SANTA CRUZ BIOTECHNOLOGY, INC.

CCBE1 siRNA (m): sc-142042

BACKGROUND

Encoding over 300 genes, chromosome 18 contains about 76 million bases. The gene encoding CCBE1 (Collagen and calcium-binding EGF domain-containing protein 1) is located on chromosome 18 in a region that is frequently found to be deleted in breast and prostate cancers. CCBE1 is a 406 amino acid secreted protein that contains two collagen-like domains and one calcium-binding epidermal growth factor (EGF-like) domain. In general, EGF-like domains include six cysteine residues that are usually involved in disulfide bonds. Calcium-binding EGF-like domains are subject to amino acid substitutions that disrupt their structure or calcium affinity, therefore altering protein function. Downregulation of the gene encoding CCBE1 is observed with high frequency in breast cancer, suggesting that loss of CCBE1 results in changes in cell adhesion and mobility due to its characterization as an extracellular protein. There are three named isoforms of CCBE1 which are produced as a result of alternative splicing events.

REFERENCES

1. Couto, J.R., et al. 1996. Cloning and sequence analysis of human breast epithelial antigen BA46 reveals an RGD cell adhesion sequence presented on an epidermal growth factor-like domain. DNA Cell Biol. 15: 281-286.
2. Climent, J., et al. 2002. Genomic loss of 18p predicts an adverse clinical outcome in patients with high-risk breast cancer. Clin. Cancer Res. 8: 3863-3869.
3. Alsop, A.E., et al. 2006. Distribution of breakpoints on chromosome 18 in breast, colorectal, and pancreatic carcinoma cell lines. Cancer Genet. Cytogenet. 164: 97-109.
4. Browning, S.R., et al. 2007. Multilocus analysis of GAW15 NARAC chromosome 18 case-control data. BMC Proc. 1: S11.
5. Yamamoto, F., et al. 2007. Scanning copy number and gene expression on the 18q21-qter chromosomal region by the systematic multiplex PCR and reverse transcription-PCR methods. Electrophoresis 28: 1882-1895.

CHROMOSOMAL LOCATION

Genetic locus: Ccbe1 (mouse) mapping to 18 E1.

PRODUCT

CCBE1 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. Suit-able for 50-100 transfections. Also see CCBE1 shRNA Plasmid (m): sc-142042-SH and CCBE1 shRNA (m) Lentiviral Particles: sc-142042-V as alternate gene silencing products.

For independent verification of CCBE1 (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-142042A, sc-142042B and sc-142042C.

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

CCBE1 siRNA (m) is recommended for the inhibition of CCBE1 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 CCBE1 gene expression knockdown using RT-PCR Primer: CCBE1 (m)-PR: sc-142042-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.