SANTA CRUZ BIOTECHNOLOGY, INC.

TACC2 siRNA (h): sc-37500

BACKGROUND

TACC1 (transforming acidic coiled coil gene 1) is one of three TACC family members, which are thought to be involved in breast tumorigenesis. TACC1 is located on 8p11 chromosomal region that is amplified in approximately 15% of all breast tumor samples. The short arm of chromosome 8 also contains FGFR1, whose expression is enhanced in most breast cancer tumors. TACC family members, TACC1, TACC2 and TACC3, map very closely to the corresponding FGFR1, FGFR2, FGFR3 genes on chromosomes 8, 10, and 4. Subsequently, since they are phylogenetically related, it is proposed that TACC and FGFR have similar roles in cell growth and differentiation. Also, TACC1 contains a conserved C-terminal region as in the *Drosophila* homolog, D-TACC. It has been shown that D-TACC is necessary for normal spindle function, and the mammalian TACC proteins appears to interact with centrosomes and microtubules in a similar manner.

REFERENCES

1. Dib, A., et al. 1995. Characterization of the region of the short arm of chromosome 8 amplified in breast carcinoma. Oncogene 10: 995-1001.
2. Yoshimura, N., et al. 1998. The expression and localization of fibroblast growth factor-1 (FGF-1) and FGF receptor-1 (FGFR-1) in human breast cancer. Clin. Immunol. Immunopathol. 89: 28-34.
3. Ugolini, F., et al. 1999. Differential expression assay of chromosome arm 8p genes identifies Frizzled-related (FRP1/FRZB) and fibroblast growth factor receptor 1 (FGFR1) as candidate breast cancer genes. Oncogene 18: 1903-1910.
4. Still, I.H., et al. 1999. Cloning of TACC1, an embryonically expressed, potentially transforming coiled-coil containing gene, from the 8p11 breast cancer amplicon. Oncogene 18: 4032-4038.
5. Still, I.H., et al. 1999. The third member of the transforming acidic coiled-coil-containing gene family, TACC3, maps in 4p16, close to translocation breakpoints in multiple myeloma, and is upregulated in various cancer cell lines. Genomics 58: 165-170.
6. Gergely, F., et al. 2000. D-TACC: a novel centrosomal protein required for normal spindle function in the early *Drosophila* embryo. EMBO J. 19: 241-252.

CHROMOSOMAL LOCATION

Genetic locus: TACC2 (human) mapping to 10q26.13.

PRODUCT

TACC2 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 TACC2 shRNA Plasmid (h): sc-37500-SH and TACC2 shRNA (h) Lentiviral Particles: sc-37500-V as alternate gene silencing products.

For independent verification of TACC2 (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-37500A, sc-37500B and sc-37500C.

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

TACC2 siRNA (h) is recommended for the inhibition of TACC2 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

TACC2 (H-8): sc-515342 is recommended as a control antibody for monitoring of TACC2 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 TACC2 gene expression knockdown using RT-PCR Primer: TACC2 (h)-PR: sc-37500-PR (20 µl, 589 bp). 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.

PROTOCOLS

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