SANTA CRUZ BIOTECHNOLOGY, INC.

BCAS2 siRNA (h): sc-88190

BACKGROUND

BCAS2 (breast carcinoma amplified sequence 2), also designated DAM1 (DNA amplified in mammary carcinoma 1 protein) or spliceosome-associated SPF 27, is a ubiquitously expressed nuclear protein that was originally identified as being overexpressed in various breast cancer cell lines. BCAS2 is now known to be a component of the spliceosome, participating in the removal of introns from mRNA precursors. BCAS2 specifically interacts (in a ligand-independent manner) with TRβ (thyroid hormone receptor β), ERα (estrogen receptor α), ERβ, PR (progesterone receptor), and PPARγ (peroxisome proliferator-activated receptor γ). BCAS2 functions as an ER coactivator and is capable of enhancing ER-mediated transcription. This suggests that BCAS2 is involved in the development of breast cancer.

REFERENCES

1. Nagasaki, K., Maass, N., Manabe, T., Hanzawa, H., Tsukada, T., Kikuchi, K. and Yamaguchi, K. 1999. Identification of a novel gene, DAM1, amplified at chromosome 1p13.3-21 region in human breast cancer cell lines. Cancer Lett. 140: 219-226.
2. Maass, N., Rösel, F., Schem, C., Hitomi, J., Jonat, W. and Nagasaki, K. 2002. Amplification of the BCAS2 gene at chromosome 1p13.3-21 in human primary breast cancer. Cancer Lett. 185: 219-223.
3. Lee, S., Ha, S., Chung, M., Kim, Y. and Choi, Y. 2002. Mouse DAM1 regulates pro-apoptotic activity of BLK in mammary epithelial cells. Cancer Lett. 188: 121-126.
4. Qi, C., Zhu, Y.T., Chang, J., Yeldandi, A.V., Rao, M.S. and Zhu, Y.J. 2005. Potentiation of estrogen receptor transcriptional activity by breast cancer amplified sequence 2. Biochem. Biophys. Res. Commun. 328: 393-398.
5. Worsham, M.J., Pals, G., Schouten, J.P., Miller, F., Tiwari, N., van Spaendonk, R. and Wolman, S.R. 2006. High-resolution mapping of molecular events associated with immortalization, transformation, and progression to breast cancer in the MCF10 model. Breast Cancer Res. Treat. 96: 177-186.

CHROMOSOMAL LOCATION

Genetic locus: BCAS2 (human) mapping to 1p13.2.

PRODUCT

BCAS2 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 BCAS2 shRNA Plasmid (h): sc-88190-SH and BCAS2 shRNA (h) Lentiviral Particles: sc-88190-V as alternate gene silencing products.

For independent verification of BCAS2 (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-88190A, sc-88190B and sc-88190C.

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

BCAS2 siRNA (h) is recommended for the inhibition of BCAS2 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

BCAS2 (F-5): sc-376554 is recommended as a control antibody for monitoring of BCAS2 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 BCAS2 gene expression knockdown using RT-PCR Primer: BCAS2 (h)-PR: sc-88190-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.