SANTA CRUZ BIOTECHNOLOGY, INC.

RGPD siRNA (h): sc-270331

BACKGROUND

The eight RGPD genes resulted from duplications of a region of human chromosome 2 containing the Ran BP-2 and GCC2 genes. This region, clustered close to the chromosome 2 centromere, undergoes a series of genetic rearrangements, including an inversion of the entire region, loss of 3' exons from the Ran BP-2 gene, partial deletion of Ran BP-2 exon 20, and a translocation that resulted in accretion of several 3' exons from the GCC2 gene. Like other RGPD proteins, the deduced RGPD1 protein exceeds 1,700 amino acids. Most of the RGPD1 sequence is homologous to regions of Ran BP-2, except for the C terminus, which includes the GRIP domain from GCC2. The eight RGPD genes map to human chromosome 2p11.2-q13 and were named according to their physical order. RGPD2 is the more centromeric of the two RGPD genes on chromosome 2p11.2.

REFERENCES

1. IJdo, J.W., et al. 1991. Origin of human chromosome 2: an ancestral telomere-telomere fusion. Proc. Natl. Acad. Sci. USA 88: 9051-9055.
2. Avarello, R., et al. 1992. Evidence for an ancestral alphoid domain on the long arm of human chromosome 2. Hum. Genet. 89: 247-249.
3. Ciccarelli, F.D., et al. 2005. Complex genomic rearrangements lead to novel primate gene function. Genome Res. 15: 343-351.
4. Hillier, L.W., et al. 2005. Generation and annotation of the DNA sequences of human chromosomes 2 and 4. Nature 434: 724-731.
5. Neilson, D.E., et al. 2009. Infection-triggered familial or recurrent cases of acute necrotizing encephalopathy caused by mutations in a component of the nuclear pore, RANBP2. Am. J. Hum. Genet. 84: 44-51.
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PRODUCT

RGPD siRNA (h) is a pool of 2 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 RGPD shRNA Plasmid (h): sc-270331-SH and RGPD shRNA (h) Lentiviral Particles: sc-270331-V as alternate gene silencing products.

For independent verification of RGPD (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-270331A and sc-270331B.

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

RGPD siRNA (h) is recommended for the inhibition of RGPD 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 RGPD gene expression knockdown using RT-PCR Primer: RGPD (h)-PR: sc-270331-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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.