SANTA CRUZ BIOTECHNOLOGY, INC.

Cyp2c39 siRNA (m): sc-142679

BACKGROUND

The cytochrome P450 family is responsible for oxidation of many therapeutic agents as well as steroids, fatty acids and many other endogenous substances. The cytochrome P4502C subfamily comprises a group of constitutive microsomal hemoproteins which are expressed primarily in liver and which catalyze many reactions involved in drug metabolism and synthesis of cholesterol, steroids and other lipids. Cytochrome P450 2C39 is a 490 amino acid protein that belongs to the cytochrome P450 family. Cyp2c39 is primarily expressed in the liver, and can be induced to higher expression levels in liver and other tissues by various foreign compounds, including drugs, pesticides, and carcinogens. Cyp2c39 is involved in the metabolism of retinoic acid to 4-hydroxyretinoic acid, and the metabolism of arachidonic acid to 14, 15-*cis*-epoxyeicosatrienoic acid (EET).

REFERENCES

1. Luo, G., Zeldin, D.C., Blaisdell, J.A., Hodgson, E. and Goldstein, J.A. 1998. Cloning and expression of murine CYP2Cs and their ability to metabolize arachidonic acid. Arch. Biochem. Biophys. 357: 45-57.
2. Andreola, F., Hayhurst, G.P., Luo, G., Ferguson, S.S., Gonzalez, F.J., Goldstein, J.A. and De Luca, L.M. 2004. Mouse liver CYP2C39 is a novel retinoic acid 4-hydroxylase. Its down-regulation offers a molecular basis for liver retinoid accumulation and fibrosis in aryl hydrocarbon receptor-null mice. J. Biol. Chem. 279: 3434-3438.
3. Lewis, D.F., Ito, Y. and Goldfarb, P.S. 2006. Investigating human P450s involved in drug metabolism via homology with high-resolution P450 crystal structures of the CYP2C subfamily. Curr. Drug Metab. 7: 589-598.
4. Zhang, M., Hu, P., Krois, C.R., Kane, M.A. and Napoli, J.L. 2007. Altered vitamin A homeostasis and increased size and adiposity in the rdh1-null mouse. FASEB J. 21: 2886-2896.
5. Meng, X.Y., Zheng, Q.C. and Zhang, H.X. 2009. A comparative analysis of binding sites between mouse CYP2C38 and CYP2C39 based on homology modeling, molecular dynamics simulation and docking studies. Biochim. Biophys. Acta 1794: 1066-1072.

CHROMOSOMAL LOCATION

Genetic locus: Cyp2c39 (mouse) mapping to 19 C3.

PRODUCT

Cyp2c39 siRNA (m) is a target-specific 19-25 nt siRNA 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 Cyp2c39 shRNA Plasmid (m): sc-142679-SH and Cyp2c39 shRNA (m) Lentiviral Particles: sc-142679-V as alternate gene silencing products.

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

Cyp2c39 siRNA (m) is recommended for the inhibition of Cyp2c39 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 Cyp2c39 gene expression knockdown using RT-PCR Primer: Cyp2c39 (m)-PR: sc-142679-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.