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SPAK (STK39) Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP1448b

Specification

SPAK (STK39) Antibody (C-term) - Product Information

Application	**WB, IHC-P,E**
Primary Accession	Q9UEW8
Other Accession	O88506
Reactivity	**Human**
Predicted	**Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**59474**
Antigen Region	**386-415**

SPAK (STK39) Antibody (C-term) - Additional Information

Gene ID 27347

Other Names
STE20/SPS1-related proline-alanine-rich protein kinase, Ste-20-related kinase, DCHT, Serine/threonine-protein kinase 39, STK39, SPAK

Target/Specificity
This SPAK (STK39) antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 386-415 amino acids from the C-terminal region of human SPAK (STK39).

Dilution
WB~~1:1000
IHC-P~~1:10~50
E~~Use at an assay dependent concentration.

Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.

Storage
Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
SPAK (STK39) Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

SPAK (STK39) Antibody (C-term) - Protein Information

Name STK39

Function Effector serine/threonine-protein kinase component of the WNK-SPAK/OSR1 kinase cascade, which is involved in various processes, such as ion transport, response to hypertonic stress and blood pressure (PubMed:16669787, PubMed:18270262, PubMed:21321328, PubMed:34289367). Specifically recognizes and binds proteins with a RFXV motif (PubMed:16669787, PubMed:21321328). Acts downstream of WNK kinases (WNK1, WNK2, WNK3 or WNK4): following activation by WNK kinases, catalyzes phosphorylation of ion cotransporters, such as SLC12A1/NKCC2, SLC12A2/NKCC1, SLC12A3/NCC, SLC12A5/KCC2 or SLC12A6/KCC3, regulating their activity (PubMed:21321328). Mediates regulatory volume increase in response to hyperosmotic stress by catalyzing phosphorylation of ion cotransporters SLC12A1/NKCC2, SLC12A2/NKCC1 and SLC12A6/KCC3 downstream of WNK1 and WNK3 kinases (PubMed:12740379, PubMed:16669787, PubMed:21321328). Phosphorylation of Na-K-Cl cotransporters SLC12A2/NKCC1 and SLC12A2/NKCC1 promote their activation and ion influx; simultaneously, phosphorylation of K-Cl cotransporters SLC12A5/KCC2 and SLC12A6/KCC3 inhibit their activity, blocking ion efflux (PubMed:16669787, PubMed:19665974, PubMed:21321328). Acts as a regulator of NaCl reabsorption in the distal nephron by mediating phosphorylation and activation of the thiazide-sensitive Na-Cl cotransporter SLC12A3/NCC in distal convoluted tubule cells of kidney downstream of WNK4 (PubMed:18270262). Mediates the inhibition of SLC4A4, SLC26A6 as well as CFTR activities (By similarity). Phosphorylates RELT (By similarity).

Cellular Location
Cytoplasm. Nucleus. Note=Nucleus when caspase-cleaved.

Tissue Location
Predominantly expressed in brain and pancreas followed by heart, lung, kidney, skeletal muscle, liver, placenta and testis.

SPAK (STK39) Antibody (C-term) - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

SPAK (STK39) Antibody (C-term) - Images

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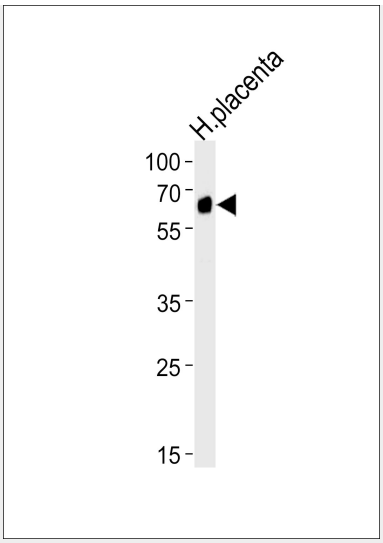
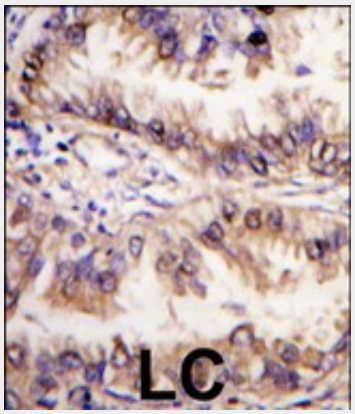


STK39 Antibody (C-term) (Cat. #AP1448b) western blot analysis in human placenta tissue lysates (35ug/lane).This demonstrates the STK39 antibody detected the STK39 protein (arrow).



Formalin-fixed and paraffin-embedded human lung carcinoma tissue reacted with STK39 antibody (C-term)(Cat.#AP1448b), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

SPAK (STK39) Antibody (C-term) - Background

STK39 is a serine/threonine kinase that is thought to function in the cellular stress response pathway. The kinase is activated in response to hypotonic stress, leading to phosphorylation of several cation-chloride-coupled cotransporters. The catalytically active kinase specifically activates the p38 MAP kinase pathway, and its interaction with p38 decreases upon cellular stress, suggesting that this kinase may serve as an intermediate in the response to cellular stress.

SPAK (STK39) Antibody (C-term) - References

Dowd, B.F., et al., J. Biol. Chem. 278(30):27347-27353 (2003).
Johnston, A.M., et al., Oncogene 19(37):4290-4297 (2000).