SANTA CRUZ BIOTECHNOLOGY, INC.

DICE1 siRNA (h): sc-45802

BACKGROUND

DICE1 (deleted in cancer 1) is a protein mapping to chromosome 13q14, which appears to be a tumor suppressor gene in non-small cell lung carcinoma. Expression of DICE1 is lost or downregulated in most non-small lung carcinomas compared to normal lung tissue. This is most likely due to a loss of heterozygosity (LOH) of chromosome 13, which is prone to deletions and rearrangements in human lung cancers. The DICE1 gene is extremely homologous to the mouse protein, DBI-1, at the carboxy terminus. DBI-1, when expressed at high levels, interferes with the mitogenic response to IGF-1. Both DICE1 and DBI-1 contain the highly conserved DEAD-box motif, which suggests that these proteins are involved in critical aspects of cellular function and regulation.

REFERENCES

1. Hensel, C.H., et al. 1990. Altered structure and expression of the human retinoblastoma susceptibility gene in small cell lung cancer. Cancer Res. 50: 3067-3072.
2. Hoff, H.B., 3rd., et al. 1998. DBI-1, a novel gene related to the notch family, modulates mitogenic responses to Insulin-like growth factor 1. Exp. Cell Res. 238: 359-370.
3. Wieland, I., et al. 1999. Isolation of DICE1: A gene frequently affected by LOH and downregulated in lung carcinomas. Oncogene 18: 4530-4537.
4. Kohno, T., et al. 1999. How many tumor suppressor genes are involved in human lung carcinogenesis? Carcinogenesis 20: 1403-1410.
5. Irion, U., et al. 1999. Developmental and cell biological functions of the *Drosophila* DEAD-box protein abstrakt. Curr. Biol. 9: 1373-1381.
6. Hagberg, H., et al. 2004. PARP-1 gene disruption in mice preferentially protects males from perinatal brain injury. J. Neurochem. 90: 1068-1075.
7. Martin-Oliva, D., et al. 2004. Crosstalk between PARP-1 and NFκB modulates the promotion of skin neoplasia. Oncogene 23: 5275-5283.

CHROMOSOMAL LOCATION

Genetic locus: INTS6 (human) mapping to 13q14.3.

PRODUCT

DICE1 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 DICE1 shRNA Plasmid (h): sc-45802-SH and DICE1 shRNA (h) Lentiviral Particles: sc-45802-V as alternate gene silencing products.

For independent verification of DICE1 (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-45802A, sc-45802B and sc-45802C.

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 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

DICE1 shRNA Plasmid (h) is recommended for the inhibition of DICE1 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

DICE1 (H-6): sc-376524 is recommended as a control antibody for monitoring of DICE1 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 DICE1 gene expression knockdown using RT-PCR Primer: DICE1 (h)-PR: sc-45802-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.