

#5713 Store at -20C

# WNK4 Antibody

**Cell Signaling**  
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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB	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 mutations in WNK1 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, and this 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 U S A* 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 U S A* 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****WB:** Western Blotting**Cross-Reactivity Key**

**H:** human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster  
**X:** Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse  
**GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

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