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QRSL1 siRNA (m): sc-152614

BACKGROUND

QRSL1 (glutamyl-tRNA synthase (glutamine-hydrolyzing)-like 1) is a 528 amino acid protein that belongs to the amidase family. Existing as two alternatively spliced isoforms, the QRSL1 gene is conserved in chimpanzee, canine, bovine, mouse, rat, chicken, zebrafish, fruit fly, mosquito, *C. elegans*, *S. pombe*, *S. cerevisiae*, *K. lactis*, *E. gossypii*, *M. grisea*, *N. crassa*, *A. thaliana* and rice. The gene encoding QRSL1 maps to human chromosome 6q21. Making up nearly 6% of the human genome, chromosome 6 contains around 1,200 genes within 170 million base pairs of sequence. Deletion of a portion of the q arm of chromosome 6 is associated with early onset intestinal cancer suggesting the presence of a cancer susceptibility locus. Porphyria cutanea tarda is associated with chromosome 6 through the HFE gene which, when mutated, predisposes an individual to developing this porphyria. Stickler syndrome, 21-hydroxylase deficiency and maple syrup urine disease are also associated with genes on chromosome 6. A bipolar disorder susceptibility locus has been identified on the q arm of chromosome 6.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: Qrs1 (mouse) mapping to 10 B2.

PROTOCOLS

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

PRODUCT

QRSL1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see QRSL1 shRNA Plasmid (m): sc-152614-SH and QRSL1 shRNA (m) Lentiviral Particles: sc-152614-V as alternate gene silencing products.

For independent verification of QRSL1 (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-152614A, sc-152614B and sc-152614C.

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

QRSL1 siRNA (m) is recommended for the inhibition of QRSL1 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 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 QRSL1 gene expression knockdown using RT-PCR Primer: QRSL1 (m)-PR: sc-152614-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.