

RAP1GDS1 siRNA (h): sc-88897

BACKGROUND

RAP1GDS1 (RAP1, GTP-GDP dissociation stimulator 1), also known as SmgGDS or GDS1, is a 607 amino acid protein that contains five ARM repeats and functions to stimulate the GDP/GTP exchange reaction of select small GTP-binding proteins. Additionally, RAP1GDS1 is thought to promote aberrant cell growth, playing a role in the development and metastasis of non-small cell lung carcinoma. Multiple isoforms of RAP1GDS1 exist due to alternative splicing events. The gene encoding RAP1GDS1 maps to human chromosome 4, which houses nearly 6% of the human genome and has the largest gene deserts (regions of the genome with no protein encoding genes) of all of the human chromosomes. Defects in some of the genes located on chromosome 4 are associated with Huntington's disease, Ellis-van Creveld syndrome, methylmalonic acidemia and polycystic kidney disease.

REFERENCES

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2. Riess, O., et al. 1993. Chromosomal assignment of the human SmgGDP dissociation stimulator gene to human chromosome 4q21-q25. *Hum. Genet.* 92: 629-630.
3. Shimizu, K., et al. 1996. SMAP, an SmgGDS-associating protein having ARM repeats and phosphorylated by Src tyrosine kinase. *J. Biol. Chem.* 271: 27013-27017.
4. Hussey, D.J., et al. 1999. The (4;11)(q21;p15) translocation fuses the NUP98 and RAP1GDS1 genes and is recurrent in T cell acute lymphocytic leukemia. *Blood* 94: 2072-2079.
5. Vikis, H.G., et al. 2002. SmgGDS displays differential binding and exchange activity towards different Ras isoforms. *Oncogene* 21: 2425-2432.
6. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 179502. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: RAP1GDS1 (human) mapping to 4q23.

PRODUCT

RAP1GDS1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see RAP1GDS1 shRNA Plasmid (h): sc-88897-SH and RAP1GDS1 shRNA (h) Lentiviral Particles: sc-88897-V as alternate gene silencing products.

For independent verification of RAP1GDS1 (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-88897A, sc-88897B and sc-88897C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

RAP1GDS1 siRNA (h) is recommended for the inhibition of RAP1GDS1 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 μ M in 66 μ l. 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

RAP1GDS1 (F-1): sc-390003 is recommended as a control antibody for monitoring of RAP1GDS1 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 RAP1GDS1 gene expression knockdown using RT-PCR Primer: RAP1GDS1 (h)-PR: sc-88897-PR (20 μ l). 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.