



DIRC2 siRNA (h): sc-78452

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

1. Bodmer, D., et al. 1998. An alternative route for multistep tumorigenesis in a novel case of hereditary renal cell cancer and a t(2;3)(q35;q21) chromosome translocation. *Am. J. Hum. Genet.* 62: 1475-1483.
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.

CHROMOSOMAL LOCATION

Genetic locus: DIRC2 (human) mapping to 3q21.1.

PRODUCT

DIRC2 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see DIRC2 shRNA Plasmid (h): sc-78452-SH and DIRC2 shRNA (h) Lentiviral Particles: sc-78452-V as alternate gene silencing products.

For independent verification of DIRC2 (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-78452A, sc-78452B and sc-78452C.

PROTOCOLS

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

DIRC2 siRNA (h) is recommended for the inhibition of DIRC2 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 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 DIRC2 gene expression knockdown using RT-PCR Primer: DIRC2 (h)-PR: sc-78452-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.