SANTA CRUZ BIOTECHNOLOGY, INC.

NaBC1 siRNA (h): sc-62657

BACKGROUND

NaBC1 (novel amplified in breast cancer 1) is a protein found amplified in most breast carcinoma forms. It is expressed primarily as a cytoplasmic, detergent-stable homodimer that has a tendency to interact with DYNLL1 (PIN) and DYNLL2. Breast tumor lines that exhibit 20q13.2 gene amplification express much higher levels of the protein as compared to the levels found in other breast cancer lines that do not overexpress the NaBC1 mRNA. However, this upregulation does not affect growth rate or anchoring abilities of a cell, indicating the oncogenic properties of NaBC1 differ from that of other oncogenes.

REFERENCES

1. Collins, C., et al. 1998. Positional cloning of ZNF217 and NaBC1: genes amplified at 20q13.2 and overexpressed in breast carcinoma. Proc. Natl. Acad. Sci. USA 95: 8703-8708.
2. Correa, R.G., et al. 2000. NaBC1 (BCAS1): alternative splicing and down-regulation in colorectal tumors. Genomics 65: 299-302.
3. Ishimoto, T., et al. 2002. Cloning and characterization of a novel synaptosome-enriched mRNA that encodes 31 kDa protein. Biochim. Biophys. Acta 1579: 189-195.
4. Zhao, C., et al. 2003. Elevated expression levels of NCoA-3, Top1, and TFAP2C in breast tumors as predictors of poor prognosis. Cancer 98: 18-23.
5. Beardsley, D.I., et al. 2003. Characterization of the novel amplified in breast cancer 1 (NaBC1) gene product. Exp. Cell Res. 290: 402-413.
6. Aust, D.E., et al. 2004. Prognostic relevance of 20q13 gains in sporadic colorectal cancers: a fish analysis. Scand. J. Gastroenterol. 39: 766-772.
7. van Dekken, H., et al. 2006. Genomic array and expression analysis of frequent high-level amplifications in adenocarcinomas of the gastro-esophageal junction. Cancer Genet. Cytogenet. 166: 157-162.
8. Loukopoulos, P., et al. 2007. Genome-wide array-based comparative genomic hybridization analysis of pancreatic adenocarcinoma: identification of genetic indicators that predict patient outcome. Cancer Sci. 98: 392-400.

CHROMOSOMAL LOCATION

Genetic locus: BCAS1 (human) mapping to 20q13.2.

PRODUCT

NaBC1 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 NaBC1 shRNA Plasmid (h): sc-62657-SH and NaBC1 shRNA (h) Lentiviral Particles: sc-62657-V as alternate gene silencing products.

For independent verification of NaBC1 (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-62657A, sc-62657B and sc-62657C.

RESEARCH USE

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

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

NaBC1 siRNA (h) is recommended for the inhibition of NaBC1 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

NaBC1 (B-12): sc-393808 is recommended as a control antibody for monitoring of NaBC1 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 NaBC1 gene expression knockdown using RT-PCR Primer: NaBC1 (h)-PR: sc-62657-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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