SANTA CRUZ BIOTECHNOLOGY, INC.

POC5 siRNA (m): sc-108211

BACKGROUND

POC5 (POC5 centriolar protein homolog *(Chlamydomonas)),* also known as centrosomal protein POC5, protein of centriole 5 or hPOC5, is a 575 amino acid protein that contains Sfi1p-like repeats and belongs to the POC5 family. An evolutionarily conserved centrin-binding protein, POC5 is vital for cell proliferation. Existing as three alternatively spliced isoforms, POC5 localizes to the distal portion of human centrioles. Although not required for the initiation of procentriole assembly, POC5 is essential for the assembly of the distal half of centrioles. POC5 is hyperphosphorylated during recruitment to procentrioles in the G_2/M phase. POC5 is also required for centriole elongation and for cell cycle progression. POC5, through interactions with Ctn2, may also contribute to centrosome duplication. The gene that encodes POC5 maps to human chromosome 5q13.3.

REFERENCES

1. Azimzadeh, J., Hergert, P., Delouvee, A., Euteneuer, U., Formstecher, E., Khodjakov, A. and Bornens, M. 2009. hPOC5 is a centrin-binding protein required for assembly of full-length centrioles. J. Cell Biol. 185: 101-114.
2. Keller, L.C., Geimer, S., Romijn, E., Yates, J., Zamora, I. and Marshall, W.F. 2009. Molecular architecture of the centriole proteome: the conserved WD40 domain protein POC1 is required for centriole duplication and length control. Mol. Biol. Cell 20: 1150-1166.
3. Loncarek, J., Hergert, P. and Khodjakov, A. 2010. Centriole reduplication during prolonged interphase requires procentriole maturation governed by Plk1. Curr. Biol. 20: 1277-1282.
4. Singla, V., Romaguera-Ros, M., Garcia-Verdugo, J.M. and Reiter, J.F. 2010. Ofd1, a human disease gene, regulates the length and distal structure of centrioles. Dev. Cell 18: 410-424.
5. Sillibourne, J.E., Tack, F., Vloemans, N., Boeckx, A., Thambirajah, S., Bonnet, P., Ramaekers, F.C., Bornens, M. and Grand-Perret, T. 2010. Autophosphorylation of polo-like kinase 4 and its role in centriole duplication. Mol. Biol. Cell 21: 547-561.
6. Boutros, R., Lorenzo, C., Mondesert, O., Jauneau, A., Oakes, V., Dozier, C., Gabrielli, B. and Ducommun, B. 2011. CDC25B associates with a centrin 2-containing complex and is involved in maintaining centrosome integrity. Biol. Cell 103: 55-68.

CHROMOSOMAL LOCATION

Genetic locus: Poc5 (mouse) mapping to 13 D1.

PRODUCT

POC5 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 POC5 shRNA Plasmid (m): sc-108211-SH and POC5 shRNA (m) Lentiviral Particles: sc-108211-V as alternate gene silencing products.

For independent verification of POC5 (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-108211A, sc-108211B and sc-108211C.

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

POC5 siRNA (m) is recommended for the inhibition of POC5 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor POC5 gene expression knockdown using RT-PCR Primer: POC5 (m)-PR: sc-108211-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.

PROTOCOLS

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