

## SGK3 (C-6): sc-166847



The Power to Question

## BACKGROUND

Serine/threonine-protein kinase SGK3 (SGK3), also designated serum/glucocorticoid regulated kinase 3, belongs to the Ser/Thr protein kinase family of proteins. The serum- and glucocorticoid-regulated kinase proteins are closely related to the Akt protein family. SGK1, a homolog of SGK3, activates ion channels, in particular potassium (K<sup>+</sup>) channels. SGK2 and SGK3 have been found to also be involved in this activation process, making all three of these proteins important regulators for cell proliferation, epithelial transport and neuromuscular excitability. SGK3 acts as a mediator of IL-3 dependent survival signals in the cell. It localizes to the early endosome and in vesicle-like structures. SGK3 is a widely expressed protein, but it is primarily detected in kidney, liver, pancreas, brain and heart. Phosphorylation of SGK3 at residue Ser 486 leads to an increase in SGK3 activation.

## CHROMOSOMAL LOCATION

Genetic locus: SGK3 (human) mapping to 8q13.1; Sgk3 (mouse) mapping to 1 A2.

## SOURCE

SGK3 (C-6) is a mouse monoclonal antibody raised against amino acids 67-145 mapping near the N-terminus of SGK3 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SGK3 (C-6) is available conjugated to agarose (sc-166847 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166847 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166847 PE), fluorescein (sc-166847 FITC), Alexa Fluor® 488 (sc-166847 AF488), Alexa Fluor® 546 (sc-166847 AF546), Alexa Fluor® 594 (sc-166847 AF594) or Alexa Fluor® 647 (sc-166847 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166847 AF680) or Alexa Fluor® 790 (sc-166847 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

SGK3 (C-6) is recommended for detection of SGK3 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 SGK3 siRNA (h): sc-44852, SGK3 siRNA (m): sc-44853, SGK3 shRNA Plasmid (h): sc-44852-SH, SGK3 shRNA Plasmid (m): sc-44853-SH, SGK3 shRNA (h) Lentiviral Particles: sc-44852-V and SGK3 shRNA (m) Lentiviral Particles: sc-44853-V.

Molecular Weight of SGK3 full length: 65 kDa.

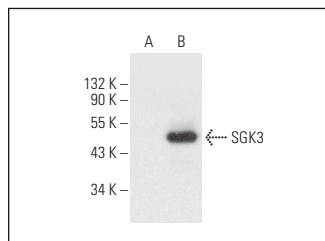
Molecular Weight of SGK3 partial product: 53 kDa.

Positive Controls: SGK3 (m): 293T Lysate: sc-123522, HeLa whole cell lysate: sc-2200 or A-375 cell lysate: sc-3811.

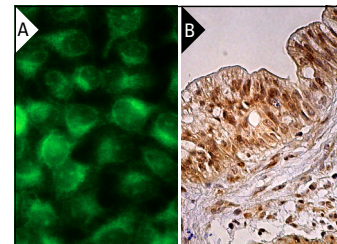
## STORAGE

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

## DATA



SGK3 (C-6): sc-166847. Western blot analysis of SGK3 expression in non-transfected: sc-117752 (A) and mouse SGK3 transfected: sc-123522 (B) 293T whole cell lysates.



SGK3 (C-6): sc-166847. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing cytoplasmic and nuclear staining of glandular cells (B).

## SELECT PRODUCT CITATIONS

- Hausmann, S., et al. 2015. Loss of serum and glucocorticoid-regulated kinase 3 (SGK3) does not affect proliferation and survival of multiple myeloma cell lines. *PLoS ONE* 10: e0122689.
- 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.
- Liu, F., et al. 2018. Prolonged inhibition of class I PI3K promotes liver cancer stem cell expansion by augmenting SGK3/GSK-3β/β-catenin signalling. *J. Exp. Clin. Cancer Res.* 37: 122.
- Cao, H., et al. 2019. Functional role of SGK3 in PI3K/Pten driven liver tumor development. *BMC Cancer* 19: 343.
- Machado, R.A.C., et al. 2021. L-plastin Ser5 phosphorylation is modulated by the PI3K/SGK pathway and promotes breast cancer cell invasiveness. *Cell Commun. Signal.* 19: 22.
- Miroshnikov, N., et al. 2023. Tumor suppressor role of INPP4B in chemoresistant retinoblastoma. *J. Oncol.* 2023: 2270097.
- Shu, H., et al. 2023. The role of the SGK3/TOPK signaling pathway in the transition from acute kidney injury to chronic kidney disease. *Front. Pharmacol.* 14: 1169054.
- Mohren, L., et al. 2024. Role of protein tyrosine phosphatase receptor type E (PTPRE) in chemoresistant retinoblastoma. *Int. J. Mol. Sci.* 25: 4572.

## RESEARCH USE

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

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