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#5713

## WNK4 Antibody

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M R Dg	Endogenous	135-140	Rabbit	#Q96J92	65266

### Product Usage Information

#### Application

Western Blotting

#### Dilution

1:1000

### Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

### Specificity/Sensitivity

WNK4 Antibody detects endogenous levels of total WNK4 protein.

### Species predicted to react based on 100% sequence homology

Bovine

### Source / Purification

Polyclonal antibodies are produced by immunizing animals with a sythetic peptide corresponding to residues surrounding Lys59 of human WNK4. Antibodies were purified by protein A and peptide affinity chromatography.

### Background

The WNK [with no lysine (K)] family of serine/threonine kinases is characterized by having a cysteine in place of lysine in subdomain II of its kinase activation domain (1,2). The lysine necessary for phosphoryl transfer is located in an atypical position in the catalytic domain. Four WNK family members have been identified in humans (WNK1-4) and have been implicated in regulating ion permeability (3). Mutations in the *WNK1* and *WNK4* genes in humans cause pseudohypoaldosteronism type II (PHAII), an autosomal dominant disorder leading to hypertension, hyperkalemia, and renal tubular acidosis (4). WNK4 is specifically expressed in the kidney, whereas WNK1 has a wider distribution but is predominantly expressed in polarized epithelia (1-3). Heterozygous *Wnk1* mutations in mice result in a significant decrease in blood pressure, while homozygous mutations are embryonic lethal (5). WNK1 is phosphorylated by Akt at Thr60 (6). In addition, WNK1 may be autophosphorylated at Ser382 in the activation loop, which is thought to be required for its kinase activity (7).

### Background References

1. Verissimo, F. and Jordan, P. (2001) *Oncogene* 20, 5562-9.
2. Xu, B. et al. (2000) *J Biol Chem* 275, 16795-801.
3. Choate, K.A. et al. (2003) *Proc Natl Acad Sci USA* 100, 663-8.
4. Wilson, F.H. et al. (2001) *Science* 293, 1107-12.
5. Zambrowicz, B.P. et al. (2003) *Proc Natl Acad Sci USA* 100, 14109-14.
6. Vitari, A.C. et al. (2004) *Biochem J* 378, 257-68.
7. Xu, B.E. et al. (2002) *J Biol Chem* 277, 48456-62.

### Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

### Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

### Applications Key

**W:** Western Blotting

### Cross-Reactivity Key

**H:** Human **M:** Mouse **R:** Rat **Dg:** Dog

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