SANTA CRUZ BIOTECHNOLOGY, INC.

RSU1 siRNA (h): sc-90735

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The Power to Question

BACKGROUND

RSU1 (Ras suppressor protein 1), also known as RSP1, is a 277 amino acid protein that is highly conserved and ubiquitously expressed in mammalian cells. RSU1 contains seven LRR (leucine-rich) repeats which are responsible for the protein-binding function of RSU1. RSU1 may play a role in the Ras signal transduction pathway, as well as in growth inhibition and in the nerve-growth factor-induced differentiation processes. It has been suggested that RSU1 is capable of suppressing v-Ras transformation in mice. RSU1 binds to the LIM 5 domain of Pinch-1 (particularly interesting new Cys-His protein 1) and colocalizes to focal adhesions of cells. There are multiple alternatively spliced transcript variants that exists, one of which is found only in glioma tumors.

REFERENCES

1. Tsuda, T., et al. 1993. Human RSU1 is highly homologous to mouse Rsu-1 and localizes to human chromosome 10. Genomics 18: 461-462.
2. Tsuda, T., et al. 1995. The Ras suppressor RSU-1 localizes to 10p13 and its expression in the U-251 glioblastoma cell line correlates with a decrease in growth rate and tumorigenic potential. Oncogene 11: 397-403.
3. Masuelli, L., et al. 1996. Increased expression of the Ras suppressor Rsu-1 enhances Erk-2 activation and inhibits Jun kinase activation. Mol. Cell. Biol. 16: 5466-5476.
4. Masuelli, L., et al. 1999. The Ras suppressor, RSU-1, enhances nerve growth factor-induced differentiation of PC12 cells and induces $p21^{CIP}$ expression. Cell Growth Differ. 10: 555-564.
5. Vasaturo, F., et al. 2000. Ectopic expression of Rsu-1 results in elevation of $p21^{CIP}$ and inhibits anchorage-independent growth of MCF7 breast cancer cells. Breast Cancer Res. Treat. 61: 69-78.

CHROMOSOMAL LOCATION

Genetic locus: RSU1 (human) mapping to 10p13.

PRODUCT

RSU1 siRNA (h) is a target-specific 19-25 nt siRNA 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 RSU1 shRNA Plasmid (h): sc-90735-SH and RSU1 shRNA (h) Lentiviral Particles: sc-90735-V as alternate gene silencing 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

RSU1 siRNA (h) is recommended for the inhibition of RSU1 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

RSU1 (1C6): sc-517140 is recommended as a control antibody for monitoring of RSU1 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 RSU1 gene expression knockdown using RT-PCR Primer: RSU1 (h)-PR: sc-90735-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Gkretsi, V., et al. 2017. Identification of Ras suppressor-1 (RSU-1) as a potential breast cancer metastasis biomarker using a three-dimensional *in vitro* approach. Oncotarget 8: 27364-27379.
2. Louca, M., et al. 2019. Coordinated expression of Ras suppressor 1 (RSU-1) and growth differentiation factor 15 (GDF15) affects glioma cell invasion. Cancers 11: 1159.

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.