Human Kirrel2/NEPH3 Antibody

Antigen Affinity-purified Polyclonal Sheep IgG

Catalog Number: AF2564

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Kirrel2/NEPH3 in direct ELISAs and Western blots. In direct ELISAs, approximately 20% cross-reactivity with recombinant mouse Kirrel2 is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Kirrel2/NEPH3 Gly21-Arg503 Accession # Q6UWL6
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	0.1 µg/mL	Recombinant Human Kirrel2/NEPH3 (Catalog # 2564-K2)

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Kirrel2 (kin of irregular chiasm-1-like 2), also known as filtrin, NEPH3 (nephrin-like 3) or NLG1 (nephrin-like gene 1), is a 107 kDa type I transmembrane adhesion protein belonging to the immunoglobulin (Ig) superfamily (1, 2). Kirrel2 is expressed both in pancreatic islet β cells and kidney glomerulus, and is also found in brain and lymph nodes (1-9). Human Kirrel2 cDNA encodes a 708 amino acid (aa) protein that contains a 19 aa signal sequence, a 491 aa extracellular domain with five C2-type Ig-like domains, a 21 aa transmembrane sequence and a 177 aa intracellular domain with a nephrin-like podocin binding site (aa 597-606) (4, 5). An extracellular RGD sequence allows for cell attachment (4). The extracellular domain of human Kirrel2 shares 86%, 84%, 89% and 87% aa identity with mouse, rat, equine and bovine Kirrel2, respectively. Alternately spliced human Kirrel2 isoforms of 688, 633 and 583 aa have been described (6). These are, respectively, either missing aa 192-211, or have a 23 aa alternate C-terminus in place of aa 611-708, with or without aa 22-71 at the N-terminus. Human Kirrel2 is downregulated in glomeruli of patients with proteinuria, suggesting an involvement in the maintenance of the glomerular filtration barrier (7). Autoantibodies to Kirrel2 have been identified in a subset of humans with type I diabetes, indicating its involvement with islet β cell function (8). In the brain, Kirrel2 is present in olfactory neurons, but only when they are active; homophilic adhesion of Kirrel2 is postulated to help correlate nerves identifying the same odorant (9). It is also a marker for mouse early postmitotic neural precursors in the ventricular zone of the developing mouse spinal cord (10).

References:

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