SANTA CRUZ BIOTECHNOLOGY, INC.

SGK (G-4): sc-377360

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.

CHROMOSOMAL LOCATION

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

SOURCE

SGK (G-4) is a mouse monoclonal antibody raised against amino acids 381-420 mapping near the C-terminus of SGK of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SGK (G-4) is available conjugated to agarose (sc-377360 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377360 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377360 PE), fluorescein (sc-377360 FITC), Alexa Fluor® 488 (sc-377360 AF488), Alexa Fluor® 546 (sc-377360 AF546), Alexa Fluor® 594 (sc-377360 AF594) or Alexa Fluor® 647 (sc-377360 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377360 AF680) or Alexa Fluor® 790 (sc-377360 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

APPLICATIONS

SGK (G-4) is recommended for detection of SGK of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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).

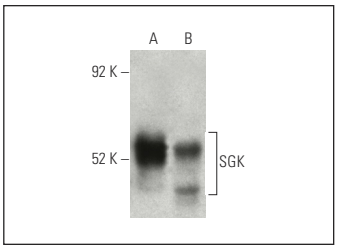
Suitable for use as control antibody for SGK siRNA (h): sc-38913, SGK siRNA (m): sc-38914, SGK siRNA (r): sc-156058, SGK shRNA Plasmid (h): sc-38913-SH, SGK shRNA Plasmid (m): sc-38914-SH, SGK shRNA Plasmid (r): sc-156058-SH, SGK shRNA (h) Lentiviral Particles: sc-38913-V, SGK shRNA (m) Lentiviral Particles: sc-38914-V and SGK shRNA (r) Lentiviral Particles: sc-156058-V.

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

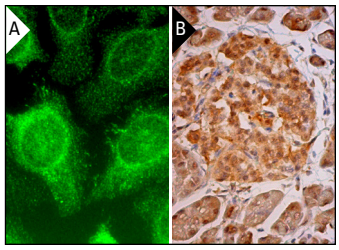
Molecular Weight (observed) of SGK isoforms: 42/49/60 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, U266 whole cell lysate: sc-364800 or NIH/3T3 whole cell lysate: sc-2210.

DATA



SGK (G-4): sc-377360. Western blot analysis of SGK expression in HeLa (**A**) and U266 (**B**) whole cell lysates.



SGK (G-4): sc-377360. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic and nuclear staining of exocrine glandular cells and Islets of Langerhans (**B**).

SELECT PRODUCT CITATIONS

1. Desantis, A., et al. 2015. Che-1-induced inhibition of mTOR pathway enables stress-induced autophagy. EMBO J. 34: 1214-1230.
2. Alsaeedi, F., et al. 2019. Expression of serine/threonine protein kinase SGK1F promotes an hepatoblast state in stem cells directed to differentiate into hepatocytes. PLoS ONE 14: e0218135.
3. Ranzuglia, V., et al. 2020. Serum- and glucocorticoid- inducible kinase 2, SGK2, is a novel autophagy regulator and modulates platinum drugs response in cancer cells. Oncogene 39: 6370-6386.
4. Vlachovsky, S.G., et al. 2021. Ovariectomy and high salt increase blood pressure and alter sodium transport proteins in peripheral blood mononuclear cells of adult Wistar rats. Exp. Physiol. 106: 2107-2123.

RESEARCH USE

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