

## Active Recombinant Mouse Nphs1, His-tagged

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

### SPECIFICATION

<b>Product Overview</b>	Recombinant Mouse Nphs1(Gln37-Thr1049) fused with 6-His tag at C-terminal was expressed in NS0 cell.
<b>Species</b>	Mouse
<b>Source</b>	Mammalian Cells
<b>ProteinLength</b>	37-1049 a.a.
<b>Description</b>	<p>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 Nephr1, 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</p>

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glucose transporters in response to insulin. Nephtrin downregulation contributes to diabetic nephropathy, and Nephtrin mutations underlie the lethal congenital nephritic syndrome NPHS1.

**Predicted N Terminal** Gln37 predicted

**Form** Lyophilized from a 0.2 µ 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<sup>4</sup> cells/well are added to rmNephtrin 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 kDa SDS-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, nephtrin \[ Mus musculus \]](#)

**Official Symbol** Nphs1

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

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