SANTA CRUZ BIOTECHNOLOGY, INC.

Retinal RX2 siRNA (h): sc-97874

BACKGROUND

Retinal RX2, also known as RAX2, QRX, RAXL1, ARMD6 or CORD11, is a 184 amino acid nuclear protein that contains one homeobox DNA-binding domain. Localized to the nucleus and preferentially expressed in the inner and outer nuclear layers of the retina, Retinal RX2 is thought to play a role in eye development, possibly modulating the expression of photoreceptor-specific genes. Via its homeobox domain, Retinal RX2 transactivates elements of the rhodopsin promotor, thereby modulating rhodopsin expression within the eye. Defects in the gene encoding Retinal RX2 are the cause of age-related macular degeneration type 6 (ARMD6) and cone-rod dystrophy type 11 (CORD11). While both ARMD6 and CORD11 result in impaired vision, ARMD6 is associated with accumulated protein and fat beneath the retinal pigment epithilium and CORD11 is associated with rod and cone photoreceptor degeneration.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: RAX2 (human) mapping to 19p13.3.

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.

PRODUCT

Retinal RX2 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 Retinal RX2 shRNA Plasmid (h): sc-97874-SH and Retinal RX2 shRNA (h) Lentiviral Particles: sc-97874-V as alternate gene silencing products.

For independent verification of Retinal RX2 (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-97874A and sc-97874B.

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

Retinal RX2 siRNA (h) is recommended for the inhibition of Retinal RX2 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 Retinal RX2 gene expression knockdown using RT-PCR Primer: Retinal RX2 (h)-PR: sc-97874-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.