SANTA CRUZ BIOTECHNOLOGY, INC.

RIZ siRNA (h): sc-106513

BACKGROUND

The Rb-interacting zinc-finger gene RIZ1 (also known as G3B or MTB-Zf) is commonly mutated in colorectal, gastric and endometrial cancers and has demonstrated a capacity to induce cell cycle arrest and apoptosis. RIZ is a candidate tumor suppressor gene on 1p36.21, a region frequently rearranged in a wide variety of human tumors. RIZ is the founding member of the PR-domain family of zinc-finger genes. Two products are produced from the RIZ locus which differ by the presence or absence of the PR domain; the PR-plus, RIZ1, is commonly lost or underexpressed whereas the PR-minus, RIZ2, is always present in cancer cells. This yin-yang imbalance in the amount of the two RIZ products may be an important cause of malignancy.

REFERENCES

1. Medici, N., et al. 1999. Identification of a DNA binding protein cooperating with estrogen receptor as RIZ (retinoblastoma interacting zinc finger protein). Biochem. Biophys. Res. Commun. 264: 983-989.
2. Huang, S. 1999. The retinoblastoma protein-interacting zinc-finger gene RIZ in 1p36-linked cancers. Front. Biosci. 4: 528-532.
3. Piao, Z., et al. 2000. Frequent frameshift mutations of RIZ in sporadic gastrointestinal and endometrial carcinomas with microsatellite instability. Cancer Res. 60: 4701-4704.
4. Jiang, G.L., et al. 2001. Adenovirus expressing RIZ1 in tumor suppressor gene therapy of microsatellite-unstable colorectal cancers. Cancer Res. 61: 1796-1798.
5. Sakurada, K., et al. 2001. RIZ, the retinoblastoma protein interacting zinc-finger gene, is mutated in genetically unstable cancers of the pancreas, stomach, and colorectum. Genes Chromosomes Cancer 30: 207-211.
6. Poetsch, M., et al. 2002. Frameshift mutations of RIZ, but no point mutations in RIZ1 exons in malignant melanomas with deletions in 1p36. Oncogene 21: 3038-3042.
7. Sasaki, O., et al. 2002. Altered expression of retinoblastoma protein-interacting zinc-finger gene, RIZ, in human leukaemia. Br. J. Haematol. 119: 940-948.

CHROMOSOMAL LOCATION

Genetic locus: PRDM2 (human) mapping to 1p36.21.

PRODUCT

RIZ siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see RIZ shRNA Plasmid (h): sc-106513-SH and RIZ shRNA (h) Lentiviral Particles: sc-106513-V as alternate gene silencing products.

For independent verification of RIZ (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-106513A, sc-106513B and sc-106513C.

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

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

RIZ (33AT1045): sc-130256 is recommended as a control antibody for monitoring of RIZ 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor RIZ gene expression knockdown using RT-PCR Primer: RIZ (h)-PR: sc-106513-PR (20 µl, 531 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Choi, J.D., et al. 2012. Suppression and recovery of BRCA1-mediated transcription by HP1γ via modulation of promoter occupancy. Nucleic Acids Res. 40: 11321-11338.
2. Ea, C.K., et al. 2012. EHMT1 protein binds to nuclear factor-κB p50 and represses gene expression. J. Biol. Chem. 287: 31207-31217.

PROTOCOLS

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