SANTA CRUZ BIOTECHNOLOGY, INC.

DBC1 siRNA (h): sc-92672

BACKGROUND

DBC1 (deleted in bladder cancer 1), also known as DBCCR1 or FAM5A, is a novel 761 amino acid cytoplasmic protein that functions as an essential regulator of tumorigenesis and mediates expression of components of the plasminogen pathway. Evolutionarily conserved and highly expressed in brain, DBC1 is found at weak levels in small intestine, lung, kidney, testis, prostate, thymus, heart and kidney. DBC1 contains one MACPF domain, belongs to the FAM5 family and inhibits cell proliferation at the G_1/S transition via negative regulation. DBC1 contains a 5' CpG island that, when hypermethylated, leads to silencing in 50 percent of bladder cancer cell lines. DBC1 mediates cell death and exists as three alternatively spliced isoforms that are encoded by a gene that maps to human chromosome 9q33.1.

REFERENCES

1. Habuchi, T., Yoshida, O. and Knowles, M.A. 1997. A novel candidate tumour suppressor locus at 9q32-33 in bladder cancer: localization of the candidate region within a single 840 kb YAC. Hum. Mol. Genet. 6: 913-919.
2. Habuchi, T., Luscombe, M., Elder, P.A. and Knowles, M.A. 1998. Structure and methylation-based silencing of a gene (DBCCR1) within a candidate bladder cancer tumor suppressor region at 9q32-q33. Genomics 48: 277-288.
3. Nishiyama, H., Takahashi, T., Kakehi, Y., Habuchi, T. and Knowles, M.A. 1999. Homozygous deletion at the 9q32-33 candidate tumor suppressor locus in primary human bladder cancer. Genes Chromosomes Cancer 26: 171-175.
4. Nishiyama, H., Gill, J.H., Pitt, E., Kennedy, W. and Knowles, M.A. 2001. Negative regulation of G_1/S transition by the candidate bladder tumour suppressor gene DBCCR1. Oncogene 20: 2956-2964.
5. Wright, K.O., Messing, E.M. and Reeder, J.E. 2002. Increased expression of the acid sphingomyelinase-like protein ASML3a in bladder tumors. J. Urol. 168: 2645-2649.

CHROMOSOMAL LOCATION

Genetic locus: BRINP1 (human) mapping to 9q33.1.

PRODUCT

DBC1 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 DBC1 shRNA Plasmid (h): sc-92672-SH and DBC1 shRNA (h) Lentiviral Particles: sc-92672-V as alternate gene silencing products.

For independent verification of DBC1 (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-92672A, sc-92672B and sc-92672C.

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

DBC1 siRNA (h) is recommended for the inhibition of DBC1 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor DBC1 gene expression knockdown using RT-PCR Primer: DBC1 (h)-PR: sc-92672-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.