ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

With-No-Lysine Kinase-1 (WNK1) Antibodies

□ Cat. # WNK11-S	Rabbit Anti-Human WNK1 antiserum	**SIZE**: 100 ul
□ Cat. # WNK11-A	Rabbit Anti-Human WNK1 IgG (Aff pure)	**SIZE**: 100 ug
□ Cat. # WNK11-P	Human WNK1 Control/blocking peptide	**SIZE**: 100 ug

Protein kinases represent a superfamily of over 400 members that share a catalytic domain of 250-300 amino acids. A conserved lysine, in subdomain II of the catalytic core of all 390 protein kinases, anchors α and β phosphoryl groups of ATP. The catalytic domain of **WNK** (With No K=Lysine) kinases contains all invariant residues, except for this **lysine** residue. There are 4 (identified) WNK genes (**WNK1**, **WNK2**, **WNK3** and **WNK4**) in human (h) and rat (r). The hWNK kinases exhibit ~30% seq identity and 50% seq homology to human Mitogen Activated Protein kinases (MAPK) **STK2**, **PAK2**, **MEKK3**, **PAK3** and **Raf-1**.

WNK4 (human 1243-aa, 17q21) is a Ser-Thr kinase in which the conserved catalytic lysine is replaced by a cysteine but another lysine residue in subdomain I confers the kinase activity. WNK4 is 76% identical to WNK1 in kinase domain. WNK4 is expressed predominantly in kidney, colon and skin. WNK4 localize to the distal convoluted tubule (DCT) and cortical collecting duct (CCD), that play a key role in salt, water, K+ and pH homeostasis. WNK4 is present exclusively in the intracellular tight junctions in DCT and in both cytoplasm and tight junctions in CCD. In DCT, salt reabsorption is mediated by the electroneutral Na-Cl cotransporter.

Source of Antigen and Antibodies

Antigen	17-aa peptide from **human WNK-1 (1)**; **Designation (WNK11-P, control or blocking peptide**) conjugated to KLH; epitope location ~ N-terminus and prior to the tyrosine kinase catalytic domain
Ab Host/type	Rabbit, Polyclonal unpurified antiserum (**#WNK11**-S) and IgG, purified over antigen-agarose (Cat # **WNK11**-A)
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control	Non-immune rabbit IgG (Cat # 20009-1) to be used as –ve control for ELISA, WB, IHC etc.

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified, undiluted)
□ (100 ul/vial (solution □ (lyophilized powder
Reconstitute powder in 100 ul PBS.

Affinity pure IgG
□ 100 ug/100ul □ solution □ lyophilized powder
Supplied in **Buffer**: PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/ml

Control/blocking peptide
□ 100 ug/100 ul □ solution □ lyophilized powder
Supplied in Buffer: PBS pH 7.5,
Reconstitute powder in PBS at 1 mg/ml.

Storage

Short-term: unopened, undiluted liquid vials for less than a week at 4°C.

Long-term: at –20°C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at –20°C or below.
Shipping: 4°C for solutions and room temp for powder.

Recommended Usage

Western Blotting (1:1K-5K for neat serum and 1-10 ug/ml for affinity pure using Chemiluminescence technique). WNK1 is ~230-kda.

ELISA (1:10K-1:100K; using 50-100 ng of control peptide/well).

Histochemistry & Immunofluorescence: not tested. We recommend the use of affinity pure antibody at 2-20 ug/ml.

Specificity & Cross-reactivity

Human WNK11-P antigenic peptide is 100% conserved in monkey, chimp, mouse, rat, and G. pig WNK1. No significant sequence homology of WNK11-P is seen with other WNKs (WNK2-4) or other kinases. Antibody reactivity in various species is not known. The WNK11-P Control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity (see detailed protocol at: www.4adi.com\data\abblock.html).

General References (1) Moorre TM et al (2000) JBC 275, 4311; Wilson et al. (2001) Science 293, 1107; Xu B et al. (2000) JBC 275, 16795; Verissimo and Jordan (2001) Oncogene 20, 5562; Ito et al. (2001) Cancer Res. 61, 2038.

**This product is for In vitro research use only.*

Related materials available from ADI

Antibodies: WNK1-4, EnaCs, AQPs,

ReadyBlot Kidney Protein Explorer-Study distribution of protein in various regions of the mouse/rat kidney using the pre-made protein blots.

Western blot recycling kit-Use the same blot for WNK1-4

WNK11-S-A-P 141211A

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