



P5CR2 siRNA (m): sc-151971

BACKGROUND

P5CR2 (pyrroline-5-carboxylate reductase 2), also known as PYCR2, is a 320 amino acid cytoplasmic protein that belongs to the pyrroline-5-carboxylate reductase family. Existing as a homodecamer, P5CR2 is composed of five homodimers. Acting as a housekeeping enzyme that catalyzes the last step in proline biosynthesis, P5CR2 interacts with both NAD and NADP. In some cell types, such as erythrocytes, the primary function of P5CR2 may be the generation of NADP⁺. The gene that encodes P5CR2 consists of approximately 37,583 bases and maps to human chromosome 1q42.12. Comprising nearly 8% of the human genome, chromosome 1 spans 260 million base pairs, contains over 3,000 genes and houses a large number of disease-associated genes, including those that are involved in familial adenomatous polyposis, Stickler syndrome, Parkinson's disease, Gaucher disease, schizophrenia and Usher syndrome.

REFERENCES

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3. Eudy, J.D., et al. 1998. Mutation of a gene encoding a protein with extracellular matrix motifs in Usher syndrome type IIa. *Science* 280: 1753-1757.
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8. Holliday, E.G., et al. 2009. Strong evidence for a novel schizophrenia risk locus on chromosome 1p31.1 in homogeneous pedigrees from Tamil Nadu, India. *Am. J. Psychiatry* 166: 206-215.
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CHROMOSOMAL LOCATION

Genetic locus: Pycr2 (mouse) mapping to 1 H4.

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

P5CR2 siRNA (m) 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see P5CR2 shRNA Plasmid (m): sc-151971-SH and P5CR2 shRNA (m) Lentiviral Particles: sc-151971-V as alternate gene silencing products.

For independent verification of P5CR2 (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-151971A and sc-151971B.

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

P5CR2 siRNA (m) is recommended for the inhibition of P5CR2 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 P5CR2 gene expression knockdown using RT-PCR Primer: P5CR2 (m)-PR: sc-151971-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.