SANTA CRUZ BIOTECHNOLOGY, INC.

RBEL1 siRNA (h): sc-92916

BACKGROUND

Rab family proteins are generally known as regulators of protein transport and trafficking. A number of Rab proteins have been implicated in cancer development and/or progression. RBEL1 (Rab-like protein 1), also known as PARF (putative GTP-binding protein Parf), is a 729 amino acid protein that may enhance cellular proliferation. It is suggested that an isoform of RBEL1 is overexpressed in two out of three primary breast tumors. RBEL1 has an N-terminal GTP-binding domain, followed by a Rab-like domain, two proline-rich sequences and a C-terminal nuclear localization signal. The RBEL1 protein may reduce growth inhibitory activity of one or more isoforms of p16. RBEL1 exists as five alternatively spliced isoforms and the gene encoding RBEL1 is conserved in canine, bovine, mouse, rat, zebrafish, mosquito and *C. elegans*. The RBEL1 gene maps to human chromosome 9q34.3.

REFERENCES

1. Ota, T., et al. 2004. Complete sequencing and characterization of 21,243 full-length human cDNAs. Nat. Genet. 36: 40-45.
2. Humphray, S.J., et al. 2004. DNA sequence and analysis of human chromosome 9. Nature 429: 369-374.
3. Tompkins, V., et al. 2006. Identification of novel ARF binding proteins by two-hybrid screening. Cell Cycle 5: 641-646.
4. Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 610615. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Montalbano, J., et al. 2007. RBEL1 is a novel gene that encodes a nucleocytoplasmic Ras superfamily GTP-binding protein and is overexpressed in breast cancer. J. Biol. Chem. 282: 37640-37649.
6. Montalbano, J., et al. 2009. Identification and characterization of RBEL1 subfamily of GTPases in the Ras superfamily involved in cell growth regulation. J. Biol. Chem. 284: 18129-18142.

CHROMOSOMAL LOCATION

Genetic locus: RABL6 (human) mapping to 9q34.3.

PRODUCT

RBEL1 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 RBEL1 shRNA Plasmid (h): sc-92916-SH and RBEL1 shRNA (h) Lentiviral Particles: sc-92916-V as alternate gene silencing products.

For independent verification of RBEL1 (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-92916A, sc-92916B and sc-92916C.

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

RBEL1 siRNA (h) is recommended for the inhibition of RBEL1 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 RBEL1 gene expression knockdown using RT-PCR Primer: RBEL1 (h)-PR: sc-92916-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.