SANTA CRUZ BIOTECHNOLOGY, INC.

BICC1 siRNA (m): sc-141699

BACKGROUND

BICC1, also known as protein bicaudal C homolog 1, is a 974 amino acid protein that belongs to the BICC family. BICC1 is considered a putative RNA-binding protein and may be involved in regulating gene expression during embryonic development by modulating protein translation. Existing as two alternatively spliced isoforms, BICC1 contains two KH domains as well as one SAM (sterile α motif) domain. Both BICC1 isoforms are widely expressed in normal tissues and are found in all brain regions including cerebral cortex, hippocampus and midbrain, although BICC1 isoform 1 is more highly expressed than isoform 2, particularly in nerve tissue. BICC1 can uncouple dishevelled-2 (Dvl-2) signaling from the canonical Wnt pathway in a SAM domain dependent manner, suggesting that the different BICC1 isoforms may play varying biological roles. Genetic variants in BICC1 may be involved in recurrent unipolar major depression. The BICC1 gene maps to chromosome 10q21.1.

REFERENCES

1. Deloukas, P., et al. 2000. Report of the third international workshop on human chromosome 10 mapping and sequencing 1999. Cytogenet. Cell Genet. 90: 1-12.
2. Nonneman, D., et al. 2004. Comparative mapping of human chromosome 10 to pig chromosomes 10 and 14. Anim. Genet. 35: 338-343.
3. Deloukas, P., et al. 2004. The DNA sequence and comparative analysis of human chromosome 10. Nature 429: 375-381.
4. Wimmers, K., et al. 2007. Associations of functional candidate genes derived from gene-expression profiles of prenatal porcine muscle tissue with meat quality and muscle deposition. Anim. Genet. 38: 474-484.
5. Chan, I.H., et al. 2009. Thyroid hormone receptor mutants implicated in human hepatocellular carcinoma display an altered target gene repertoire. Oncogene 28: 4162-4174.
6. Lewis, C.M., et al. 2010. Genome-wide association study of major recurrent depression in the U.K. population. Am. J. Psychiatry 167: 949-957.
7. Lohoff, F.W. 2010. Overview of the genetics of major depressive disorder. Curr. Psychiatry Rep. 12: 539-546.

CHROMOSOMAL LOCATION

Genetic locus: Bicc1 (mouse) mapping to 10 B5.3.

PRODUCT

BICC1 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 BICC1 shRNA Plasmid (m): sc-141699-SH and BICC1 shRNA (m) Lentiviral Particles: sc-141699-V as alternate gene silencing products.

For independent verification of BICC1 (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-141699A, sc-141699B and sc-141699C.

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

BICC1 siRNA (m) is recommended for the inhibition of BICC1 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

BICC1 (A-12): sc-514846 is recommended as a control antibody for monitoring of BICC1 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 BICC1 gene expression knockdown using RT-PCR Primer: BICC1 (m)-PR: sc-141699-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.

PROTOCOLS

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