SANTA CRUZ BIOTECHNOLOGY, INC.

p-SGK (Thr 256): sc-16744

BACKGROUND

Serum- and glucocorticoid-regulated kinase (SGK), a serine/threonine protein kinase, is transcriptionally regulated by serum, glucorticoids 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.

CHROMOSOMAL LOCATION

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

SOURCE

p-SGK (Thr 256) is available as either goat (sc-16744) or rabbit (sc-16744-R) polyclonal affinity purified antibody raised against a short amino acid sequence containing Thr 256 phosphorylated SGK of human origin.

PRODUCT

Each vial contains either 100 µg (sc-16744) or 200 µg (sc-16744-R) IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-16744 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

p-SGK (Thr 256) is recommended for detection of Thr-256 phosphorylated SGK of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000). p-SGK (Thr 256) is also recommended for detection of correspondingly phosphorylated SGK in additional species, including equine, canine, bovine, porcine and avian.

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.

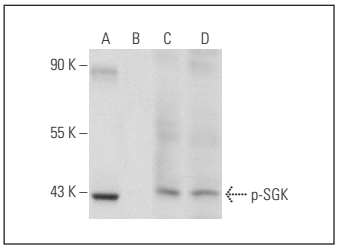
Molecular Weight (predicted) of p-SGK isoforms: 49/60/51/48/52 kDa.

Molecular Weight (observed) of p-SGK isoforms: 42/69-76 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: for goat primary antibody (sc-16744): use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), for rabbit primary antibody (sc-16744-R): 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: for goat primary antibody (sc-16744): use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941, for rabbit primary antibody (sc-16744-R): 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.

DATA



Western blot analysis of SGK phosphorylation in untreated (**A**,**C**) and lambda protein phosphatase treated (**B**,**D**) HeLa whole cell lysates. Antibodies tested include p-SGK (Thr 256)-R: sc-16744-R (**A**,**B**) and SGK (C-20): sc-15885 (**C**,**D**).

SELECT PRODUCT CITATIONS

1. Wang, G.X., et al. 2004. Hypotonic activation of volume-sensitive outwardly rectifying chloride channels in cultured PASMCs is modulated by SGK. Am. J. Physiol. Heart Circ. Physiol. 287: H533-H544.
2. Huang, M., et al. 2006. RhoB facilitates c-Myc turnover by supporting efficient nuclear accumulation of GSK-3. Oncogene 25: 1281-1289.
3. Filion, C., et al. 2009. The EWSR1/NR4A3 fusion protein of extraskeletal myxoid chondrosarcoma activates the PPARG nuclear receptor gene. J. Pathol. 217: 83-93.
4. Chen, W., et al. 2009. Regulation of a third conserved phosphorylation site in SGK1. J. Biol. Chem. 284: 3453-3460.

RESEARCH USE

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