10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

WNK4 (PRKWNK4) Antibody (C-term) Blocking peptide

Synthetic peptide
Catalog # BP7055b

Specification

WNK4 (PRKWNK4) Antibody (C-term) Blocking peptide - Product Information

Primary Accession Q96J92

WNK4 (PRKWNK4) Antibody (C-term) Blocking peptide - Additional Information

Gene ID 65266

Other Names
Serine/threonine-protein kinase WNK4, Protein kinase lysine-deficient 4, Protein kinase with no lysine 4, WNK4, PRKWNK4

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP7055b was selected from the C-term region of human PRKWNK4 . A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

WNK4 (PRKWNK4) Antibody (C-term) Blocking peptide - Protein Information

Name WNK4 {ECO:0000303|PubMed:11571656, ECO:0000312|HGNC:HGNC:14544}

Function
Serine/threonine-protein kinase component of the WNK4- SPAK/OSR1 kinase cascade, which acts as a key regulator of ion transport in the distal nephron and blood pressure (By similarity). The WNK4-SPAK/OSR1 kinase cascade is composed of WNK4, which mediates phosphorylation and activation of downstream kinases OXSR1/OSR1 and STK39/SPAK (PubMed:16832045). Following activation, OXSR1/OSR1 and STK39/SPAK catalyze phosphorylation of ion cotransporters, such as SLC12A1/NKCC2, SLC12A2/NKCC1, SLC12A3/NCC, SLC12A5/KCC2 or SLC12A6/KCC3, regulating their activity (PubMed:16832045, PubMed:22989884). Acts as a molecular switch that regulates the balance between renal salt reabsorption and K(+) secretion by modulating the activities of renal transporters and

channels, including the Na-Cl cotransporter SLC12A3/NCC and the K(+) channel, KCNJ1/ROMK (By similarity). Regulates NaCl reabsorption in the distal nephron by activating the thiazide-sensitive Na-Cl cotransporter SLC12A3/NCC in distal convoluted tubule cells of kidney: activates SLC12A3/NCC in a OXSR1/OSR1- and STK39/SPAK-dependent process (By similarity). Also acts as a scaffold protein independently of its protein kinase activity: negatively regulates cell membrane localization of various transporters and channels (CFTR, KCNJ1/ROMK, SLC4A4, SLC26A9 and TRPV4) by clathrin- dependent endocytosis (By similarity). Also inhbits the activity of the epithelial Na(+) channel (ENaC) SCNN1A, SCNN1B, SCNN1D in a inase- independent mechanism (By similarity). May also phosphorylate NEDD4L (PubMed:20525693).

Cellular Location
Cell junction, tight junction {ECO:0000250|UniProtKB:Q80UE6}. Note=Present exclusively in intercellular junctions in the distal convoluted tubule and in both the cytoplasm and intercellular junctions in the cortical collecting duct (By similarity). WNK4 is part of the tight junction complex (By similarity). {ECO:0000250|UniProtKB:Q80UE6}

Tissue Location
Expressed in kidney, colon and skin.

WNK4 (PRKWNK4) Antibody (C-term) Blocking peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

WNK4 (PRKWNK4) Antibody (C-term) Blocking peptide - Images

WNK4 (PRKWNK4) Antibody (C-term) Blocking peptide - Background

The WNK4 gene encodes a serine-threonine kinase expressed in distal nephron.[supplied by OMIM]

WNK4 (PRKWNK4) Antibody (C-term) Blocking peptide - References

Erlich, P.M., et al., Hypertension 41(6):1191-1195 (2003).Verissimo, F., et al., Oncogene 20(39):5562-5569 (2001).Wilson, F.H., et al., Science 293(5532):1107-1112 (2001).