

Active Recombinant Human KIRREL, His-tagged

Cat. No. KIRREL-5225H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human KIRREL1 /NEPH1 Protein (rhKIRREL1) Gln 17 - Ala 499 (Accession # AAI09193.1) was produced in human 293 cells (HEK293)
Species	Human
Source	HEK293
ProteinLength	17-499 a.a.
Description	Kin of IRRE-like protein 1 (KIRREL1) also known as NEPH1, is type I transmembrane glycoproteina that belongs to the nephrin-like protein family, which includes NEPH2 and NEPH3 (KIRREL2). The cytoplasmic domains of these proteins interact with the C terminus of podocin (NPHS2). KIRREL1 is expressed in filtration slits of kidney podocytes, cells involved in ensuring size- and charge-selective ultrafiltration of blood. KIRREL1 forms cis heterooligomers with nephrin, which brings together signaling molecules that direct actin polymerization. This interaction is essential for barrier function in the slit diaphragm, and mice deleted for KIRREL1 die perinatally due to proteinuria and failure to thrive. KIRREL1 is crucial for the integrity of the slit diaphragm, as KIRREL gene knockout mice results in effacement of glomerular podocytes, heavy proteinuria, and early postnatal death.
Predicted N Terminal	Gln 17
Form	Lyophilized from 0.22 µm filtered solution in PBS, pH7.4. Normally Mannitol or Trehalose are added as protectants before lyophilization.

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Bio-activity	Measured by the ability of the immobilized protein to support the adhesion of MS-1 mouse pancreatic islet endothelial cells. When 50000 cells/well are added to rhKIRREL1 coated plates (30 µg/mL, 100 µg/well), approximately 50%-75% will adhere after 90 minutes at 37°C.
Molecular Mass	53.5 kDa. DTT-reduced Protein migrates as 65-70 kDa due to glycosylation.
Endotoxin	Less than 1.0 EU per µg of the rhKIRREL1 by the LAL method.
Purity	>95% as determined by SDS-PAGE.
Storage	Avoid repeated freeze-thaw cycles. No activity loss was observed after storage at: In lyophilized state for 1 year (4oC-8oC); After reconstitution under sterile conditions for 1 month (4oC-8oC) or 3 months (-20oC to -70oC).

GENE INFORMATION

Gene Name	KIRREL kin of IRRE like (Drosophila) [Homo sapiens]
Official Symbol	KIRREL
Synonyms	KIRREL; kin of IRRE like (Drosophila); kin of IRRE-like protein 1; NEPH1; nephrin like protein 1; nephrin related; nephrin-like protein 1; kin of irregular chiasm-like protein 1; FLJ10845; MGC129542; MGC129543;
Gene ID	55243
mRNA Refseq	NM_018240
Protein Refseq	NP_060710

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MIM	607428
UniProt ID	Q96J84
Chromosome Location	1q21-q25
Pathway	Cell-Cell communication, organism-specific biosystem; Nephrin interactions, organism-specific biosystem; Nephrin/Neph1 signaling in the kidney podocyte, organism-specific biosystem;

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