

CYP2S1 siRNA (m): sc-60484

BACKGROUND

The cytochrome P450 proteins are monooxygenases that catalyze many reactions involved in drug metabolism and synthesis of cholesterol, steroids and other lipids. P450 enzymes are classified into subfamilies based on their sequence similarities. CYP2S1, a member of the CYP2 subfamily, is expressed in a wide variety of epithelial cells in extrahepatic tissues, specifically the respiratory tract, gastrointestinal tract, skin and other tissues frequently exposed to xenobiotics. CYP2S1 localizes to the endoplasmic reticulum where it metabolizes both endogenous and exogenous substrates such as retinoic acid, aromatic hydrocarbons and some cellular substances. CYP2S1 is also involved in the metabolism of topical drugs and mediates the response to photochemotherapy in psoriasis. Dioxin induces CYP2S1, while aryl hydrocarbon receptor (AHR) and aryl hydrocarbon nuclear translocator (ARNT) regulate this induction.

REFERENCES

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2. Smith, G., et al. 2003. Cutaneous expression of cytochrome P450 CYP2S1: individuality in regulation by therapeutic agents for psoriasis and other skin diseases. *Lancet* 361: 1336-1343.
3. Saarikoski, S.T., et al. 2004. Identification of genetic polymorphisms of CYP2S1 in a Finnish Caucasian population. *Mutat. Res.* 554: 267-277.
4. Choudhary, D., et al. 2005. Expression patterns of mouse and human CYP orthologs (families 1-4) during development and in different adult tissues. *Arch. Biochem. Biophys.* 436: 50-61.
5. Ingelman-Sundberg, M., et al. 2005. The human genome project and novel aspects of cytochrome P450 research. *Toxicol. Appl. Pharmacol.* 207: 52-56.
6. Karlgren, M., et al. 2005. Novel extrahepatic cytochrome P450s. *Toxicol. Appl. Pharmacol.* 207: 57-61.
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CHROMOSOMAL LOCATION

Genetic locus: Cyp2s1 (mouse) mapping to 7 A3.

PRODUCT

CYP2S1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CYP2S1 shRNA Plasmid (m): sc-60484-SH and CYP2S1 shRNA (m) Lentiviral Particles: sc-60484-V as alternate gene silencing products.

For independent verification of CYP2S1 (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-60484A, sc-60484B and sc-60484C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCL, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

CYP2S1 siRNA (m) is recommended for the inhibition of CYP2S1 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 μ M in 66 μ l. 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

CYP2S1 (A-1): sc-515464 is recommended as a control antibody for monitoring of CYP2S1 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 CYP2S1 gene expression knockdown using RT-PCR Primer: CYP2S1 (m)-PR: sc-60484-PR (20 μ l). 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.

PROTOCOLS

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