

POR1 siRNA (m): sc-41193

BACKGROUND

POR1 (also designated arfaptin 2) was first isolated as a Rac 1 binding protein necessary for Rac-mediated Actin polymerization and the subsequent formation of membrane ruffles and lamellipodia. POR1 has also been shown to interact with the ADP ribosylation factor ARF6, a GTPase that associates with the plasma membrane and intracellular endosome vesicles, in a GTP dependent manner. The association of POR1 with ARF6 stimulates induction of Actin polymerization. POR1 appears to play a regulatory role through multiple signaling pathways in the reorganization of the cytoskeletal structure.

REFERENCES

1. Van Aelst, L., et al. 1996. Identification of a novel Rac 1-interacting protein involved in membrane ruffling. *EMBO J.* 15: 3778-3786.
2. Joneson, T., et al. 1996. Rac regulation of Actin polymerization and proliferation by a pathway distinct from Jun kinase. *Science* 274: 1374-1376.
3. D'Souza-Schorey, C., et al. 1997. A role for POR1, a Rac 1-interacting protein, in ARF6-mediated cytoskeletal rearrangements. *EMBO J.* 16: 5445-5454.
4. D'Souza-Schorey, C., et al. 1998. ARF6 targets recycling vesicles to the plasma membrane: insights from an ultrastructural investigation. *J. Cell Biol.* 140: 603-616.
5. Gauthier-Rouviere, C., et al. 1998. Rho G GTPase controls a pathway that independently activates Rac 1 and Cdc42Hs. *Mol. Biol. Cell* 9: 1379-1394.
6. Radhakrishna, H., et al. 1999. ARF6 requirement for Rac ruffling suggests a role for membrane trafficking in cortical Actin rearrangements. *J. Cell Sci.* 112: 855-866.

CHROMOSOMAL LOCATION

Genetic locus: Arfp2 (mouse) mapping to 7 E3.

PRODUCT

POR1 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 POR1 shRNA Plasmid (m): sc-41193-SH and POR1 shRNA (m) Lentiviral Particles: sc-41193-V as alternate gene silencing products.

For independent verification of POR1 (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-41193A, sc-41193B and sc-41193C.

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

POR1 siRNA (m) is recommended for the inhibition of POR1 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

POR1 (E-3): sc-271478 is recommended as a control antibody for monitoring of POR1 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 POR1 gene expression knockdown using RT-PCR Primer: POR1 (m)-PR: sc-41193-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.

PROTOCOLS

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