SANTA CRUZ BIOTECHNOLOGY, INC.

PACSIN3 siRNA (m): sc-61280

BACKGROUND

PACSINs are a family of cytoplasm-resisdent phosphoproteins that aid in vesicle formation and transport. It is presumed that all isoforms oligomerize and bind dynamin, synaptojanin 1 and N-WASP through their Src homology 3 domains. Furthermore, PACSINs colocalize with dynamin, but not with clathrin, indicating that the proteins may play a specific role with a defined population of dynamin at distinct cellular locations. PACSIN3 (protein kinase C and casein kinase substrate in neurons 3) contains a short proline-rich region and lacks asparagine-proline-phenylalanine motifs, which differentiates it from the rest of the PACSIN family. Sequence analysis of cDNAs encoding mouse and human PACSIN3 predict that the human protein consists of 424-amino acids and is 94% identical to the mouse protein. Studies of the mouse protein report predominant expression in mouse lung, skeletal muscle, and heart as well as in brain, kidney, and uterus.

REFERENCES

1. Modregger, J., et al. 2001. All three PACSIN isoforms bind to endocytic proteins and inhibit endocytosis. J. Cell Sci. 113: 4511-4521.
2. Sumoy, L., et al. 2001. PACSIN 3 is a novel SH3 domain cytoplasmic adapter protein of the pacsin-syndapin-F gene family. Gene 262: 199-205.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606513. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Mori, S., et al. 2003. PACSIN3 binds ADAM12/meltrin α and up-regulates ectodomain shedding of heparin-binding epidermal growth factor-like growth factor. J. Biol. Chem. 278: 46029-46034.
5. Houdart, F., et al. 2005. The regulatory subunit of PDE6 interacts with PACSIN in photoreceptors. Mol. Vis. 11: 1061-1070.
6. Cuajungco, M.P., et al. 2006. PACSINs bind to the TRPV4 cation channel. PACSIN3 modulates the subcellular localization of TRPV4. J. Biol. Chem. 281: 18753-18762.

CHROMOSOMAL LOCATION

Genetic locus: Pacsin3 (mouse) mapping to 2 E1.

PRODUCT

PACSIN3 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 PACSIN3 shRNA Plasmid (m): sc-61280-SH and PACSIN3 shRNA (m) Lentiviral Particles: sc-61280-V as alternate gene silencing products.

For independent verification of PACSIN3 (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-61280A, sc-61280B and sc-61280C.

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 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

PACSIN3 siRNA (m) is recommended for the inhibition of PACSIN3 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

PACSIN3 (F-8): sc-373952 is recommended as a control antibody for monitoring of PACSIN3 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 PACSIN3 gene expression knockdown using RT-PCR Primer: PACSIN3 (m)-PR: sc-61280-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.