

# WNK1 (N-20): sc-20468

## BACKGROUND

The protein kinase superfamily contains over a thousand proteins in 57 sub-families that all share a catalytic core of 250-300 amino acids organized in two domains. WNK, for "with no lysine (K)", kinases are serine-threonine protein kinases that contain a cysteine residue in place of a lysine residue in a family of proteins that traditionally contain a lysine following a short string of hydrophobic residues. WNK kinases contain a lysine upstream of the traditional position within a glycine string. This lysine functions as an anchor and orients ATP through interactions with the  $\alpha$  and  $\beta$  phosphoryl groups. The catalytic domains of WNK2, WNK3 and WNK4 are 95% homologous to WNK1. The human WNK1 gene encodes a 2,382 amino acid protein that is primarily expressed in heart, kidney, muscle and distal nephron. The human WNK3 gene encodes a protein that is primarily expressed in brain; the human WNK4 gene encodes a 1,243 amino acid protein that is expressed in kidney. Aberrant function of WNK kinases and their associated signaling pathways are implicated in hypertension, increased renal salt reabsorption and impaired K<sup>+</sup> and H<sup>+</sup> excretion.

## REFERENCES

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## CHROMOSOMAL LOCATION

Genetic locus: WNK1 (human) mapping to 12p13.33; Wnk1 (mouse) mapping to 6 F1.

## SOURCE

WNK1 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of WNK1 of human origin.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-20468 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

WNK1 (N-20) is recommended for detection of WNK1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for WNK1 siRNA (h): sc-39256, WNK1 siRNA (m): sc-39257, WNK1 shRNA Plasmid (h): sc-39256-SH, WNK1 shRNA Plasmid (m): sc-39257-SH, WNK1 shRNA (h) Lentiviral Particles: sc-39256-V and WNK1 shRNA (m) Lentiviral Particles: sc-39257-V.

Molecular Weight of (predicted) WNK1: 250 kDa.

Molecular Weight of (observed) WNK1: 250/45 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\* Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.