

WNK3 (H-20): sc-20471

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 α and β 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^+ and H^+ 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., et al. 2001. WNK kinases, a novel protein kinase subfamily in multi-cellular organisms. *Oncogene* 20: 5562-5569.
- Wilson, F.H., et al. 2001. Human hypertension caused by mutations in WNK kinases. *Science* 293: 1107-1112.
- Nakamichi N., et al. 2002. Compilation and characterization of a novel WNK family of protein kinases in *Arabidopsis thaliana* with reference to circadian rhythms. *Biosci. Biotechnol. Biochem.* 66:2429-2436.

CHROMOSOMAL LOCATION

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

SOURCE

WNK3 (H-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of WNK3 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-20471 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

WNK3 (H-20) 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 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], 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 WNK3 siRNA (h): sc-39258, WNK3 shRNA Plasmid (h): sc-39258-SH and WNK3 shRNA (h) Lentiviral Particles: sc-39258-V.

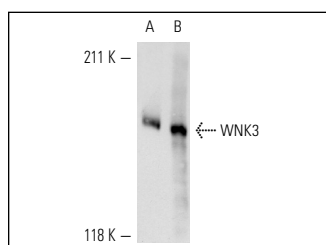
Molecular Weight of WNK3: 192 kDa.

Positive Controls: SK-N-SH cell lysate: sc-2410 or H4 cell lysate: sc-2408.

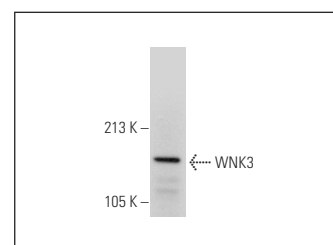
RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



WNK3 (H-20): sc-20471. Western blot analysis of WNK3 expression in SK-N-SH (A) and H4 (B) whole cell lysates.



WNK3 (H-20): sc-20471. Western blot analysis of WNK3 expression in Neuro-2A whole cell lysate.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

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Try **WNK3 (A-6): sc-515570** or **WNK3 (4H5): sc-517063**, our highly recommended monoclonal alternatives to WNK3 (H-20).