

# WNK3 (4H5): sc-517063

## BACKGROUND

The protein kinase superfamily contains over a thousand proteins in 57 subfamilies that all share a catalytic core of 250-300 amino acids organized in 2 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

- Xu, B., et al. 2000. WNK1, a novel mammalian serine/threonine protein kinase lacking the catalytic lysine in subdomain II. *J. Biol. Chem.* 275: 16795-16801.
- Verissimo, F. and Jordan, P. 2001. WNK kinases, a novel protein kinase subfamily in multi-cellular organisms. *Oncogene* 20: 5562-5569.
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- Yang, C.L., et al. 2003. WNK kinases regulate thiazide-sensitive Na-Cl cotransport. *J. Clin. Invest.* 111: 1039-1045.
- Tobin, M.D., et al. 2005. Association of WNK1 gene polymorphisms and haplotypes with ambulatory blood pressure in the general population. *Circulation* 112: 3423-3429.

## CHROMOSOMAL LOCATION

Genetic locus: WNK3 (human) mapping to Xp11.22.

## SOURCE

WNK3 (4H5) is a mouse monoclonal antibody raised against amino acids 1-100 representing partial length WNK3 of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

WNK3 (4H5) is recommended for detection of WNK3 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

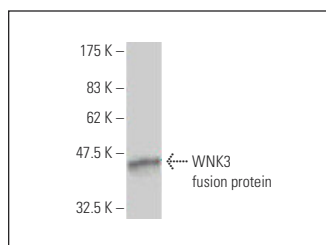
Suitable for use as control antibody for WNK3 siRNA (h): sc-39258, WNK3 shRNA Plasmid (h): sc-39258-SH and WNK3 shRNA (h) Lentiviral Particles: sc-39258-V.

Molecular Weight of WNK3: 192 kDa.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

## DATA



WNK3 (4H5): sc-517063. Western blot analysis of human recombinant WNK3 fusion protein.

## STORAGE

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

## RESEARCH USE

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

## PROTOCOLS

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