KIRREL3/NEPH2 Protein, Rat (HEK293, His)

Cat. No.:	HY-P77046
Synonyms:	Kin of IRRE-like protein 3; Nephrin-like protein 2; Kiaa1867; Neph2
Species:	Rat
Source:	HEK293
Accession:	Q09GS6 (L22-A523)
Gene ID:	315546
Molecular Weight:	Approximately 60-80 kDa

PROPERTIES

AA Sequence	L Q R R G C C L V L G Y M A K D K F R R M N E G Q V Y S F S Q Q P Q D Q V V V S G Q P V T L L C A I P E Y D G F V L W I K D G L A L G V G R D L S S Y P Q Y L V V G N H L S G E H H L K I L R A E L Q D D A V Y E C Q A I Q A A I R S R P A R L T V L V P P D D P I I L G G P V I S L R A G D P L N L T C H A D N A K P A A S I I W L R K G E V I N G A T Y S K T L L R D G K R E S I V S T L F I S P G D V E N G Q S I V C R A T N K A I P G G K E T S V T I D I Q H P P L V N L S V E P Q P V L E D N I V T F H C S A K A N P A V T Q Y R W A K R G H I I K E A S G E L Y R T T V D Y T Y F S E P V S C E V T N A L G S T N L S R T V D V Y F G P R M T S E P Q S L L V D L G S D A V F S C A W I G N P S L T I V W M K R G S G V V L S N E K T L T L K S V R Q E D A G K Y V C R A V V P R V G A G E R E V T L T V N G P P I I S S T Q T Q H A L H G E K G Q I K C F I R S T P P P D R I A W S W K E N V L E S G T S G R Y T V E T V N T E E G V I S T L T I S N I V R A D F Q T I Y N C T A W N S F G S D T E I I R L K E Q E S V P M A
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.2 μm filtered solution of PBS, pH 7.4.
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. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
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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