SANTA CRUZ BIOTECHNOLOGY, INC.

Cyp2c29 siRNA (m): sc-142676

BACKGROUND

The cytochrome P450 proteins (Cyps) are monooxygenases that catalyze reactions involved in both drug metabolism and in the synthesis of cholesterol, steroids and other lipids. P450 enzymes are classified into subfamilies, including Cyp1, Cyp2 and Cyp3, based on their sequence similarities. Cyp2c29 (cytochrome P450, family 2, subfamily c, polypeptide 29), also known as AHOH, Ah-2, Ahh-1, Cyp2c, AHOHase or P450-2C, is a 490 amino acid murine protein that belongs to the cytochrome P450 family and localizes to the membrane of both the microsome and the endoplasmic reticulum. Using a heme group as a cofactor, Cyp2c29 functions to metabolize arachidonic acid to produce 14,15-*cis*-epoxyeicosatrienoic acid (EET), a reaction which is carried out at high levels in liver, brain, kidney and heart and is important for signaling and anti-inflammatory events.

REFERENCES

1. Matsunaga, T., et al. 1994. cDNA cloning and sequence of Cyp2c29 encoding P450 MUT-2, a microsomal aldehyde oxygenase. Biochim. Biophys. Acta 1184: 299-301.
2. Luo, G., et al. 1998. Cloning and expression of murine Cyp2cs and their ability to metabolize arachidonic acid. Arch. Biochem. Biophys. 357: 45-57.
3. Choudhary, D., et al. 2003. Comparative expression profiling of 40 mouse cytochrome P450 genes in embryonic and adult tissues. Arch. Biochem. Biophys. 414: 91-100.
4. Jarukamjorn, K., et al. 2006. Modified expression of cytochrome P450 mRNAs by growth hormone in mouse liver. Toxicology 219: 97-105.
5. Amunom, I., et al. 2007. Cytochromes P450 catalyze oxidation of α,β-unsaturated aldehydes. Arch. Biochem. Biophys. 464: 187-196.
6. Nayeem, M.A., et al. 2008. Role of Cyp epoxygenases in A2A AR-mediated relaxation using A2A AR-null and wild-type mice. Am. J. Physiol. Heart Circ. Physiol. 295: H2068-H2078.
7. McLaughlin, L.A., et al. 2008. Functional expression and comparative characterization of nine murine cytochromes P450 by fluorescent inhibition screening. Drug Metab. Dispos. 36: 1322-1331.

CHROMOSOMAL LOCATION

Genetic locus: Cyp2c29 (mouse) mapping to 19 C3.

PRODUCT

Cyp2c29 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 Cyp2c29 shRNA Plasmid (m): sc-142676-SH and Cyp2c29 shRNA (m) Lentiviral Particles: sc-142676-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

Cyp2c29 siRNA (m) is recommended for the inhibition of Cyp2c29 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.

GENE EXPRESSION MONITORING

CYP2C6 (K1): sc-53245 is recommended as a control antibody for monitoring of Cyp2c29 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Cyp2c29 gene expression knockdown using RT-PCR Primer: Cyp2c29 (m)-PR: sc-142676-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.