

PCP-4 siRNA (h): sc-76091

BACKGROUND

PCP-4 (Purkinje cell protein 4), also known as PEP-19, is a calmodulin (CaM) regulatory protein that is highly expressed in neuronal cells. Through its IQ motif, PCP-4 mediates both the calcium-dependent binding properties of CaM and the rates of association and dissociation of calcium from the C-terminal domain of CaM. The IQ motif contains a serine residue which can be phosphorylated by all isoforms of protein kinase C (PKC). PCP-4 is implicated in uterine leiomyomas as well as in neurodegenerative disorders such as Alzheimer's disease and Huntington's disease. Additionally, overexpression of PCP-4 is thought to play a role in cerebellar hypoplasia, a key feature of Down syndrome.

REFERENCES

1. Erhardt, J.A., et al. 2000. Expression of PEP-19 inhibits apoptosis in PC-12 cells. *Neuroreport* 11: 3719-3723.
2. Slemmon, J.R., et al. 2000. Small proteins that modulate calmodulin-dependent signal transduction: effects of PEP-19, neuromodulin, and neurogranin on enzyme activation and cellular homeostasis. *Mol. Neurobiol.* 22: 99-113.
3. Putkey, J.A., et al. 2003. A new role for IQ motif proteins in regulating calmodulin function. *J. Biol. Chem.* 278: 49667-49670.
4. Kanamori, T., et al. 2003. PEP-19 overexpression in human uterine leiomyoma. *Mol. Hum. Reprod.* 9: 709-717.
5. Skööld, K., et al. 2006. Decreased striatal levels of PEP-19 following MPTP lesion in the mouse. *J. Proteome Res.* 5: 262-269.
6. Simons, M.J. and Pellionisz, A.J. 2006. Genomics, morphogenesis and biophysics: triangulation of Purkinje cell development. *Cerebellum* 5: 27-35.
7. Dickerson, J.B., et al. 2006. The influence of phosphorylation on the activity and structure of the neuronal IQ motif protein, PEP-19. *Brain Res.* 1092: 16-27.

CHROMOSOMAL LOCATION

Genetic locus: PCP4 (human) mapping to 21q22.2.

PRODUCT

PCP-4 siRNA (h) 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 PCP-4 shRNA Plasmid (h): sc-76091-SH and PCP-4 shRNA (h) Lentiviral Particles: sc-76091-V as alternate gene silencing products.

For independent verification of PCP-4 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-76091A, sc-76091B and sc-76091C.

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

PCP-4 siRNA (h) is recommended for the inhibition of PCP-4 expression in human 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

PCP-4 (1E3): sc-293258 is recommended as a control antibody for monitoring of PCP-4 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 PCP-4 gene expression knockdown using RT-PCR Primer: PCP-4 (h)-PR: sc-76091-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.