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 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


CHROMOSOMAL LOCATION

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

SOURCE

WK2 (46.21) is a mouse monoclonal antibody raised against recombinant WNK2 of human origin.

PRODUCT

Each vial contains 100 µg IgG κ, 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: 1) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA

WNK2 (46.21): sc-100452. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human colon tissue showing membrane and cytoplasmic localization.

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.