

RGR siRNA (h): sc-90729

BACKGROUND

RGR (retinal G protein coupled receptor), also known as RP44, is a 291 amino acid multi-pass membrane protein and rhodopsin homolog that functions as a receptor for all-*trans*- and 11-*cis*-retinal. Existing as three alternatively spliced isoforms, RGR is specifically expressed in tissue adjacent to retinal pigment epithelium, Mueller cells and retinal photoreceptor cells, and belongs to the G protein-coupled receptor 1 family and opsin subfamily. RGR is suggested to play a role in vision, and defects in the gene encoding RGR are linked to the development of autosomal recessive retinitis pigmentosa (ARRP). Resulting in degeneration of retinal photoreceptor cells, patients with ARRP usually suffer from night vision blindness and eventually lose far peripheral visual field and central vision.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: RGR (human) mapping to 10q23.1.

PROTOCOLS

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

PRODUCT

RGR 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see RGR shRNA Plasmid (h): sc-90729-SH and RGR shRNA (h) Lentiviral Particles: sc-90729-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 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

RGR siRNA (h) is recommended for the inhibition of RGR 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor RGR gene expression knockdown using RT-PCR Primer: RGR (h)-PR: sc-90729-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.