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SGK3 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7949a

Product Information

Application	WB, IHC-P, E
Primary Accession	Q96BR1
Other Accession	Q8R4V0, Q9ERE3
Reactivity	Human
Predicted	Mouse, Rat, Bovine, Canine, Rabbit, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	57108
Antigen Region	1-30

Additional Information

Gene ID	23678
Other Names	Serine/threonine-protein kinase Sgk3, Cytokine-independent survival kinase, Serum/glucocorticoid-regulated kinase 3, Serum/glucocorticoid-regulated kinase-like, SGK3, CISK, SGKL
Target/Specificity	This SGK3 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 1-30 amino acids from the N-terminal region of human SGK3.
Dilution	WB~~1:1000 IHC-P~~1:100~500 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	SGK3 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	SGK3
Synonyms	CISK, SGKL

Function	Serine/threonine-protein kinase which is involved in the regulation of a wide variety of ion channels, membrane transporters, cell growth, proliferation, survival and migration. Up-regulates Na(+) channels: SCNN1A/ENAC and SCN5A, K(+) channels: KCNA3/KV1.3, KCNE1, KCNQ1 and KCNH2/HERG, epithelial Ca(2+) channels: TRPV5 and TRPV6, chloride channel: BSND, creatine transporter: SLC6A8, Na(+)/dicarboxylate cotransporter: SLC13A2/NADC1, Na(+)-dependent phosphate cotransporter: SLC34A2/NAPI-2B, amino acid transporters: SLC1A5/ASCT2 and SLC6A19, glutamate transporters: SLC1A3/EAAT1, SLC1A6/EAAT4 and SLC1A7/EAAT5, glutamate receptors: GRIA1/GLUR1 and GRIK2/GLUR6, Na(+)/H(+) exchanger: SLC9A3/NHE3, and the Na(+)/K(+) ATPase. Plays a role in the regulation of renal tubular phosphate transport and bone density. Phosphorylates NEDD4L and GSK3B. Positively regulates ER transcription activity through phosphorylation of FLII. Negatively regulates the function of ITCH/AIP4 via its phosphorylation and thereby prevents CXCR4 from being efficiently sorted to lysosomes.
Cellular Location	Cytoplasmic vesicle. Early endosome. Recycling endosome. Note=Endosomal localization is a prerequisite for complete kinase activity. It is essential for its colocalization with the kinase responsible for phosphorylating Ser-486 thus allowing PDPK1 phosphorylation of Thr-320 resulting in complete activation of SGK3. Localized in vesicle-like structures and in the early endosome. Colocalizes with SLC9A3/NHE3 in the recycling endosomes
Tissue Location	Expressed in most tissues with highest levels in pancreas, kidney liver, heart and brain and lower levels in lung, placenta and skeletal muscle. Expression is higher in ER-positive breast tumors than ER-negative breast tumors

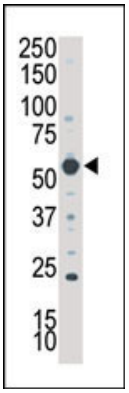
Background

SGK3, a Ser/Thr protein kinase, is similar to serum- and glucocorticoid-induced protein kinase (SGK), but this gene product is not induced by serum or glucocorticoids. Expression is induced in response to signals that activate phosphatidylinositol 3-kinase, which is also true for SGK.

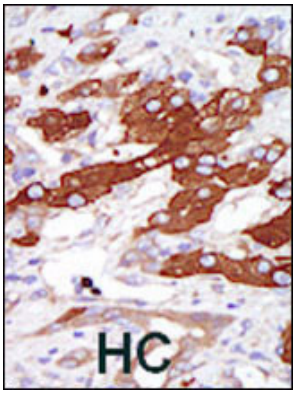
References

Friedrich, B., et al., Pflugers Arch. 445(6):693-696 (2003).
Embark, H.M., et al., Pflugers Arch. 445(5):601-606 (2003).
Brickley, D.R., et al., J. Biol. Chem. 277(45):43064-43070 (2002).
Gamper, N., et al., Pflugers Arch. 445(1):60-66 (2002).
Dai, F., et al., Biochem. Biophys. Res. Commun. 293(4):1191-1196 (2002).

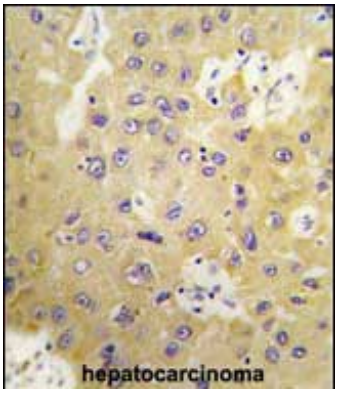
Images



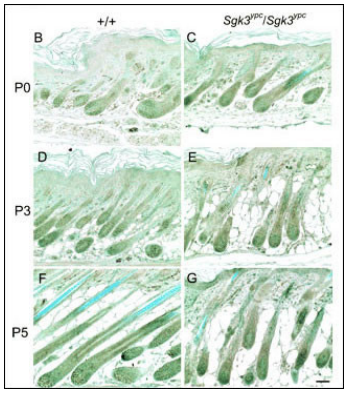
Western blot analysis of anti-SKG3 Pab (Cat. #AP7949a) in A375 cell lysate. SGK3 (arrow) was detected using purified Pab. Secondary HRP-anti-rabbit was used for signal visualization with chemiluminescence.



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, 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. BC = breast carcinoma; HC = hepatocarcinoma.



Formalin-fixed and paraffin-embedded human hepatocarcinoma tissue reacted with SGK3 Antibody (N-term) (Cat.#AP7949a), 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.



IHCdetection of SGK3 protein on the paraffin sections of the WT (left) and YPC (right) mice at P0 (B and C), P3 (D and E), and P5 (F and G) skin. Positive signals were observed in the cytoplasm of the hair follicle keratinocytes, especially in hair bulb, ORS, IRS, cuticle/cortex and bulge, or sebaceous glands. Some differences between the WT and YPC, for example, the expression in bulb keratinocytes were observed at P3 and P5. Scale bar, 50.

Citations

- IL-6 activates serum and glucocorticoid kinase via p38alpha mitogen-activated protein kinase pathway.
- The critical roles of serum/glucocorticoid-regulated kinase 3 (SGK3) in the hair follicle morphogenesis and homeostasis: the allelic difference provides novel insights into hair follicle biology.
- Signaling in sperm: toward a molecular understanding of the acquisition of sperm motility in the mouse epididymis.

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