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Mouse Stk39 Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP17317b

Product Information

Application	WB, E
Primary Accession	Q9Z1W9
Other Accession	NP_058562.1
Reactivity	Mouse
Predicted	Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB37146
Calculated MW	60320
Antigen Region	433-460

Additional Information

Gene ID	53416
Other Names	STE20/SPS1-related proline-alanine-rich protein kinase, Ste-20-related kinase, Serine/threonine-protein kinase 39, Stk39, Spak
Target/Specificity	This Mouse Stk39 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 433-460 amino acids from the C-terminal region of mouse Stk39.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
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	Mouse Stk39 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

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:16382158, PubMed:17488636, PubMed:19633012, PubMed:21486947). Specifically recognizes and binds proteins with a RFXV motif (PubMed:14563843). 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:14563843, PubMed:16382158, PubMed:17488636, PubMed:19633012, PubMed:21486947). 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 (By similarity). 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 (By similarity). 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:17488636, PubMed:19633012, PubMed:21486947). Mediates the inhibition of SLC4A4, SLC26A6 as well as CFTR activities (PubMed:21317537, PubMed:23542070). Phosphorylates RELT (PubMed:16530727).

Cellular Location

Cytoplasm. Nucleus. Apical cell membrane. Note=Nucleus when caspase-cleaved. In choroid plexus cells, found at the apical plasma membrane of epithelial cells (PubMed:14563843) {ECO:0000269|PubMed:14563843, ECO:0000305}

Tissue Location

Expressed in the kidney, including in epithelial cells of the thick ascending limb of Henle's loop and in the distal convoluted tubule (at protein level) (PubMed:20385770). Expressed at high levels in the brain, but only in the brainstem (at protein level) Expressed in the spinal cord, where it is expressed in neurons as well as in glial cells, and sciatic nerve, in the nodes of Ranvier (at protein level). Also detected in lung, liver, stomach and salivary glands (at protein level) (PubMed:14563843) [Isoform 2]: Restricted to kidney. Not detected in brain. In the kidney, may be expressed at higher levels in the thick ascending limb compared to the distal convoluted tubule (at protein level).

Background

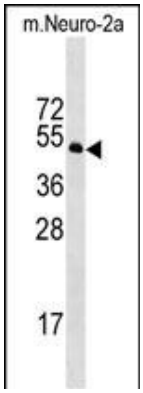
Stk39 may act as a mediator of stress-activated signals.

References

Yang, S.S., et al. J. Am. Soc. Nephrol. 21(11):1868-1877(2010)
Gagnon, K.B., et al. Am. J. Physiol., Cell Physiol. 299 (3), C614-C620 (2010) :
Sid, B., et al. J. Physiol. (Lond.) 588 (PT 13), 2315-2328 (2010) :
Reiche, J., et al. Mol. Cell. Biol. 30(12):3027-3037(2010)
Hengl, T., et al. Proc. Natl. Acad. Sci. U.S.A. 107(13):6052-6057(2010)

Images

Mouse Stk39 Antibody (C-term) (Cat. #AP17317b) western blot analysis in mouse Neuro-2a cell line lysates (35ug/lane).This demonstrates the Stk39 antibody detected the Stk39 protein (arrow).



Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.