SANTA CRUZ BIOTECHNOLOGY, INC.

RASSF4 siRNA (h): sc-76355

BACKGROUND

Ras is a small GTP-binding protein involved in many cellular processes including proliferation, differentiation and apoptosis. Ras transmits signals of cell surface receptors by binding to a variety of effector molecules. In addition to the well characterized effectors Raf and PI 3-kinase, Ras also interacts with members of the RASSF family, including RASSF1, RASSF2, RASSF3, RASSF4 and Nore1. Members of the RASSF family contain a highly conserved Ras association domain (Ral GDS/AF-6 or RA) and function as Ras effectors/tumor suppressors. RASSF4 (Ras association domain family 4) is a 321 amino acid ubiquitously expressed protein that may promote apoptosis and cell cycle arrest. A potential tumor suppressor, RASSF4 contains an RA (Ras-associating) domain and a coiled-coil SARAH domain. RASSF4 exists as four alternatively spliced isoforms and is encoded by a gene located on human chromosome 10.

REFERENCES

1. Tommasi, S., et al. 2002. RASSF3 and NORE: identification and cloning of two human homologues of the putative tumor suppressor gene RASSF1. Oncogene 21: 2713-2720.
2. Hesson, L., et al. 2004. Frequent epigenetic inactivation of RASSF1A and BLU genes located within the critical 3p21.3 region in gliomas. Oncogene 23: 2408-2419.
3. Eckfeld, K., et al. 2004. RASSF4/AD037 is a potential Ras effector/tumor suppressor of the RASSF family. Cancer Res. 64: 8688-8693.
4. Levy, P., et al. 2004. Molecular profiling of malignant peripheral nerve sheath tumors associated with neurofibromatosis type 1, based on large-scale real-time RT-PCR. Mol. Cancer 3: 20.
5. Chow, L.S., et al. 2004. Aberrant methylation of RASSF4/AD037 in nasopharyngeal carcinoma. Oncol. Rep. 12: 781-787.
6. Hesson, L.B., et al. 2005. CpG island promoter hypermethylation of a novel Ras-effector gene RASSF2A is an early event in colon carcinogenesis and correlates inversely with K-Ras mutations. Oncogene 24: 3987-3994.
7. Lambros, M.B., et al. 2005. Analysis of ovarian cancer cell lines using array-based comparative genomic hybridization. J. Pathol. 205: 29-40.

CHROMOSOMAL LOCATION

Genetic locus: RASSF4 (human) mapping to 10q11.21.

PRODUCT

RASSF4 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 RASSF4 shRNA Plasmid (h): sc-76355-SH and RASSF4 shRNA (h) Lentiviral Particles: sc-76355-V as alternate gene silencing products.

For independent verification of RASSF4 (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-76355A, sc-76355B and sc-76355C.

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

RASSF4 siRNA (h) is recommended for the inhibition of RASSF4 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor RASSF4 gene expression knockdown using RT-PCR Primer: RASSF4 (h)-PR: sc-76355-PR (20 µl, 580 bp). 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.