SANTA CRUZ BIOTECHNOLOGY, INC.

R9AP siRNA (h): sc-97282

BACKGROUND

R9AP, also known as RGS9BP (regulator of G-protein signaling 9-binding protein), is a 235 amino acid single-pass type IV membrane protein that belongs to the RGS7BP/RGS9BP family. R9AP has a C-terminal transmembrane domain that functions as the membrane anchor for the other largely soluble interacting partners, such as photoreceptor GTPase accelerating protein RGS9-1. R9AP mRNA has been detected only in retina, and the protein only in photoreceptors. R9AP is encoded by one intronless gene in both human and mouse. Defects in the R9AP gene are a cause of prolonged electroretinal response suppression (PERRS), also known as bradyopsia. PERRS is characterized by difficulty adjusting to sudden changes in luminance levels mediated by cones. The R9AP gene is conserved in chimpanzee, canine, bovine, mouse, rat, chicken and zebrafish, and maps to human chromosome 19q13.11.

REFERENCES

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3. Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 607814. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
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5. Cheng, J.Y., et al.2007. Bradyopsia in an Asian man. Arch. Ophthalmol. 125: 1138-1140.
6. Stockman, A., et al. 2008. The loss of the PDE6 deactivating enzyme, RGS9, results in precocious light adaptation at low light levels. J. Vis. 8: 10.1-10.10.
7. Michaelides, M., et al. 2010. Novel mutations and electrophysiologic findings in RGS9- and R9AP-associated retinal dysfunction (Bradyopsia). Ophthalmology 117: 120-127.e1.

CHROMOSOMAL LOCATION

Genetic locus: RGS9BP (human) mapping to 19q13.11.

PRODUCT

R9AP 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 R9AP shRNA Plasmid (h): sc-97282-SH and R9AP shRNA (h) Lentiviral Particles: sc-97282-V as alternate gene silencing products.

For independent verification of R9AP (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-97282A, sc-97282B and sc-97282C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

R9AP siRNA (h) is recommended for the inhibition of R9AP 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 R9AP gene expression knockdown using RT-PCR Primer: R9AP (h)-PR: sc-97282-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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