

STK32C siRNA (m): sc-153898

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. STK32C (serine/threonine kinase 32C), also known as PKE or YANK3, is a 486 amino acid protein belonging to the Ser/Thr protein kinase family. It contains one protein kinase domain and, using magnesium as a cofactor, STK32C catalyzes the conversion of ATP to ADP while transferring a phosphate to its target protein. Due to alternative splicing events, two isoforms exist for STK32C.

REFERENCES

1. Strausberg, R.L., Feingold, E.A., Grouse, L.H., Derge, J.G., Klausner, R.D., Collins, F.S., Wagner, L., Shenmen, C.M., Schuler, G.D., Altschul, S.F., Zeeberg, B., Buetow, K.H., Schaefer, C.F., Bhat, N.K., Hopkins, R.F., et al. 2002. Generation and initial analysis of more than 15,000 full-length human and mouse cDNA sequences. *Proc. Natl. Acad. Sci. USA* 99: 16899-16903.
2. Manning, G., Whyte, D.B., Martinez, R., Hunter, T. and Sudarsanam, S. 2002. The protein kinase complement of the human genome. *Science* 298: 1912-1934.
3. Lagerström, M.C., Rabe, N., Haitina, T., Kalnina, I., Hellström, A.R., Klovins, J., Kullander, K. and Schiöth, H.B. 2007. The evolutionary history and tissue mapping of GPR123: specific CNS expression pattern predominantly in thalamic nuclei and regions containing large pyramidal cells. *J. Neurochem.* 100: 1129-1142.
4. Purcarea, C., Fernando, R., Evans, H.G. and Evans, D.R. 2008. The sole Serine/Threonine protein kinase and its cognate phosphatase from *Aquifex aeolicus* targets Pyrimidine biosynthesis. *Mol. Cell. Biochem.* 311: 199-213.

CHROMOSOMAL LOCATION

Genetic locus: Stk32c (mouse) mapping to 7 F4.

PRODUCT

STK32C siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see STK32C shRNA Plasmid (m): sc-153898-SH and STK32C shRNA (m) Lentiviral Particles: sc-153898-V as alternate gene silencing products.

For independent verification of STK32C (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-153898A, sc-153898B and sc-153898C.

PROTOCOLS

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

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNases and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

STK32C siRNA (m) is recommended for the inhibition of STK32C expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 μ M in 66 μ l. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

GENE EXPRESSION MONITORING

STK32C (C-6): sc-518228 is recommended as a control antibody for monitoring of STK32C gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor STK32C gene expression knockdown using RT-PCR Primer: STK32C (m)-PR: sc-153898-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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