SANTA CRUZ BIOTECHNOLOGY, INC.

REPS2 siRNA (h): sc-61454

BACKGROUND

REPS2, a cytoplasmic protein, is primarily expressed in cerebellum, lung, testis, cerebrum, and kidney. REPS2 forms as complex with DDEF1 and then binds to paxillin. It can also form a complex with activated RAL, which interacts with the Rho subfamily member Cdc42, and with RAL BP-1, which is involved in growth factor signaling via its influence on the RAL signaling pathway. The NFκB subunit p65 interacts with the EH domain of REPS2, and an upregulation of NFκB activity correlates with a downregulation of REPS2 activity. Decreased expression of REPS2 during progression cancer cells may lead to loss of control of growth factor signalling and, thus, loss of control of cell proliferation. REPS2 may also be an important factor in cancer cell resistance to apoptosis.

REFERENCES

1. Ikeda, M., et al. 1998. Identification and characterization of a novel protein interacting with Ral-binding protein 1, a putative effector protein of Ral. J. Biol. Chem. 273: 814-821.
2. Oshiro, T., et al. 2002. Interaction of POB1, a downstream molecule of small G protein Ral, with PAG2, a paxillin-binding protein, is involved in cell migration. J. Biol. Chem. 277: 38618-38626.
3. Oosterhoff, J.K., et al. 2003. REPS2/POB1 is downregulated during human prostate cancer progression and inhibits growth factor signalling in prostate cancer cells. Oncogene 22: 2920-2925.
4. Huang, K.M., et al. 2004. Organization and annotation of the Xcat critical region: elimination of seven positional candidate genes. Genomics 83: 893-901.
5. Penninkhof, F., et al. 2004. Identification of REPS2 as a putative modulator of NFκB activity in prostate cancer cells. Oncogene 23: 5607-5615.

CHROMOSOMAL LOCATION

Genetic locus: REPS2 (human) mapping to Xp22.2.

PRODUCT

REPS2 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 REPS2 shRNA Plasmid (h): sc-61454-SH and REPS2 shRNA (h) Lentiviral Particles: sc-61454-V as alternate gene silencing products.

For independent verification of REPS2 (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-61454A, sc-61454B and sc-61454C.

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.

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

REPS2 siRNA (h) is recommended for the inhibition of REPS2 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

REPS2 (K-18): sc-100825 is recommended as a control antibody for monitoring of REPS2 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 REPS2 gene expression knockdown using RT-PCR Primer: REPS2 (h)-PR: sc-61454-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.