SANTA CRUZ BIOTECHNOLOGY, INC.

CYP2J6 siRNA (m): sc-142705

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). Murine CYP2J6 (cytochrome P450, family 2, subfamily j, polypeptide 6), also known as CYPIIJ6 or arachidonic acid epoxygenase, is a 501 amino acid peripheral membrane protein of the endoplasmic reticulum and microsome that belongs to the cytochrome P450 family. Highly expressed in small intestine, CYP2J6 assists in the metabolism of benzphetamine, but not arachidonic acid, and is encoded by a gene located on murine chromosome 4 C5.

REFERENCES

1. Nebert, D.W., et al. 1991. The P450 superfamily: update on new sequences, gene mapping, and recommended nomenclature. DNA Cell Biol. 10: 1-14.
2. Zeldin, D.C., et al. 1997. CYP2J subfamily cytochrome P450s in the gastrointestinal tract: expression, localization, and potential functional significance. Mol. Pharmacol. 51: 931-943.
3. Ma, J., et al. 1998. Mapping of the CYP2J cytochrome P450 genes to human chromosome 1 and mouse chromosome 4. Genomics 49: 152-155.
4. Scarborough, P.E., et al. 1999. P450 subfamily CYP2J and their role in the bioactivation of arachidonic acid in extrahepatic tissues. Drug Metab. Rev. 31: 205-234.
5. Ma, J., et al. 2002. Molecular cloning and characterization of mouse CYP2J6, an unstable cytochrome P450 isoform. Biochem. Pharmacol. 64: 1447-1460.
6. Seubert, J., et al. 2004. Enhanced postischemic functional recovery in CYP2J2 transgenic hearts involves mitochondrial ATP-sensitive K^+ channels and p42/p44 MAPK pathway. Circ. Res. 95: 506-514.

CHROMOSOMAL LOCATION

Genetic locus: Cyp2j6 (mouse) mapping to 4 C5.

PRODUCT

CYP2J6 siRNA (m) 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 CYP2J6 shRNA Plasmid (m): sc-142705-SH and CYP2J6 shRNA (m) Lentiviral Particles: sc-142705-V as alternate gene silencing products.

For independent verification of CYP2J6 (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-142705A, sc-142705B and sc-142705C.

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

CYP2J6 siRNA (m) is recommended for the inhibition of CYP2J6 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 CYP2J6 gene expression knockdown using RT-PCR Primer: CYP2J6 (m)-PR: sc-142705-PR (20 µl, 375 bp). 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.