



## BCAS4 siRNA (h): sc-72626

### BACKGROUND

The gene encoding BCAS4 (Breast carcinoma-amplified sequence 4), a 211 amino acid protein, is found in a region on chromosome 20 that is frequently amplified in human breast cancer. This 20q13 locus amplification is found in 12%-39% of primary breast tumors, which correlates with a 17q23 locus amplification that is found in 20% of primary breast tumors. The amplification and translocation between the BCAS4 gene and the BCAS3 gene, with a 17q23 locus, results in a fusion transcript that is overexpressed in MCF-7 cells. Also, deletion of chromosomal region 20q13.13-q13.2 and resultant deletion of BCAS4, as well as three other genes, is the cause of Okihiro syndrome, a disease characterized by ocular and upper limb anomalies. BCAS4 is normally expressed in thymus, kidney, spleen, placenta and brain. There are three isoforms of BCAS4 which are produced as a result of alternative splicing events.

### REFERENCES

1. Bärklund, 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™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607323. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Sinclair, C.S., et al. 2003. The 17q23 amplicon and breast cancer. *Breast Cancer Res. Treat.* 78: 313-322.
4. 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.
5. Ruan, Y., et al. 2007. Fusion transcripts and transcribed retrotransposed loci discovered through comprehensive transcriptome analysis using Paired-End diTags (PETs). *Genome Res.* 17: 828-838.
7. Borozdin, W., et al. 2007. Multigene deletions on chromosome 20q13.13-q13.2 including SALL4 result in an expanded phenotype of Okihiro syndrome plus developmental delay. *Hum. Mutat.* 28: 830.
8. Nowee, M.E., et al. 2007. DNA profiling of primary serous ovarian and fallopian tube carcinomas with array comparative genomic hybridization and multiplex ligation-dependent probe amplification. *J. Pathol.* 213: 46-55.

### CHROMOSOMAL LOCATION

Genetic locus: BCAS4 (human) mapping to 20q13.13.

### RESEARCH USE

For research use only, not for use in diagnostic procedures.

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

### PRODUCT

BCAS4 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see BCAS4 shRNA Plasmid (h): sc-72626-SH and BCAS4 shRNA (h) Lentiviral Particles: sc-72626-V as alternate gene silencing products.

For independent verification of BCAS4 (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-72626A, sc-72626B and sc-72626C.

### 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

### APPLICATIONS

BCAS4 siRNA (h) is recommended for the inhibition of BCAS4 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  $\mu$ M in 66  $\mu$ l. 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 BCAS4 gene expression knockdown using RT-PCR Primer: BCAS4 (h)-PR: sc-72626-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.