

PORCN siRNA (m): sc-152391

BACKGROUND

PORCN (probable protein-cysteine N-palmitoyltransferase porcupine), also known as MG61, PORC, PPN, por, DHOF or FODH, is a 461 amino acid multi-pass membrane protein that localizes to the endoplasmic reticulum. Expressed as four isoforms that are found in a variety of tissues, including brain, testis, heart, skeletal muscle, spinal cord and lung, PORCN functions to modulate the processing of Wnt proteins. Specifically, PORCN interacts with Wnt-1, Wnt-3, Wnt-4 and Wnt-6 and acts as a protein-cysteine N-palmitoyltransferase that palmitoylates target Wnt proteins. Defects in the gene encoding PORCN are associated with focal dermal hypoplasia (FDH) (also known as Goltz syndrome), an X-linked disorder characterized by improper ectodermal and mesodermal tissue development.

REFERENCES

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3. Tanaka, K., et al. 2003. Misexpression of mouse porcupine isoforms modulates the differentiation of P19 embryonic carcinoma cells. *Cell Biol. Int.* 27: 549-557.
4. Grzeschik, K.H., et al. 2007. Deficiency of PORCN, a regulator of Wnt signaling, is associated with focal dermal hypoplasia. *Nat. Genet.* 39: 833-835.
5. Wang, X., et al. 2007. Mutations in X-linked PORCN, a putative regulator of Wnt signaling, cause focal dermal hypoplasia. *Nat. Genet.* 39: 836-838.
6. Leoyklang, P., et al. 2008. Three novel mutations in the PORCN gene underlying focal dermal hypoplasia. *Clin. Genet.* 73: 373-379.
7. Houge, G., et al. 2008. An Xp11.23 deletion containing PORCN may also cause angioma serpiginosum, a cosmetic skin disease associated with extreme skewing of X-inactivation. *Eur. J. Hum. Genet.* 16: 1027-1028.
8. Clements, S.E., et al. 2008. Focal dermal hypoplasia resulting from a new nonsense mutation, p.E300X, in the PORCN gene. *J. Dermatol. Sci.* 49: 39-42.
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CHROMOSOMAL LOCATION

Genetic locus: Porcn (mouse) mapping to X A1.1.

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.

PRODUCT

PORCN 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 PORCN shRNA Plasmid (m): sc-152391-SH and PORCN shRNA (m) Lentiviral Particles: sc-152391-V as alternate gene silencing products.

For independent verification of PORCN (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-152391A, sc-152391B and sc-152391C.

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

PORCN siRNA (m) is recommended for the inhibition of PORCN 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PORCN gene expression knockdown using RT-PCR Primer: PORCN (m)-PR: sc-152391-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.