SANTA CRUZ BIOTECHNOLOGY, INC.

DLEC1 siRNA (m): sc-143053

BACKGROUND

Many tumor supressor genes are thought to reside on chromosome 3p because one copy of this region is frequently found to be deleted in several carcinomas. The gene encoding DLEC1 (deleted in lung and esophageal cancer protein 1), a 1,755 amino acid cytoplasmic protein, is located within the 3p22.2 chromosomal segment, one of the three regions that is subject to chromosomal abberations in many cancer cell lines and primary cancers. Reduced invasiveness and suppression of cell growth occurs when DLEC1 cDNA is introduced into a variety of cancer cell lines, suggesting that defects in the transcription of DLEC1 is a cause of lung, esophageal, and renal cancers. Evidence also suggests that methylation of the DLEC1 promoter may be associated with a poor prognosis in non-small cell lung carcinoma and nasopharyngeal carcinoma. With highest expression in kidney and prostate, there are three isoforms of DLEC1 that exist as a result of alternative splicing events.

REFERENCES

1. Daigo, Y., et al. 1999. Molecular cloning of a candidate tumor suppressor gene, DLC-1, from chromosome 3p21.3. Cancer Res. 59: 1966-1972.
2. Peng, H., et al. 2002. Study of DLC-1 gene expression in nasopharyngeal carcinoma. Zhonghua Er Bi Yan Hou Ke Za Zhi 37: 454-457.
3. Park, S.W., et al. 2003. DNA variants of DLC-1, a candidate tumor suppressor gene in human hepatocellular carcinoma. Int. J. Oncol. 23: 133-137.
4. Kwong, J., et al. 2006. Candidate tumor-suppressor gene DLEC1 is frequently downregulated by promoter hypermethylation and histone hypoacetylation in human epithelial ovarian cancer. Neoplasia 8: 268-278.
5. Kwong, J., et al. 2007. Epigenetic inactivation of the deleted in lung and esophageal cancer 1 gene in nasopharyngeal carcinoma. Genes Chromosomes Cancer 46: 171-180.

CHROMOSOMAL LOCATION

Genetic locus: Dlec1 (mouse) mapping to 9 F3.

PRODUCT

DLEC1 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 DLEC1 shRNA Plasmid (m): sc-143053-SH and DLEC1 shRNA (m) Lentiviral Particles: sc-143053-V as alternate gene silencing products.

For independent verification of DLEC1 (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-143053A, sc-143053B and sc-143053C.

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.

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

DLEC1 siRNA (m) is recommended for the inhibition of DLEC1 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.

GENE EXPRESSION MONITORING

DLEC1 (D-11): sc-393183 is recommended as a control antibody for monitoring of DLEC1 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 DLEC1 gene expression knockdown using RT-PCR Primer: DLEC1 (m)-PR: sc-143053-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.