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 \( K^+ \) and \( H^+ \) excretion.

REFERENCES


CHROMOSOMAL LOCATION

Genetic locus: WNK2 (human) mapping to 9q22.31.

SOURCE

WNK2 (46.21) is a mouse monoclonal antibody raised against recombinant WNK2 of human origin.

PRODUCT

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

APPLICATIONS

WNK2 (46.21) is recommended for detection of WNK2 of human origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 WNK2 siRNA (h): sc-61803, WNK2 shRNA Plasmid (h): sc-61803-SH and WNK2 shRNA (h) Lentiviral Particles: sc-61803-V.

Molecular Weight of WNK2: 243 kDa.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:


DATA

SELECT PRODUCT CITATIONS


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 website at www.scbt.com for detailed protocols and support products.