

WNK4 (T-19): sc-20475

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.

CHROMOSOMAL LOCATION

Genetic locus: WNK4 (human) mapping to 17q21.31; Wnk4 (mouse) mapping to 11 D.

SOURCE

WNK4 (T-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of WNK4 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-20475 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.

APPLICATIONS

WNK4 (T-19) is recommended for detection of WNK4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

WNK4 (T-19) is also recommended for detection of WNK4 in additional species, including equine, canine and porcine.

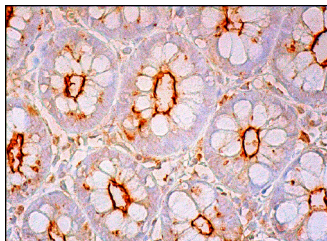
Suitable for use as control antibody for WNK4 siRNA (h): sc-106706, WNK4 siRNA (m): sc-155355, WNK4 shRNA Plasmid (h): sc-106706-SH, WNK4 shRNA Plasmid (m): sc-155355-SH, WNK4 shRNA (h) Lentiviral Particles: sc-106706-V and WNK4 shRNA (m) Lentiviral Particles: sc-155355-V.

Molecular Weight of WNK4: 135 kDa.

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) 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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



WNK4 (T-19): sc-20475. Immunoperoxidase staining of formalin fixed, paraffin-embedded human colon tissue showing apical membrane staining of glandular cells.

SELECT PRODUCT CITATIONS

- Chen, J. and Nathans, J. 2007. Estrogen-related receptor β /NR3B2 controls epithelial cell fate and endolymph production by the stria vascularis. *Dev. Cell* 13: 325-337.
- Hengl, T., et al. 2010. Molecular components of signal amplification in olfactory sensory cilia. *Proc. Natl. Acad. Sci. USA* 107: 6052-6057.

RESEARCH USE

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

PROTOCOLS

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

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Try **WNK4 (1E6): sc-293369**, our highly recommended monoclonal alternative to WNK4 (T-19).