

p-SGK3 (Ser 486): sc-33044

BACKGROUND

Serum- and glucocorticoid-regulated kinase (SGK), a serine/threonine protein kinase, is transcriptionally regulated by serum, glucocorticoids and mineralocorticoids. SGK regulates the control of extracellular fluid volume, blood pressure and sodium homeostasis and is also a component of the p38 MAPK-mediated response to hyperosmotic stress. SGK is a downstream target of phosphoinositide 3-kinase (PI 3-kinase)-stimulated growth factor signaling, and 3-phosphoinositide-dependent protein kinase 1 (PDK1) is capable of phosphorylating the activation-loop of SGK at Thr 256. Thr 256 and Ser 422 are the putative phosphorylation sites of SGK. Mutations at those putative phosphorylation sites inhibit SGK activation. For example, the Ser 422 to Ala mutant, lacking a PDK-2 phosphorylation site, is inactive and resistant to activation by Insulin. Thus, in addition to regulation at the level of gene expression, the enzymatic activity of SGK is regulated by multiple protein kinases, including PKA, PDK1, and PDK2.

REFERENCES

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- Lang, F., et al. 2003. Regulation of channels by the serum and glucocorticoid-inducible kinase-implications for transport, excitability and cell proliferation. *Cell. Physiol. Biochem.* 13: 41-50.
- McCormick, J.A., et al. 2004. Targeted disruption of the protein kinase SGK3/CISK impairs postnatal hair follicle development. *Mol. Biol. Cell* 15: 4278-4288.
- Henke, G., et al. 2004. Regulation of the voltage gated K⁺ channel Kv1.3 by the ubiquitin ligase Nedd4-2 and the serum and glucocorticoid inducible kinase SGK1. *J. Cell. Physiol.* 199: 194-199.
- Palmada, M., et al. 2005. The serine/threonine kinases SGK1, 3 and PKB stimulate the amino acid transporter ASCT2. *Biochem. Biophys. Res. Commun.* 331: 272-277.

CHROMOSOMAL LOCATION

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

SOURCE

p-SGK3 (Ser 486) is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylated Ser 486 SGK3 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-33044 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p-SGK3 (Ser 486) is recommended for detection of Ser 486 phosphorylated SGK3 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

p-SGK3 (Ser 486) is also recommended for detection of correspondingly phosphorylated SGK3 in additional species, including equine, canine, bovine, porcine and avian.

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 full length p-SGK3: 65 kDa.

Molecular Weight of p-SGK3 partial product: 53 kDa.

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

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Western Blotting Luminol Reagent: sc-2048 and Lambda Phosphatase: sc-200312A. 2) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.

PROTOCOLS

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