

RDS siRNA (h): sc-40903

BACKGROUND

Retinal degeneration slow (RDS) is a mouse neurological mutation that is characterized phenotypically by abnormal development of rod and cone photoreceptors followed by their slow degeneration. This phenotype resembles the pathologic abnormalities seen in retinitis pigmentosa. Mouse RDS is due to a defect in a specific retinal protein which is photoreceptor-specific and is homologous in several respects to the rod outer segment protein-1. The human RDS protein is 92% homologous to its murine analog. The RDS protein is a membrane-associated glycoprotein restricted to photoreceptor outer segment discs and may function as an adhesion molecule involved in stabilization and compaction of outer segment discs. The association of the RDS gene with a degenerative retinopathy in mice makes it an important candidate gene for human retinopathies. The gene which encodes RDS maps to human chromosome 6p21.1.

REFERENCES

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3. Travis, G.H., Christerson, L., Danielson, P.E., Klisak, I., Sparkes, R.S., Hahn, L.B., Dryja, T.P. and Sutcliffe, J.G. 1991. The human retinal degeneration slow (RDS) gene: chromosome assignment and structure of the mRNA. *Genomics* 10: 733-739.
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CHROMOSOMAL LOCATION

Genetic locus: RDS (human) mapping to 6p21.1.

PRODUCT

RDS 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 RDS shRNA Plasmid (h): sc-40903-SH and RDS shRNA (h) Lentiviral Particles: sc-40903-V as alternate gene silencing products.

For independent verification of RDS (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-40903A, sc-40903B and sc-40903C.

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

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

RDS (E-5): sc-390278 is recommended as a control antibody for monitoring of RDS 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 RDS gene expression knockdown using RT-PCR Primer: RDS (h)-PR: sc-40903-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.