SANTA CRUZ BIOTECHNOLOGY, INC.

SGK (84-O): sc-130402

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Serum- and glucocorticoid-regulated kinase (SGK), also known as SGK1, is a serine/threonine protein kinase and a member of the "AGC" subfamily, which includes protein kinases A, G, and C. SGK plays an important role in activating certain potassium, sodium and chloride channels, suggesting an involvement in the regulation of processes such as cell survival, neuronal excitability, and renal sodium excretion. SGK contains a catalytic domain, which is most similar to Akt1 (also known as protein kinase B or PKB). SGK is a downstream target of PI 3-kinase-stimulated growth factor signaling, with 3-phosphoinositide-dependent protein kinase 1 (PDK1) capable of phosphorylating the activation-loop of SGK at Threonine-256. The adrenal corticosteroid hormone, Aldosterone, induces the transcription of SGK, which mediates Na^+ transport by stimulating epithelial sodium channel activity. The SGK promoter contains a glucocorticoid response element and an SP-1 regulatory element, and is a transcriptional target for p53. SGK is also a component of the p38 MAPK-mediated response to hyperosmotic stress. The human SGK gene maps to chromosome 6q23.2 and encodes the 431-amino acid SGK protein.

REFERENCES

1. Kleyman, T.R., et al. 1992. Aldosterone does not alter apical cell-surface expression of epithelial Na^+ channels in the amphibian cell line A6. J. Biol. Chem. 267: 9622-9628.
2. Maiyar, A.C., et al. 1996. p53 stimulates promoter activity of the SGK serum/glucocorticoid-inducible serine/threonine protein kinase gene in rodent mammary epithelial cells. J. Biol. Chem. 271: 12414-12422.
3. Waldegger, S., et al. 1997. Cloning and characterization of a putative human serine/threonine protein kinase transcriptionally modified during anisotonic and isotonic alterations of cell volume. Proc. Natl. Acad. Sci. USA 94: 4440-4445.
4. Chen, S.Y., et al. 1999. Epithelial sodium channel regulated by aldosterone-induced protein SGK. Proc. Natl. Acad. Sci. USA 96: 2514-2519.

CHROMOSOMAL LOCATION

Genetic locus: SGK1 (human) mapping to 6q23.2; Sgk1 (mouse) mapping to 10 A3.

SOURCE

SGK (84-O) is a mouse monoclonal antibody raised against recombinant SGK of human origin.

PRODUCT

Each vial contains 100 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

SGK (84-O) is recommended for detection of SGK of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for SGK siRNA (h): sc-38913, SGK siRNA (m): sc-38914, SGK shRNA Plasmid (h): sc-38913-SH, SGK shRNA Plasmid (m): sc-38914-SH, SGK shRNA (h) Lentiviral Particles: sc-38913-V and SGK shRNA (m) Lentiviral Particles: sc-38914-V.

Molecular Weight (predicted) of SGK isoforms: 48/50/52/60 kDa.

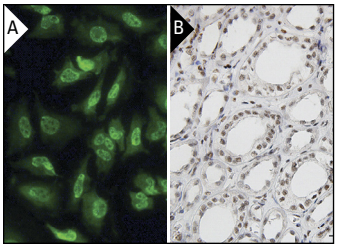
Molecular Weight (observed) of SGK isoforms: 42/49/60 kDa.

Positive Controls: PC-12 cell lysate: sc-2250.

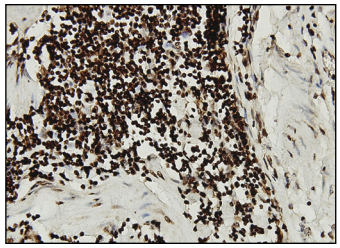
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 3) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



SGK (84-O): sc-130402. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear and cytoplasmic localization (**A**). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human kidney tissue showing nuclear localization (**B**).



SGK (84-O): sc-130402. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human stomach tissue showing nuclear and cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Fu, Y., et al. 2019. Small nucleolar RNA host gene 1 promotes development and progression of colorectal cancer through negative regulation of miR-137. Mol. Carcinog. 58: 2104-2117.

CONJUGATES

See **SGK (G-4): sc-377360** for SGK antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.