SANTA CRUZ BIOTECHNOLOGY, INC.

RAO siRNA (m): sc-40899

BACKGROUND

Copper amine oxidases utilize copper and a quinone cofactor to catalyze the oxidative conversion of amines into aldehydes and ammonia. Copper amine oxidases are conserved from bacteria to mammals, and display a high degree of sequence homology. Amine oxidases contain a conserved active site and a set of histidine residues, which coordinate copper. Human retina-specific amine oxidase-2, known as DAO2 or RAO, is a 729 amino acid protein that modulates signal transduction in the retina through pathways, which degrade biogenic amines, such as dopamine, histamine and putrescine. Defects of the RAO gene may influence hereditary ocular diseases.

REFERENCES

1. Imamura, Y., Kubota, R., Wang, Y., Asakawa, S., Kudoh, J., Mashima, Y., Oguchi, Y. and Shimizu, N. 1997. Human retina-specific amine oxidase (RAO): cDNA cloning, tissue expression, and chromosomal mapping. Genomics 40: 277-283.
2. Imamura, Y., Noda, S., Mashima, Y., Kudoh, J., Oguchi, Y. and Shimizu, N. 1998. Human retina-specific amine oxidase: genomic structure of the gene (AOC2), alternatively spliced variant, and mRNA expression in retina. Genomics 51: 293-298.
3. den Hollander, A.I., van der Velde-Visser, S.D., Pinckers, A.J., Hoyng, C.B., Brunner, H.G. and Cremers, F.P. 1999. Refined mapping of the gene for autosomal dominant retinitis pigmentosa (RP17) on chromosome 17q22. Hum. Genet. 104: 73-76.
4. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 602268. World Wide Web URL: http://www.ncbi.nlm.nih. gov/omim/
5. LocusLink Report (LocusID: 314). http://www.ncbi.nlm. nih.gov/LocusLink/

CHROMOSOMAL LOCATION

Genetic locus: Aoc2 (mouse) mapping to 11 D.

PRODUCT

RAO siRNA (m) 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 RAO shRNA Plasmid (m): sc-40899-SH and RAO shRNA (m) Lentiviral Particles: sc-40899-V as alternate gene silencing products.

For independent verification of RAO (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-40899A, sc-40899B and sc-40899C.

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.

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

RAO siRNA (m) is recommended for the inhibition of RAO expression in mouse 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 RAO gene expression knockdown using RT-PCR Primer: RAO (m)-PR: sc-40899-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.