

p52 S6 kinase (N-14): sc-104571

BACKGROUND

The phosphorylation and dephosphorylation of proteins on serine and threonine residues is an essential means of regulating a broad range of cellular functions in eukaryotes, including cell division, homeostasis and apoptosis. A group of proteins that are intimately involved in this process are the serine/threonine (Ser/Thr) protein kinases. p52 S6 kinase, also known as RPS6KC1 (ribosomal protein S6 kinase, 52 kDa, polypeptide 1) or RPK118, is a 1,066 amino acid member of the Ser/Thr kinase family that localizes to both the cytoplasm and the nucleus and contains one MIT domain, one PX domain and 2 protein kinase domains. Expressed at high levels in brain, placenta, heart, testis, kidney, liver and skeletal muscle, p52 S6 kinase catalyzes the ATP-dependent phosphorylation of target proteins and is thought to be involved in transmitting sphingosine-1 phosphate (SPP)-mediated signaling into the cell.

REFERENCES

- Loijens, J.C., Boronenkov, I.V., Parker, G.J. and Anderson, R.A. 1996. The phosphatidylinositol 4-phosphate 5-kinase family. *Adv. Enzyme Regul.* 36: 115-140.
- Zhang, H., Yu, L., Mao, N., Fu, Q., Tu, Q., Gao, J. and Zhao, S. 1999. Cloning, characterization, and chromosome mapping of RPS6KC1, a novel putative member of the ribosome protein S6 kinase family, to chromosome 12q12-q13.1. *Genomics* 61: 314-318.
- Hayashi, S., Okada, T., Igarashi, N., Fujita, T., Jahangeer, S. and Nakamura, S. 2002. Identification and characterization of RPK118, a novel sphingosine kinase-1-binding protein. *J. Biol. Chem.* 277: 33319-33324.
- Ellson, C.D., Andrews, S., Stephens, L.R. and Hawkins, P.T. 2002. The PX domain: a new phosphoinositide-binding module. *J. Cell Sci.* 115: 1099-1105.
- Liu, H., Chakravarty, D., Maceyka, M., Milstien, S. and Spiegel, S. 2002. Sphingosine kinases: a novel family of lipid kinases. *Prog. Nucleic Acid Res. Mol. Biol.* 71: 493-511.
- Ishida, S., Shigemoto-Mogami, Y., Shinozaki, Y., Kagechika, H., Shudo, K., Ozawa, S., Sawada, J., Ohno, Y. and Inoue, K. 2004. Differential modulation of PI 3-kinase/Akt pathway during all-trans retinoic acid- and Am80-induced HL-60 cell differentiation revealed by DNA microarray analysis. *Biochem. Pharmacol.* 68: 2177-2186.
- Liu, L., Yang, C., Yuan, J., Chen, X., Xu, J., Wei, Y., Yang, J., Lin, G. and Yu, L. 2005. RPK118, a PX domain-containing protein, interacts with peroxiredoxin-3 through pseudo-kinase domains. *Mol. Cells* 19: 39-45.

CHROMOSOMAL LOCATION

Genetic locus: RPS6KC1 (human) mapping to 1q32.3; Rps6kc1 (mouse) mapping to 1 H6.

SOURCE

p52 S6 kinase (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of p52 S6 kinase 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-104571 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

p52 S6 kinase (N-14) is recommended for detection of p52 S6 kinase 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).

p52 S6 kinase (N-14) is also recommended for detection of p52 S6 kinase in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for p52 S6 kinase siRNA (h): sc-88609, p52 S6 kinase siRNA (m): sc-106342, p52 S6 kinase shRNA Plasmid (h): sc-88609-SH, p52 S6 kinase shRNA Plasmid (m): sc-106342-SH, p52 S6 kinase shRNA (h) Lentiviral Particles: sc-88609-V and p52 S6 kinase shRNA (m) Lentiviral Particles: sc-106342-V.

Molecular Weight of p52 S6 kinase: 118 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: 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), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: 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.

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.