SANTA CRUZ BIOTECHNOLOGY, INC.

SGK (H-4): sc-28338

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, Aldos-terone, 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 (H-4) is a mouse monoclonal antibody specific for an epitope mapping between 400-425 containing Ser 422 of SGK of human origin.

PRODUCT

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

SGK (H-4) is available conjugated to agarose (sc-28338 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-28338 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-28338 PE), fluorescein (sc-28338 FITC), Alexa Fluor® 488 (sc-28338 AF488), Alexa Fluor® 546 (sc-28338 AF546), Alexa Fluor® 594 (sc-28338 AF594) or Alexa Fluor® 647 (sc-28338 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-28338 AF680) or Alexa Fluor® 790 (sc-28338 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-28338 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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 (H-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).

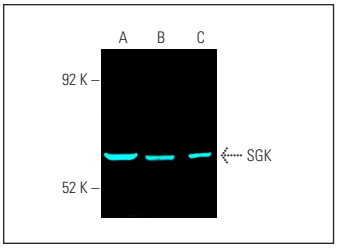
Suitable for use as control antibody for SGK siRNA (h): sc-38913, SGK siRNA (m): sc-38914, SGK shRNA Plasmid (h): sc-38913-SH, SGK shRNA Plasmid (m): sc-38914-SH, SGK shRNA (h) Lentiviral Particles: sc-38913-V and SGK shRNA (m) Lentiviral Particles: sc-38914-V.

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

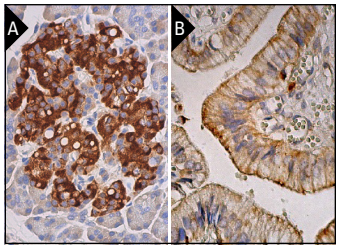
Molecular Weight (observed) of SGK isoforms: 42/49/60 kDa.

Positive Controls: U266 whole cell lysate: sc-364800, human testis extract: sc-363781 or human bladder extract: sc-363751.

DATA



SGK (H-4) Alexa Fluor® 647: sc-28338 AF647. Direct fluorescent western blot analysis of SGK expression in U266 whole cell lysate (**A**) and human testis (**B**) and human bladder (**C**) tissue extracts. Blocked with UltraCruz® Blocking Reagent: sc-516214.



SGK (H-4): sc-28338. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of Islets of Langerhans (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing cytoplasmic and membrane staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Sheng, H., et al. 2008. Corticotropin-releasing hormone stimulates SGK1 kinase expression in cultured hippocampal neurons via CRH-R1. Am. J. Physiol. Endocrinol. Metab. 295: E938-E946.
2. Bruchhage, K.L., et al. 2018. 1,8-cineol inhibits the Wnt/β-catenin signaling pathway through GSK-3 dephosphorylation in nasal polyps of chronic rhinosinusitis patients. Eur. J. Pharmacol. 835: 140-146.
3. Enayati, A., et al. 2021. *Potentilla reptans* L. postconditioning protects reperfusion injury via the RISK/SAFE pathways in an isolated rat heart. BMC Complement. Med. Ther. 21: 288.
4. Schwabenland, M., et al. 2021. Deep spatial profiling of human COVID-19 brains reveals neuroinflammation with distinct microanatomical microglia-T-cell interactions. Immunity 54: 1594-1610.e11.

RESEARCH USE

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