

PACS-1 siRNA (m): sc-151986

BACKGROUND

Phosphofurin acidic cluster sorting protein-1 (PACS-1) is a 963 amino acid protein that participates in the localization of membrane proteins to the secretory pathway membrane compartments. Expression of the PACS-1 gene occurs from two distinct reading frames, which generate a larger form, designated PACS-1a, and a smaller protein, PACS-1b. PACS-1 isoforms preferentially bind to the endoprotease, furin, as well as to the mannose 6-phosphate receptor, where they facilitate the trafficking and localization of these proteins to the *trans*-golgi network in a phosphorylation dependent manner. A member of the PACS family, the gene encoding PACS-1 maps to human chromosome 11 and mouse chromosome 19 A.

REFERENCES

1. Wan, L., et al. 1998. PACS-1 defines a novel gene family of cytosolic sorting proteins required for *trans*-Golgi network localization. *Cell* 94: 205-216.
2. Piguet, V., et al. 2000. HIV-1 Nef protein binds to the cellular protein PACS-1 to downregulate class I major histocompatibility complexes. *Nat. Cell Biol.* 2: 163-167.
3. Crump, C.M., et al. 2001. PACS-1 binding to adaptors is required for acidic cluster motif-mediated protein traffic. *EMBO J.* 20: 2191-2201.
4. Blagoveshchenskaya, A.D., et al. 2002. HIV-1 Nef downregulates MHC-I by a PACS-1- and PI3K-regulated ARF6 endocytic pathway. *Cell* 111: 853-866.
5. Schermer, B., et al. 2005. Phosphorylation by casein kinase 2 induces PACS-1 binding of nephrocystin and targeting to cilia. *EMBO J.* 24: 4415-4424.
6. Köttgen, M., et al. 2005. Trafficking of TRPP2 by PACS proteins represents a novel mechanism of ion channel regulation. *EMBO J.* 24: 705-716.
7. Simmen, T., et al. 2005. PACS-2 controls endoplasmic reticulum-mitochondria communication and Bid-mediated apoptosis. *EMBO J.* 24: 717-729.
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CHROMOSOMAL LOCATION

Genetic locus: *Pacs1* (mouse) mapping to 19 A.

PRODUCT

PACS-1 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 PACS-1 shRNA Plasmid (m): sc-151986-SH and PACS-1 shRNA (m) Lentiviral Particles: sc-151986-V as alternate gene silencing products.

For independent verification of PACS-1 (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-151986A, sc-151986B and sc-151986C.

RESEARCH USE

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

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

PACS-1 siRNA (m) is recommended for the inhibition of PACS-1 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 60 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

PACS-1a (4): sc-136344 is recommended as a control antibody for monitoring of PACS-1 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 PACS-1 gene expression knockdown using RT-PCR Primer: PACS-1 (m)-PR: sc-151986-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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