SANTA CRUZ BIOTECHNOLOGY, INC.

CYB5R1 siRNA (h): sc-78803

BACKGROUND

NADH-cytochrome b5 reductases participate in a variety of physiological processes including biosynthesis of cholesterol, methemoglobin reduction of erythrocytes, elongation of fatty acids and metabolism of drugs. CYB5R1 (cytochrome b5 reductase 1), also known as NADH-cytochrome b5 reductase 1, B5R1, NQO3A2, humb5R2 or NAD(P)H:quinone oxidoreductase type 3 polypeptide A2, is a 305 amino acid single-pass membrane protein that contains one FAD-binding FR-type domain and belongs to the flavoprotein pyridine nucleotide cytochrome reductase family. Widely expressed, CYB5R1 binds FAD as a cofactor and is encoded by a gene located on human chromosome 1. Human chromosome 1 spans 260 million base pairs, contains over 3,000 genes, comprises nearly 8% of the human genome 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.

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CHROMOSOMAL LOCATION

Genetic locus: CYB5R1 (human) mapping to 1q32.1.

PRODUCT

CYB5R1 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CYB5R1 shRNA Plasmid (h): sc-78803-SH and CYB5R1 shRNA (h) Lentiviral Particles: sc-78803-V as alternate gene silencing products.

For independent verification of CYB5R1 (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-78803A, sc-78803B and sc-78803C.

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

CYB5R1 siRNA (h) is recommended for the inhibition of CYB5R1 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 CYB5R1 gene expression knockdown using RT-PCR Primer: CYB5R1 (h)-PR: sc-78803-PR (20 µl). 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.