Active Recombinant Mouse Nphs1, His-tagged

Cat. No. Nphs1-16M **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Mouse Nphs1(Gln37-Thr1049) fussed with 6-His tag at C-terminal was expressed in NS0 cell.
Species	Mouse
Source	Mammalian Cells
ProteinLength	37-1049 a.a.
Description	Nephrin is a 185 kDa type I transmembrane glycoprotein that belongs to the immunoglobulin superfamily. Mature mouse Nephrin consists of a 1042 amino acid (aa) extracellular domain (ECD) with eight Iglike C2set domains and one fibronectin type III domain, a 22 aa transmembrane segment, and a 156 aa cytoplasmic tail. 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 Nterminal sequence that lacks a clearly defined signal peptide cleavage site. Nephrin is expressed primarily on podocytes in the renal glomerulus and to a lesser extent in the brain and pancreas. The 1B isoform is not expressed in the kidney. Nephrin localizes to intercellular junctions between podocyte foot processes where it functions as a homophilic adhesion molecule. Nephrin is required for formation and maintenance of the slit diaphragm between these processes. It associates with Neph1, podicin, Pcadherin, and multiple scaffolding proteins which couple it to the actin cytoskeleton. Nephrin expression is required for the antiapoptotic effect of VEGF on podocytes as well as for the ability of podocytes to upregulate Glut1 and Glut4

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	glucose transporters in response to insulin. Nephrin downregulation contributes to diabetic nephropathy, and Nephrin mutations underlie the lethal congenital nephritic syndrome NPHS1.
Predicted N Terminal	Gln37 predicted
Form	Lyophilized from a 0.2 μm filtered solution in PBS.
Bio-activity	Measured by the ability of the immobilized protein to support the adhesion of MS-1 mouse pancreatic islet endothelial cells.When 5 x 10^4 cells/well are added to rmNephrin coated plates (10 μg/mL, 100 μL/well), approximately 60 - 80% will adhere after 90 minutes at 37° C.
Molecular Mass	Predicted Molecular Mass:110 kDaSDS-PAGE:130-145 kDa, reducing conditions
Endotoxin	< 1.0 EU per 1 μg of the protein by the LAL method.
Purity	>85%, by SDS-PAGE under reducing conditions and visualized by silver stain.
Stability	Avoid repeated freeze-thaw cycles.12 months from date of receipt, -20 to -70 centigrade as supplied;1 month, 2 to 8 centigrade under sterile conditions after reconstitution;3 months, -20 to -70 centigrade under sterile conditions after reconstitution.
Reconstitution	Reconstitute at 100 μg/mL in sterile PBS.

GENE INFORMATION

Gene Name	Nphs1 nephrosis 1, nephrin [Mus musculus]
Official Symbol	Nphs1

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Synonyms	nephrin; nephrin 1; nephrosis 1 homolog, nephrin; renal glomerulus-specific cell adhesion receptor
Gene ID	54631
mRNA Refseq	NM_019459
Protein Refseq	NP_062332
UniProt ID	Q9QZS7
Chromosome Location	7; 7 A3
Pathway	Cell-Cell communication, organism-specific biosystem; Nephrin interactions, organism-specific biosystem; PodNet: protein-protein interactions in the podocyte, organism-specific biosystem
Function	alpha-actinin binding; myosin binding; protein binding

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