SANTA CRUZ BIOTECHNOLOGY, INC.

DIRC2 siRNA (m): sc-143044

BACKGROUND

Belonging to the major facilitator superfamily, DIRC2 (disrupted in renal carcinoma protein 2) is a 478 amino acid multi-pass membrane protein that is primarily expressed in kidney proximal tubular cells. The genes encoding DIRC2 and DIRC3 are located at a translocation breakpoint which occurs frequently in individuals affected by familial renal cell carcinoma. Fusion transcripts that result from these translocations may affect normal protein function. This evidence suggests that, due to its chromosomal location, deregulation of the DIRC2 gene may cause haploinsufficiency and therefore result in the onset of tumor growth. There are two isoforms of DIRC2 which are produced as a result of alternative splicing events.

REFERENCES

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2. Druck, T., et al. 2001. The DIRC1 gene at chromosome 2q33 spans a familial RCC-associated t(2;3)(q33;q21) chromosome translocation. J. Hum. Genet. 46: 583-589.
3. Podolski, J., et al. 2001. Characterization of a familial RCC-associated t(2;3)(q33;q21) chromosome translocation. J. Hum. Genet. 46: 685-693.
4. Bodmer, D., et al. 2002. Cytogenetic and molecular analysis of early stage renal cell carcinomas in a family with a translocation (2;3)(q35;q21). Cancer Genet. Cytogenet. 134: 6-12.
5. Bodmer, D., et al. 2002. Molecular cytogenetic analysis of clustered sporadic and familial renal cell carcinoma-associated 3q13 approximately q22 breakpoints. Cancer Genet. Cytogenet. 136: 95-100.
6. Bodmer, D., et al. 2002. Disruption of a novel MFS transporter gene, DIRC2, by a familial renal cell carcinoma-associated t(2;3)(q35;q21). Hum. Mol. Genet. 11: 641-649.
7. Bodmer, D., et al. 2003. Disruption of a novel gene, DIRC3, and expression of DIRC3-HSPBAP1 fusion transcripts in a case of familial renal cell cancer and t(2;3)(q35;q21). Genes Chromosomes Cancer 38: 107-116.
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CHROMOSOMAL LOCATION

Genetic locus: Dirc2 (mouse) mapping to 16 B3.

PRODUCT

DIRC2 siRNA (m) is a target-specific 19-25 nt siRNA 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 DIRC2 shRNA Plasmid (m): sc-143044-SH and DIRC2 shRNA (m) Lentiviral Particles: sc-143044-V as alternate gene silencing products.

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

DIRC2 siRNA (m) is recommended for the inhibition of DIRC2 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 DIRC2 gene expression knockdown using RT-PCR Primer: DIRC2 (m)-PR: sc-143044-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.