SANTA CRUZ BIOTECHNOLOGY, INC.

CRHSP-24 siRNA (m): sc-60444

BACKGROUND

CRHSP-24 (calcium-regulated heat-stable protein 24) is a serine phosphoprotein originally identified as a physiological substrate for the Ca^{2+}-calmodulin regulated protein phosphatase calcineurin (PP2B). A ubiquitously expressed protein, CRHSP-24 interacts with the STYX/dead phosphate protein in developing spermatids and is a paralog of the brain-specific mRNA-binding protein PIPPIN. It is thought to play a common role in calcium-mediated signal transduction resulting from phosphorylation on serine residues. CRHSP-24 is phosphorylated on Ser 52 by Akt-1 (PKBα) in response to IGF-1, on Ser 52 by Akt-1 and RSK in response to EGF, and on Ser 41 in the absence of IGF-1/EGF by a DYRK isoform or another proline-directed protein kinase.

REFERENCES

1. Burnham, D.B., et al. 1982. Effects of carbachol, cholecystokinin, and insulin on protein phosphorylation in isolated pancreatic acini. J. Biol. Chem. 257: 10523-10528.
2. Groblewski, G.E., et al. 1998. Purification and characterization of a novel physiological substrate for calcineurin in mammalian cells. J. Biol. Chem. 273: 22738-22744.
3. Williams, J.A., et al. 1999. Intracellular regulatory mechanisms in pancreatic acinar cellular function. Curr. Opin. Gastroenterol. 15: 385-391.
4. Williams, J.A., et al. 2001. Intracellular signaling mechanisms activated by cholecystokinin-regulating synthesis and secretion of digestive enzymes in pancreatic acinar cells. Annu. Rev. Physiol. 63: 77-97.
5. Wishart, M.J., et al. 2002. PTEN and myotubularin phosphatases: from 3-phosphoinositide dephosphorylation to disease. Trends Cell Biol. 12: 579-585.
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7. Sans, M.D., et al. 2004. Calcineurin is required for translational control of protein synthesis in rat pancreatic acini. Am. J. Physiol., Cell Physiol. 287: C310-C319.

CHROMOSOMAL LOCATION

Genetic locus: Carhsp1 (mouse) mapping to 16 A1.

PRODUCT

CRHSP-24 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CRHSP-24 shRNA Plasmid (m): sc-60444-SH and CRHSP-24 shRNA (m) Lentiviral Particles: sc-60444-V as alternate gene silencing products.

For independent verification of CRHSP-24 (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-60444A, sc-60444B and sc-60444C.

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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

CRHSP-24 siRNA (m) is recommended for the inhibition of CRHSP-24 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 µM in 66 µl. 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

CRHSP-24 (A-1): sc-137072 is recommended as a control antibody for monitoring of CRHSP-24 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 CRHSP-24 gene expression knockdown using RT-PCR Primer: CRHSP-24 (m)-PR: sc-60444-PR (20 µl). 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.

PROTOCOLS

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