SANTA CRUZ BIOTECHNOLOGY, INC.

CYP39A1 siRNA (h): sc-95490

BACKGROUND

Cytochrome P450 proteins are heme-thiolate monooxygenases that mediate NADPH-dependent electron transport and function to oxidize a variety of structurally unrelated compounds, including steroids, fatty acids and xenobiotics. Specifically, cytochrome P450s are responsible for metabolizing arachidonic acid to hydroxyeicosatetraenoic acid (a regulator of blood pressure) and epoxyeicosatrienoic acid (a molecule involved in signaling events). CYP39A1 (cytochrome P450, family 39, subfamily A, polypeptide 1), also known as 24-hydroxycholesterol 7-α-hydroxylase, is a 469 amino acid peripheral membrane protein that localizes to both the microsome and the endoplasmic reticulum and belongs to the cytochrome P450 family. Using heme groups as cofactors, CYP39A1 is involved in the bile acid metabolism. Specifically expressed in liver, CYP39A1 converts 24-hydroxycholesterol into a 7-α-hydroxylated product.

REFERENCES

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3. Cheung, C., et al. 2003. Hepatic expression of cytochrome P450s in hepatocyte nuclear factor 1-α (HNF1α)-deficient mice. Biochem. Pharmacol. 66: 2011-2020.
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5. Nelson, D.R., et al. 2004. Comparison of cytochrome P450 (CYP) genes from the mouse and human genomes, including nomenclature recommendations for genes, pseudogenes and alternative-splice variants. Pharmacogenetics 14: 1-18.
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7. Zhou, C., et al. 2009. Activation of PXR induces hypercholesterolemia in wild-type and accelerates atherosclerosis in apoE deficient mice. J. Lipid Res. 50: 2004-2013.
8. Huang, Y.W., et al. 2009. Identification of candidate epigenetic biomarkers for ovarian cancer detection. Oncol. Rep. 22: 853-861.
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CHROMOSOMAL LOCATION

Genetic locus: CYP39A1 (human) mapping to 6p12.3.

PROTOCOLS

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

PRODUCT

CYP39A1 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 CYP39A1 shRNA Plasmid (h): sc-95490-SH and CYP39A1 shRNA (h) Lentiviral Particles: sc-95490-V as alternate gene silencing products.

For independent verification of CYP39A1 (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-95490A, sc-95490B and sc-95490C.

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

CYP39A1 siRNA (h) is recommended for the inhibition of CYP39A1 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 CYP39A1 gene expression knockdown using RT-PCR Primer: CYP39A1 (h)-PR: sc-95490-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.3

RESEARCH USE

For research use only, not for use in diagnostic procedures.