SANTA CRUZ BIOTECHNOLOGY, INC.

BCAS3 siRNA (m): sc-72625

BACKGROUND

BCAS3 (breast carcinoma amplified sequence 3), also designated MAAB or GAOB1, is a 913 amino acid protein that is believed to be involved in breast cancer progression. The gene is regulated by ERα (estrogen receptor α) and expressed in multiple tissues, including malignant human brain lesions. It is overexpressed and amplified in breast cancer cell lines. BCAS3 contains three WD40 repeat regions, a bromodomain, a rare zinc-finger motif, four probable DNA-binding domains, and two kinase-inducible phosphorylation domains. Five variants are produced due to alternative splicing. BCAS3 interacts with histone H3 and PCAF, which is indicative of histone acetyltransferase activity. BCAS3 also exhibits ERα transactiviation activity by acting as a coactivator with PELP1 or MTA1. The amplification and translocation between the BCAS3 gene and the BCAS4 gene results in a fusion transcript is overexpressed in MCF-7 cells.

REFERENCES

1. Bärlund, M., et al. 2002. Cloning of BCAS3 (17q23) and BCAS4 (20q13) genes that undergo amplification, overexpression, and fusion in breast cancer. Genes Chromosomes Cancer 35: 311-317.
2. Online Mendelian Inheritance in Man, OMIM™. 2003. John Hopkins University, Baltimore, MD. MIM Number: 607470. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Hahn, Y., et al. 2004. Finding fusion genes resulting from chromosome rearrangement by analyzing the expressed sequence databases. Proc. Natl. Acad. Sci. USA 101: 13257-13261.
4. Lin, L., et al. 2006. Multiple forms of genetic instability within a 2-Mb chromosomal segment of 3q26.3-q27 are associated with development of esophageal adenocarcinoma. Genes Chromosomes Cancer 45: 319-331.
5. Gururaj, A.E., et al. 2006. Breast cancer-amplified sequence 3, a target of metastasis-associated protein 1, contributes to tamoxifen resistance in premenopausal patients with breast cancer. Cell Cycle 5: 1407-1410.
6. Gururaj, A.E., et al. 2006. MTA1, a transcriptional activator of breast cancer amplified sequence 3. Proc. Natl. Acad. Sci. USA 103: 6670-6675.

CHROMOSOMAL LOCATION

Genetic locus: Bcas3 (mouse) mapping to 11 C.

PRODUCT

BCAS3 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 BCAS3 shRNA Plasmid (m): sc-72625-SH and BCAS3 shRNA (m) Lentiviral Particles: sc-72625-V as alternate gene silencing products.

For independent verification of BCAS3 (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-72625A, sc-72625B and sc-72625C.

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

BCAS3 siRNA (m) is recommended for the inhibition of BCAS3 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

BCAS3 (D-6): sc-365131 is recommended as a control antibody for monitoring of BCAS3 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 BCAS3 gene expression knockdown using RT-PCR Primer: BCAS3 (m)-PR: sc-72625-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.