amino acid (aa) extracellular domain (ECD) with eight Ig-like C2-set domains and one fibronectin type III domain, a 22 aa transmembrane segment, and a 156 aa cytoplasmic tail (2, 3). Within the ECD, mouse Nephrin shares 84% and 95% aa sequence identity with human and rat Nephrin, respectively. 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 Nephr1, 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 upregulate Glut1 and Glut4 glucose transporters in response to insulin (13, 14). Nephrin downregulation contributes to diabetic nephropathy, and Nephrin mutations underlie the lethal congenital nephritic syndrome NPHS1 (5, 15).

PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc, and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.