SANTA CRUZ BIOTECHNOLOGY, INC.

PRCC siRNA (h): sc-40867

BACKGROUND

PRCC (papillary renal cell carcinoma) is a disorder which is marked by multiple tumors of varying size present in both kidneys of affected family members. The specific chromosomal translocation t(X;1)(p11.2;q21.2) observed in human PRCC results in the fusion of a PRCC gene at 1q21.2, to the TFE3 gene at Xp11.2. The translocation is predicted to result in the fusion of the amino-terminal region of the PRCC protein, which includes a proline-rich domain, to the entire TFE3 protein. PRCC is ubiquitously expressed in normal adult and fetal tissues and encodes a putative protein of 491 amino acids with a relatively high content of prolines. PRCC colocalizes within the nucleus with Sm pre-mRNA splicing factors and associates with a variety of pre-mRNA splicing factors. PRCC, usually a low-grade neoplasm, may be associated with cystic degeneration, hemorrhage and presence of abundant hemosiderin-laden macrophages (HLM).

REFERENCES

1. Sidhar, S.K., Clark, J., Gill, S., Hamoudi, R., Crew, A.J., Gwilliam, R., Ross, M., Linehan, W.M., Birdsall, S., Shipley, J. and Cooper, C.S. 1996. The t(X;1)(p11.2;q21.2) translocation in papillary renal cell carcinoma fuses a novel gene PRCC to the TFE3 transcription factor gene. Hum. Mol. Genet. 5: 1333-1338.
2. Weterman, M.A., Wilbrink, M. and Geurts van Kessel, A. 1996. Fusion of the transcription factor TFE3 gene to a novel gene, PRCC, in t(X;1)(p11;q21)-positive papillary renal cell carcinomas. Proc. Natl. Acad. Sci. USA 93: 15294-15298.
3. Skalsky, Y.M., Ajuh, P.M., Parker, C., Lamond, A.I., Goodwin, G. and Cooper, C.S. 2001. PRCC, the commonest TFE3 fusion partner in papillary renal carcinoma is associated with pre-mRNA splicing factors. Oncogene 20: 178-187.
4. Wang, S., Filipowicz, E.A. and Schnadig, V.J. 2001. Abundant intracytoplasmic hemosiderin in both histiocytes and neoplastic cells: a diagnostic pitfall in fine-needle aspiration of cystic papillary renal-cell carcinoma. Diagn. Cytopathol. 24: 82-85.
5. LocusLink Report (LocusID: 179755). http://www.ncbi.nlm.nih.gov/LocusLink/

CHROMOSOMAL LOCATION

Genetic locus: PRCC (human) mapping to 1q23.1.

PRODUCT

PRCC siRNA (h) 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 PRCC shRNA Plasmid (h): sc-40867-SH and PRCC shRNA (h) Lentiviral Particles: sc-40867-V as alternate gene silencing products.

For independent verification of PRCC (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-40867A, sc-40867B and sc-40867C.

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

PRCC siRNA (h) is recommended for the inhibition of PRCC expression in human 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

PRCC (D-3): sc-390527 is recommended as a control antibody for monitoring of PRCC 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 PRCC gene expression knockdown using RT-PCR Primer: PRCC (h)-PR: sc-40867-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.