

## Recombinant Rat KIRREL3/NEPH2 Protein (His Tag)

Catalog No. PKSR030305

**Note:** Centrifuge before opening to ensure complete recovery of vial contents.

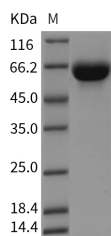
### Description

<b>Synonyms</b>	KIRREL3
<b>Species</b>	Rat
<b>Expression Host</b>	HEK293 Cells
<b>Sequence</b>	Met1-Ala523
<b>Accession</b>	Q09GS6
<b>Calculated Molecular Weight</b>	56.4 kDa
<b>Observed molecular weight</b>	60-64 kDa
<b>Tag</b>	C-His
<b>Bioactivity</b>	Measured by the ability of the immobilized protein to support the adhesion of MS1 mouse pancreatic islet endothelial cells. When cells are added to rat KIRREL3 coated plates (15 µg/mL, 100 µL/well), > 20% will adhere specifically after 90 minutes at 37 °C.

### Properties

<b>Purity</b>	> 95 % as determined by reducing SDS-PAGE.
<b>Endotoxin</b>	< 1.0 EU per µg of the protein as determined by the LAL method.
<b>Storage</b>	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.
<b>Shipping</b>	This product is provided as lyophilized powder which is shipped with ice packs.
<b>Formulation</b>	Lyophilized from sterile PBS, pH 7.4 Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Please refer to the specific buffer information in the printed manual.
<b>Reconstitution</b>	Please refer to the printed manual for detailed information.

### Data



> 95 % as determined by reducing SDS-PAGE.

### For Research Use Only

## Background

Kin of IRRE-like protein 3 (KIRREL3) also known as nin of irregular chiasm-like protein 3 or nephrin-like protein 2 (NEPH2) is a member of the nephrin-like protein family of transmembrane proteins, which includes NEPH1 (KIRREL) and NEPH3 (KIRREL2). KIRREL3/NEPH2 is expressed in fetal and adult brain, and also in podocytes of kidney glomeruli. The cytoplasmic domains of KIRREL3/NEPH2 interact with the C-terminus of podocin, also expressed in the podocytes, cells involved in ensuring size- and charge-selective ultrafiltration. Mutations in KIRREL3/NEPH2 are associated with mental retardation autosomal dominant type 4. KIRREL3/NEPH2 expression is turned on in migrating nucleogenesis of the pontine nucleus (PN) neurons only after they enter the presumptive nuclear region.

KIRREL3/NEPH2 knockdown disrupted the nuclear organization of PN presumably by changing the migratory behavior of PN neurons inside the nuclear region. Moreover, overexpression of the cytoplasmic region of KIRREL3, which can sequester intracellular signaling of endogenous KIRREL3, resulted in similar phenotypes. Overall, these results suggest KIRREL3 is involved in the nucleogenesis of the PN through the control of neuronal migration inside the nucleus.