

Recombinant Mouse KIRREL1 / NEPH1 Protein (His tag)**Cat.NO.: TP08029**

3th Edition

Synonyms:6720469N11Rik;Kirrel1;Neph1

Description:NEPH1 (KIRREL1) belongs to a family of three closely related transmembrane proteins of the Ig superfamily with a structure similar to that of nephrin. All three Neph proteins share a conserved podocin-binding motif; mutation of a centrally located tyrosine residue dramatically lowers the affinity of Neph1 for podocin. Neph1 triggers AP-1 activation similarly to nephrin but requires the presence of Tec family kinases for efficient transactivation. Neph1 consists of a signal peptide, five Ig-like C2-type domains with the middle domain overlapping with a PKD-like domain, an RGD sequence, a transmembrane domain and a cytoplasmic tail, which is expressed in slit diaphragm domains of podocytes and in vertebrate and invertebrate nervous systems. Neph1 is abundantly expressed in the kidney, specifically expressed in podocytes of kidney glomeruli, and plays a significant role in the normal development and function of the glomerular permeability. Neph1 interacts with nephrin in vitro and in vivo, and able to stimulate transcriptional activation in a model system, such as the activation the transcription factor AP-1 via the stimulation of a MAPK module. Neph1 is crucial for the integrity of the slit diaphragm, as Neph1 gene knockout mice results in effacement of glomerular podocytes, heavy proteinuria, and early postnatal death.

Form:PBS**Molecular Weight:**53.8 kDa**Sequences:**Met 1-Leu 525**Purity:**> 95% by HPLC**Concentration:****Endotoxin Level:**<1.0 EU per 1 ug of protein (determined by LAL method)

Storage:Can be stored at +4°C short term (1-2 weeks). For long term storage, aliquot and store at -20°C or -70°C. Avoid repeated freezing and thawing cycles.