KIRREL3/NEPH2 Protein, Mouse (HEK293, His)

Cat. No.:	HY-P77045
Synonyms:	Kin of IRRE-like protein 3; Nephrin-like protein 2; Kiaa1867; Neph2
Species:	Mouse
Source:	HEK293
Accession:	Q8BR86 (L22-A535)
Gene ID:	67703
Molecular Weight:	Approximately 60-80 kDa

PROPERTIES

AA Sequence	LQKRGCCLVL GYMAKDKFRR MNEGQVYSFS QQPQDQVVVS GQPVTLLCAI PEYDGFVLWI KDGLALGVGR DLSSYPQYLV VGNHLSGEHH LKILRAELQD DAVYECQAIQ AAIRSRPARL TVLVPPDDPI ILGGPVISLR AGDPLNLTCH ADNAKPAASI IWLRKGEVIN GATYSKTLLR DGKRESIVST LFISPGDVEN GQSIVCRATN KAIPGGKETS VTIDIQHPPL VNLSVEPQPV LEDNIVTFHC SAKANPAVTQ YRWAKRGHII KEASGELYRT TVDYTYFSEP VSCEVTNALG STNLSRTVDV YFGPRMTSEP QSLLVDLGSD AVFSCAWIGN PSLTIVWMKR GSGVVLSNEK TLTLKSVRQE DAGKYVCRAV VPRVGAGERE VTLTVNGPPI ISSTQTQHAL HGEKGQIKCF IRSTPPPDRI AWSWKENVLE SGTSGRYTVE TVNTEEGVIS TLTISNIVRA DFQTIYNCTA WNSFGSDTEI IRLKEQGSEM KSGAGLEAES VPMA
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.2 μm filtered solution of PBS, pH 7.4. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	The KIRREL3/NEPH2 protein emerges as a pivotal synaptic adhesion molecule essential for the precise formation of target-specific synapses, particularly notable at hippocampal mossy fiber synapses. Its significance extends to the orchestration of mossy fiber filopodia, critical synaptic structures linking dentate granule and GABA neurons. Functionally, KIRREL3/NEPH2 likely serves as a homophilic adhesion molecule, fostering trans-cellular interactions and playing a key role in stabilizing mossy fiber filipodia contacts, thereby facilitating subsequent synapse formation. Beyond the hippocampus, KIRREL3/NEPH2 is vital for the coalescence of vomeronasal sensory neuron axons. Moreover, it may play a role in the hematopoietic supportive capacity of stroma cells, with its secreted extracellular domain directly supporting hematopoietic stem cells. Functioning as a homodimer, KIRREL3/NEPH2 mediates homophilic interactions crucial for promoting cell adhesion. Additionally, it engages in a spectrum of protein-protein interactions, including the formation of heterodimers with NPHS1, interactions with NPHS2/podocin, CASK, MAP1B, MYO16, ATP1B1, SHMT2, and UFC1, underscoring its multifaceted and integral role in diverse cellular processes.

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