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 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 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

CHROMOSOMAL LOCATION
Genetic locus: WNK4 (human) mapping to 17q21.31.

SOURCE
WNK4 (1E6) is a mouse monoclonal antibody raised against amino acids 1144-1243 of WNK4 of human origin.

PRODUCT
Each vial contains 100 µg IgG1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS
WNK4 (1E6) is recommended for detection of WNK4 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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 WNK4 siRNA (h): sc-106706, WNK4 shRNA Plasmid (h): sc-106706-SH and WNK4 shRNA (h) Lentiviral Particles: sc-106706-V.

Molecular Weight of WNK4: 135 kDa.

RECOMMENDED SUPPORT REAGENTS
To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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

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 for detailed protocols and support products.