

**Anti-SPAK Antibody**  
**Rabbit polyclonal antibody to SPAK**  
**Catalog # AP60783****Specification**

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**Anti-SPAK Antibody - Product Information**

Application	<b>WB</b>
Primary Accession	<a href="#">O9UEW8</a>
Other Accession	<a href="#">O9Z1W9</a>
Reactivity	<b>Human, Mouse, Rat</b>
Host	<b>Rabbit</b>
Clonality	<b>Polyclonal</b>
Calculated MW	<b>59474</b>

**Anti-SPAK Antibody - Additional Information****Gene ID** 27347**Other Names**

SPAK; STE20/SPS1-related proline-alanine-rich protein kinase; Ste-20-related kinase; DCHT; Serine/threonine-protein kinase 39

**Target/Specificity**

Recognizes endogenous levels of SPAK protein.

**Dilution**

WB~~WB (1/500 - 1/1000), IH (1/100 - 1/200)

**Format**

Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.09% (W/V) sodium azide.

**Storage**

Store at -20 °C. Stable for 12 months from date of receipt

**Anti-SPAK Antibody - 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](http://www.uniprot.org/citations/16669787)), PubMed: [18270262](http://www.uniprot.org/citations/18270262), PubMed: [21321328](http://www.uniprot.org/citations/21321328), PubMed: [34289367](http://www.uniprot.org/citations/34289367)). Specifically recognizes and binds proteins with a RFXV motif (PubMed: [16669787](http://www.uniprot.org/citations/16669787)),

PubMed:<a href="http://www.uniprot.org/citations/21321328" target="\_blank">21321328</a>). 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:<a href="http://www.uniprot.org/citations/21321328" target="\_blank">21321328</a>). 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:<a href="http://www.uniprot.org/citations/12740379" target="\_blank">12740379</a>, PubMed:<a href="http://www.uniprot.org/citations/16669787" target="\_blank">16669787</a>, PubMed:<a href="http://www.uniprot.org/citations/21321328" target="\_blank">21321328</a>). 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:<a href="http://www.uniprot.org/citations/16669787" target="\_blank">16669787</a>, PubMed:<a href="http://www.uniprot.org/citations/19665974" target="\_blank">19665974</a>, PubMed:<a href="http://www.uniprot.org/citations/21321328" target="\_blank">21321328</a>). 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:<a href="http://www.uniprot.org/citations/18270262" target="\_blank">18270262</a>). 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.

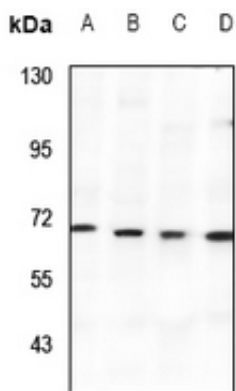
#### **Anti-SPAK Antibody - Protocols**

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

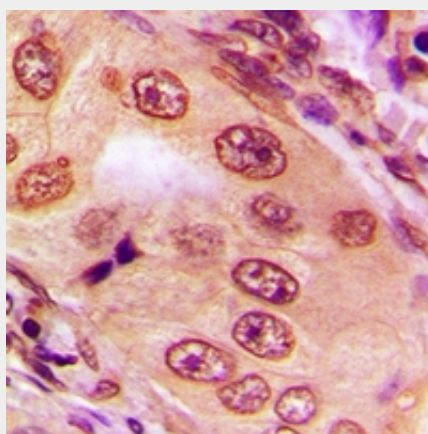
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### **Anti-SPAK Antibody - Images**





Western blot analysis of SPAK expression in CT26 (A), PC12 (B), A549 (C), MCF7 (D) whole cell lysates.



Immunohistochemical analysis of SPAK staining in human lung cancer formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

#### **Anti-SPAK Antibody - Background**

KLH-conjugated synthetic peptide encompassing a sequence within the center region of human SPAK. The exact sequence is proprietary.